

**Personalising the learning of young children
with the use of ICT: an action research case
in a Greek primary school**

by

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Table of Contents

1	INTRODUCTION	1
1.1	Overview	1
1.2	Structural guidance for the reader	3
1.3	The Research Context	7
1.3.1	Education in Greece.....	7
1.3.2	The foreign language learning in the Greek Primary Education.....	12
1.3.3	The particularities of foreign language learning in Greece.....	13
1.3.4	The English foreign language teacher in Greece	16
1.4	Summary	19
2	THE SETTING	20
2.1	The case of a Greek primary school, my school	20
2.2	The EFL learning in this school.....	21
2.3	The case participants	23
2.3.1	My students	23
2.3.2	Their parents.....	24
2.3.3	This is me, my background as a teacher.....	25
2.4	The three stimuli in this study.....	28
2.4.1	The academic stimulus.....	28
2.4.2	The cultural stimulus	29
2.4.3	The personal stimulus	30
2.4.4	How the stimuli led me to preliminary research questions	32
2.5	Procedure arrangements	36

4 LINKING THEORY TO PRACTICE AND PRACTICE TO THEORY
38

3.1.	Introduction	38
3.2.	Personalised Learning.....	40
3.2.1.	A short background history of personalised learning	40
3.2.2	What are the educational objectives of personalised learning?	42
3.2.3	The values of personalised learning	45
3.2.4.	The ambiguities of personalised learning.....	46
3.2.5.	The framework of personalised learning	52
3.2.6.	Similarities and differences between personalised learning and other approaches	54
3.2.7.	The value of personalised learning reflecting on my practice	59
4.4	Collaboration.....	67
3.3.1.	Collaboration in the classroom	67
3.3.2.	Group strategies	69
3.3.3.	Group roles	72
3.3.4.	Processes that influence group dynamics.....	74
3.3.5.	Emotional life of the group: power balance within groups	78
3.3.6.	Limitations.....	80
3.3.7.	Children collaborating with other children in language tasks: a setting for enhanced communication skills.....	81
3.3.8.	Parental involvement: a school - parent collaboration	84
3.3.9.	The value of collaboration reflecting on my practice.....	87
3.4.	Information and Communication Technologies (ICT).....	89
3.4.1.	Introduction	89
3.4.2.	The history of ICT in education	90
3.4.3.	ICT and school reform.....	91
3.4.4.	The benefits of ICT in education	92
3.4.5.	ICT and personalisation	95
3.4.6.	ICT and pedagogy.....	100
3.4.7.	Young children and ICT.....	105
3.4.8.	The value of ICT reflecting on my practice.....	108

4	METHODOLOGY AND METHODS	110
4.1	Introduction	110
4.2	The participants	111
4.2.1	The students	111
4.2.2	The parents.....	113
4.3	Action research, the methodology	114
4.3.1	Defining action research and its value	114
4.3.2.	Constraints of action research	116
	<i>How is knowledge defined in terms of truth in action research?</i>	116
	<i>Is action and research possible in action research?</i>	118
	<i>Is action research problem-based or impulse-based?</i>	119
	<i>How is action research related to teaching practice?</i>	119
4.3.3	My working definition of action research and the meaning of action research in this piece of work	120
4.3.4	Considerations about quality and ethics.....	124
	<i>What is the meaning of 'specific' and 'general' in an action research case?</i>	124
	<i>Quality in action research</i>	125
	<i>Ethics in action research</i>	126
	<i>Quality criteria in action research</i>	127
4.4	Arriving at the Research Question	133
4.5	My Methods	135
4.5.1	Methods of research Year 1: Diary notes.....	136
4.5.2	Methods of research Year 2: Diary Notes and Questionnaires	140
	<i>Diaries (documents-of-life)</i>	140
	<i>Questionnaires</i>	141
4.5.3	Methods of research Year 3: Chat logs and Interviews	142
	<i>Chat logs</i>	142
	<i>Telephone interviews</i>	144
	<i>Focus-group interviews</i>	146
4.6	Reflecting on the methodology and methods in my study	148
4.7	The narration structure of this Action research study	152

5	HISTORY OF YEAR 1	153
5.1	Designing	153
5.1.1	Designing Period 1.....	153
	<i>Acknowledging the concept of collaboration together with my students</i>	154
	<i>Argumentative processes in the classroom</i>	154
	<i>Learning tasks</i>	155
5.1.2	Designing Period 2.....	156
5.2	Taking Action	157
5.2.1	Taking Action in Period 1.....	157
	<i>Promoting collaboration</i>	157
	<i>Argumentative processes in the classroom</i>	161
	<i>Learning tasks</i>	164
5.2.2	Taking Action in Period 2.....	166
5.3	Reflecting	168
5.3.1	Reflecting on Period 1	168
	<i>Reflecting on collaboration in the classroom</i>	168
	<i>Reflecting on argumentative processes in the classroom</i>	170
	<i>Reflecting on learning tasks</i>	172
5.3.2	Reflecting on Period 2.....	174
5.3.3	Lessons for Year 2.....	176
5.4	Summarising	178
6	HISTORY OF YEAR 2	179
6.1	Designing	179
	<i>Description of the action plan</i>	183
6.2	Taking Action	188
6.2.1	Taking action: What I did in relation to personalised learning inside the classroom	188
6.2.2	Taking action: What I did in relation to personalised learning outside the classroom	191
6.2.3	Taking Action: ICT use for students.....	192
6.2.4	Taking Action: ICT use for parents	196
6.3	Reflecting	201
6.3.1	How ICT integrated in personalised learning.....	201
6.3.2	Lessons for Year Y3.....	205
6.4	Summarising	208

7	HISTORY OF YEAR 3	209
7.1	Designing.....	209
7.2	Taking Action	212
7.2.1	Taking action: What I did for the students	212
	<i>Training children.....</i>	212
	<i>Online chatting with children</i>	213
	<i>Interviewing children.....</i>	215
7.2.2	Taking action: What I did for the parents.....	216
	<i>Training parents.....</i>	216
	<i>Online chatting with parents.....</i>	219
	<i>Interviewing parents.....</i>	221
7.2.3	Management of the analysis.....	223
	<i>The management of the data collection</i>	223
	<i>Chat logs.....</i>	223
	<i>Children's interviews.....</i>	224
	<i>Parents' interviews.....</i>	225
	<i>Organising the interviews.....</i>	226
	<i>The analysis procedure of the data</i>	227
7.2.4.	Analysis of the findings: outcomes concerning the children (Analysis level 1: nodes).....	230
7.2.5.	Analysis of the findings: outcomes concerning the children (Analysis level 2: emerging issues and themes)	233
7.2.6.	Analysis of the findings: outcomes concerning the parents (Analysis level 1: nodes)	238
7.2.7.	Analysis of the findings: outcomes concerning the parents (Analysis level 2: emerging issues and themes)	242
7.3	Reflecting.....	247
7.4	Summarising	257

8	DISCUSSING: TRYING TO PULL ALL THE STRANDS TOGETHER	259
8.1.	Observing quality in the research project.....	264
8.2.	Quality of purpose.....	266
8.2.1.	Quality of purpose in relation to personalised learning.....	266
8.2.2.	Quality of purpose in relation to personalised learning and ICT	267
8.3.	Quality of outcome.....	272
8.3.1.	Moments of uncertainty	273
8.3.2.	Balancing power between my students and me	273
8.3.3.	Balancing power between my two roles	275
8.3.4.	The report writing	277
8.3.5.	Personalised Learning fused with ICT	280
8.4.	Quality of theoretical understanding	282
8.4.1.	Quality of theoretical understanding in relation to personalised learning.....	282
8.4.2.	Quality of theoretical understanding in relation to personalised learning and ICT	286
8.5.	Sustainability and success.....	290
8.6.	My contribution to knowledge.....	293
8.6.1.	In relation to personalised learning	293
8.6.2.	In relation to personalising learning with technology	296
8.7.	Limitations of the research project	299
8.8.	What I would have done differently.....	302
8.9.	Recommendations for further research	305
	CONCLUSION	306
	In my end is my beginning (T.S. Eliot).....	306
	The significance of action research to practitioners.....	307
	The significance of action research in the Greek teacher community.....	309
	The significance of action research in my practice.....	311
	Cycles within cycles.....	313
	REFERENCES	314

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Declaration

I certify that the material included in this thesis is my own work.

I have presented at conferences some of my reflections on this work, which were published in the proceedings.

I confirm that no part of this thesis has been either published in another form or submitted for a degree at another university.

Evdokia Benetou

March 2013

Published Work

(Conference / Seminar presentations)

- 2010:
'Does ICT use affect the personalised learning of young children?', Research Student Seminar, CeNTRE Seminars, Warwick University, UK, 28th October, 2010
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Abstract

This thesis is an account of an action research project undertaken in a Greek primary private school. The project aimed at personalising the students' learning with the use of ICT. The project ran for three consecutive school years and involved students (twenty-six in year 1, sixteen in year 2, and fifty-one in year 3) and, their parents (in years 1 and 2). The students were eight-years old when the project started. The focus of the innovation concerned the teaching and learning of English as a Foreign Language.

The project was an attempt to create a partnership with students and to offer opportunities for students to make choices in their learning. In year 1 teaching methods, including argumentative processes, learning task design and assessment processes, were re-designed and students were encouraged to engage in collaborative learning. All these changes were sustained in year 2 and the use of ICT, including online discussion, was introduced to enhance and extend collaboration and learning. The use of on line 'chat' was extended to parents as a way of communication with school. All these innovations were sustained in year 3 and further exploration of students' and parents' perceptions of learning with technology carried out.

Action research is employed as a methodological approach in this study. In particular, the study reports on cycles of implementation and reflection carried out over three years. A variety of methods were used. Diaries were selected to record situations, questionnaires to access the perceptions of the children and parents, and chat logs and interviews used to explore these perceptions in greater depth. The mix of methods enabled comparison and contrast not just between data derived by different methods but by different sources as well, i.e. parents and children.

The main theoretical concepts explored in this thesis are *Personalised Learning*, *ICT use*, and *Collaboration*. This research project sees *Personalised Learning* as the 'focal innovation' and *ICT use* as embedded within personalisation. *Collaboration* is considered a fundamental construct in both personalisation and the embedded use of ICT. This thesis asks whether personalisation is a coherent concept and whether it can be sustained with the use of ICT. It finds that personalised learning can offer a coherent organising principle for pedagogic reform, and can be defined by its concern for collective co-production of knowledge, student voice, assessment for learning, learning-to-learn strategies, and student centeredness. Personalised learning and ICT are recognised as a good match and personalised learning is seen to need ICT in order to be sustained. However, innovation requires time and evaluation of outcomes is value laden. The thesis finds action research to be an appropriate methodology for curriculum reform.

Abbreviations

AfL	Assessment for Learning
App(s)	Application(s)
CPD	Continuing Professional Development
EFL	English as a Foreign Language
ESOL	English for Speakers of Other Languages
FL	Foreign Language
FP (in chat logs)	Female Parent
FS (in chat logs)	Female Student
HOU	Hellenic Open University
IB	International Baccalaureate
ICT	Information and Communication Technologies
IT	Information Technology
L1	First language, mother tongue language
L2	Second language, foreign language
MP (in chat logs)	Male Parent
MS (in chat logs)	Male Student
NC	National Curriculum
S(s)	Student(s)
TEI	Technological Educational Institute
TESOL	Teaching English to Speakers of Other Languages
TVTS	Technical Vocational Training Schools
USS	Upper Secondary Schools
VLE	Virtual Learning Environment
VTI	Vocational Training Institutes
Y1	Year 1
Y2	Year 2
Y3	Year 3

Tables and Figures

Tables

Table 1 Details about the parents	113
Table 2 Themes and concepts relating to the Research Questions.....	149
Table 3 Users in the online intervention (Y2)	195
Table 4 Students' suggestions for improvement in the online intervention	196
Table 5 Children arranged in focus group interviews.....	215
Table 6 telephone interview schedule	222
Table 7 The participation pattern of online children-users in Y2 and Y3.....	224
Table 8 The analysis route in Y3.....	227
Table 9 Highly referenced nodes (children's chat logs)	230
Table 10 Nodes and emerging issues in children's chat logs	233
Table 11 Highly referenced nodes (parents' chat logs)	238
Table 12 Nodes and emerging issues in parents' chat logs.....	242
Table 13 The pattern of the developmental change	256
Table 14 The Quality Criteria of this Action Research study.....	264
Table 15 The frequency pattern of parents' participation in chat (Y2).....	354
Table 16 The frequency pattern of parents' participation in chat (Y3).....	355
Table 17 The frequency pattern of children's participation in chat (Y2)	356
Table 18 The frequency pattern of the children participation in chat (Y3).....	357
Table 19 Emerging issues explored in the children's focus group interviews.....	358
Table 20 Emerging issues explored in the parents' telephone interviews.....	359
Table 21 Interview guide for the telephone interviews (parents).....	361
Table 22 Interview guide for the focus group interviews (children)	362
Table 23 Node Structure for the children's (mainly the 'parent' tree node)	363

Figures

Figure 1 The five components of personalised learning	53
Figure 2 The conceptual map of personalised learning	61
Figure 3 The pattern of children-participants from Y1 to Y3	112
Figure 4 The participants in Y2	193
Figure 5 Transcription of a chat log (example)	360

Various

Various 1 Year 1 Diary (extracts)	346
Various 2 (Picture) The classroom seating arrangement (before and after)	347
Various 3 (Picture) Collaborative work	347
Various 4 Self-Assessment: Monthly Assessment (example)	348
Various 5 Self-Assessment: Self-Assessment Chart (example)	349
Various 6 Year 2 Activity	350
Various 7 Year 2 Diary (extract)	351
Various 8 Children's questionnaire (Y2) and statistical analysis	352
Various 9 Parents' questionnaire (Y2) and statistical analysis	353
Various 10 School informed consent	364
Various 11 Ethical Approval Document	365

1 Introduction

1.1 Overview

This is an account of my teaching as I engaged in action, in *praxis*. Firstly, led by curiosity and then by personal commitment I set into a research journey: ‘how can I improve my teaching?’. Inspired to turn to personalised learning and ICT use for the change I had in mind, I pursued to be in partnership with my students in the quest of an improved learning theory. I became dedicated to it and my research decisions were governed by my wish to listen to my students’ voice and attend to it.

By using action research I explored whether the use of Information and Communication Technologies (ICT) could sustain a personalised mode in the learning of Greek primary students. This thesis is presented in eight chapters.

The report starts by providing some guidance to the reader and continues by giving a general outline of the research context. For a coherent understanding of the research background, I consider it important to supply some contextual information about the Greek education system and the foreign language curriculum framework in Greek primary education first. The particularities of foreign language learning and of the foreign language teacher in Greece held a special place in this study and are presented in this chapter.

The research context in more specific terms continues in *Chapter Two*. There, details about the place, the participants and the events that triggered this study provide the setting. In particular, the three stimuli in this study – the academic, the cultural and the personal – are revealed together with the preliminary research questions that the inquiry addressed.

The literature review follows in *Chapter Three* with three theoretical concepts that were central in the study: personalised learning, ICT use and collaboration. My practice lacked a clear student-centered environment of learning. Believing that personalised learning could offer the theoretical framework I needed, I experimented with collaborative work and ICT use to help me to apply change and produce effective results for learning.

This study was a personal quest to discover how prudent action could affect a change. I regarded action research to be the suitable methodological approach because of its transformative potential and of the political and moral values that lay at its heart. I contemplated on the strengths and constraints of action research and raised questions about the quality and ethics of the approach as I developed the overarching question of my study. The theoretical assumptions underlying the research process led to particular methods that I chose. Methodology, methods and the research question of this study are introduced in *Chapter Four*.

The following three chapters, *Chapters Five, Six, and Seven*, narrate the story of each research year separately. Each year follows the cycle of design-act-reflection. Drawing on the literature and the arguments in the methodology, the outcomes of the data collection are explored and reflected in each research year before planning the action of the following year. As the research progresses, further literature is raised as new issues emerged and, in this light, these three chapters offer the first stage of analysis.

A discussion follows in *Chapter Eight*. Tracing the overarching shape of change in these three years of research, implications about the quality of the project are made and the weaknesses of the research are indicated. Personal claims about the success of the intervention are put forward and alternative routes are considered.

The areas of knowledge that the outcome of this project could contribute to and recommendations for further research are, then, suggested.

This thesis finishes with some personal thoughts about action research as an educational research for practitioners. These thoughts are presented in the *Conclusion* chapter.

1.2 Structural guidance for the reader

The reader of this study has in his/her hands an account of my personal pursuit of teaching and learning change. There are two salient points in this account.

The first is that this study follows the structure of a story simply because this is truly what happened: a series of events that occurred in a classroom. There was a starting point (the reason this study was conducted), there were characters (my students, myself and, at times, my students' parents), there was a place (my classroom in my school and my students' home), and there was a time (three consecutive school years of research). What makes this account narrative, though, is the action. This is an action research study progressing in spirals from one cycle towards the next. The living 'I'-narration stands at the centre of the research report.

The second noticeable fact is that this is a research account that relates to *me*. It is a research study that derived out of a personal urge for developmental change. At this point I would like to make a mark about the eagerness I felt to realise this study. As I was about to start my doctoral studies in educational research a most unfortunate family matter forced me to stop the procedures. It was uncertain when I could start pursuing a degree like that again. Yet, believing that I should not stop making research plans, I proceeded with this study before officially starting my

doctoral studies. As I stated and described in the Ethical Approval Document (see *Appendix*, p. 365) I took the necessary provisions to design a research project which would abide by the Ethical Guidelines of Educational Research. For that, I was granted approval by the Institute of Education. Additionally, in *Chapter 8* the reader has the opportunity to attend to my arguments about quality in this study.

The narration follows the first-person narration (autodiegetic) mode (Genette, 1980; Maltz, 1990). In literary studies, narration (Genette, 1980) is the process of presenting events, and this process may occur in certain narrative modes. The narrative point of view (first-person, second-person or third-person) determines the perspective through which the narration is told whereas the narrative manner (autodiegetic or heterodiegetic) determines the communication tone of the narration and in particular the distance between the author and the narrator. The closer they are, the more autodiegetic the narration, the further they are, the more heterodiegetic the narration. Cohn (1978) distinguishes the narrators as 'consonant' and 'dissonant' ones, according to their degree of consciousness when narrating. The closer the narrating-I is to the experience-I the more consonant the narrator and the more factual the narration is.

The 'I-narration' in my research report signifies that the autodiegetic mode is used to recollect past events to which I was a witness, or a participant engaging in action, or sharing the action with other participants. Two aspects about my use of autodiegetic narration in my report should be made clear from the start.

The first has to do with what I mean when I talk of 'recollection of past events'. By recollection, I refer to memory processes (Cohn, 1978), which have to do with the real-life memory as opposed to narrational memory. Real-life events are ontologically firmly established: they happened whether one remembers them or not. On principle, however, one cannot remember what has not happened. Real-life

events may be written and rewritten but they are real because there is no contradiction that they occurred, whereas narrational events have not existed, they are fictional, they have been created. In this case, what I have tried to do is to capture and reproduce a 'copy of the particular world which existed at a particular place and time [with] the atmosphere, and the people living in it' (Maltz, 1990:305-6).

The second area I would like to clarify concerns my multiple roles as a narrator, a participant and an author by using the first-person autodiegetic narration. Genette (1990:766) says that in non-fiction all three attributes merge into the same one persona. Maltz (1990:307) continues saying that, in cases like that, all three figures are not just related but they are the same person. Therefore, when the 'narrator remembers it is absolutely identical with the author remembering'. I understood the participant and the narrator as one persona. Accordingly, the narrator had a history to tell that is, the narrator remembered past events of his life or of the lives of others. Consequently, when the narrator remembered, the mental life of the participant was revealed. Friedman (1975:152) claims that the narration is richer if the narrator is a witness or a major character rather than the protagonist since some channels of information and some vantage points are lost as the protagonist-narrator may present fully but only his own opinions, thoughts and feelings. By the same token, however, the witness-narrator has no access to the protagonist's or to others' minds.

In this piece of work I was the *agent* - a teacher with moral agency to improve circumstances. As an actor I was watchful, and consciously sought to guide action towards desirable outcomes in the best interests of the participants. However, as any agent or actor, I could not act alone; I needed to negotiate my way through the actions of other people, of my students, their parents, the school community and heads. And perhaps most importantly for myself, *praxis* was not just action in or on others; it was also a process of becoming, of self-formation – of formulating my own

identity through my actions as I involved with others. I learnt in relation to others as I observed, interpreted and reflected on the participants' perspectives and behaviour.

This is an account of the action – of the '*praxis*' (Kemmis and Smith, 2008) - that took place in my classroom as I with the help of my students investigated whether ICT use could sustain a personalised approach in learning. It was action morally-committed and guided by the circumstances and dilemmas I was faced with at a particular moment in my teaching life. Taking into consideration not only my own practice interests but the long-term interests of each student, I did what I thought best I should do, I acted - I engaged in '*praxis*'.

Therefore, I present this report to the reader in a narrative form as an attempt to depict the materialisation and process of the study case as it happened, with events that are factual and not fictional, narrating in first-person voice and in an autodiegetic manner.

This means that the figures of author, narrator and participant fully align and merge into one persona. For reasons of reliability, this narrative report is transparent. As it is further explained in later chapters (see *Chapter 8*, The report writing, p. 277), my decision has been to be the major but not the main character in the research so as to give room for the voices of all other participants, my students' and their parents', to be heard and in this sense to minimise the possibility of filtering the events.

In this study, as I explain later on (*The Quality Criteria*, p. 264), I was mostly the major character-narrator or the witness-narrator and occasionally the protagonist-narrator.

1.3 The Research Context

This is a research study that took place in a Greek primary school. In order to help the reader become acquainted with the research context, some information about the Greek educational system and the foreign language curriculum in the Greek primary education will be presented first.

1.3.1 Education in Greece

Education in Greece (<http://www.minedu.gov.gr/>) is compulsory for all children 5-15 years old; namely, it includes pre-primary (5-6 year old), primary (6-12 year old) and secondary (lower 12-15 year old, and upper 15-18 year old) education (graph of the Greek education system in <http://www.ekep.gr/english/education/diagramma.asp>).

There is pre-school education (reception) for young children. There are also all-day pre-primary and primary schools in operation, with an extended timetable and an enriched curriculum. Musical, ecclesiastical and physical education schools are also available. Along with the mainstream schools of pre-primary, primary and secondary education, special pre-primary, primary and secondary schools are in operation. Special needs education is mainly exclusive in Greece.

Post-compulsory secondary education (15-18 years old), according to the reform of 1997 (Official Greek Government Gazette, 1997), consists of two school types: upper secondary schools (USS) and technical vocational training schools (TVTS). Studies in USS last for three years and in TVTS for two or three years. Post-compulsory secondary education also includes vocational training institutes (VTI). These Institutes provide formal education but they are not classified at an educational level because they accept both junior high school graduates (15 year olds) and upper secondary school (18 year olds) graduates.

Public higher education is divided into the university sector (universities, technical universities, and universities of fine arts) and technological education institutes (TEIs) (Education Research Centre - Ministry of Education and Religious Affairs, 2003; Giamouridis and Bagley, 2006; National reports of Greece on Bologna Reforms, 2009). Military/naval/air force academies are considered university institutions and accept candidates in the same way as any higher education institution but academies fall under the jurisdiction of the Ministry of Defence. Students enter university institutions according to their performance at national level examinations taking place at the third year of post-compulsory education.

Students may choose the e-learning route for undergraduate and postgraduate studies by enrolling into the Hellenic Open University (HOU). The only restrictions for HOU candidates are that there must be place availability and the candidate is at least twenty-two years old. Postgraduate and doctoral studies are also offered by most of the Greek universities.

There is also private pre-school, pre-primary, primary, and secondary education (both lower and upper secondary schools) in Greece. Some of those schools are Foreign Schools (for example, for British or American families in Greece) and they may or may not follow the National Curriculum of studies (http://archive.minedu.gov.gr/el_ec_category35.htm). Such Foreign Schools are usually International Baccalaurean (IB)-oriented. However, most private schools follow the National Curriculum of studies extending it to offer extra curriculum activities and practice in sports and foreign language learning. All private schools charge tuition fees. According to the Operations Research and Statistics Section of the Ministry (Eurydice, 2010), in Greece there are 1,892 secondary public schools and 130 private, 40,837 secondary public teachers and 2,959 private teachers, and the average number of students per classroom in the secondary public school is 21

whereas it is 25 in the private school. There are also private Higher Education institutions which, however, are not recognised by the state. Since 2008 there is continuing debate and pressure for changes in the Greek legislation so that private universities could be authorized to run and function as higher education institutions.

The education system falls into the complete authority of the Ministry of Education and Religious Affairs. Both public and private schools are controlled and supervised by the Ministry. There is no tuition fee, and text books are provided free to all students following public education in Greece. Higher Education has an autonomous status but it is funded by the Ministry.

Formal education, either at pre-school, primary or secondary education, public or private is marked by a fixed period of studies, and a prescribed and non-flexible curriculum. At the end of each period/year of studies there is an award of a formal school-leaving certificate. This certificate or degree is considered the official recognition of studies and is compulsory for students at each education level in order to continue to the next (Giamouridis and Bagley, 2006).

Taking a closer and more thorough look into the education system in Greece one can identify a much more complex, multilevel and differentiated infrastructure. In particular, there are many educational services, classified or unclassified, which are available during the formal education years, either in co-operation with the Ministry or run completely independently. In particular, there are private tutoring schools providing foreign language schooling, supplementary practice to weak students, or extra preparatory studies for the national examinations (at the end of the post-compulsory education). Such tutoring schools run afternoon or evening classes after the end of a school day. All tutoring schools are private, and as such they require a tuition fee.

Laws about education are usually changed whenever there is a new government.

The new Ministry of Education policy (2011)

(http://www.minedu.gov.gr/publications/docs2011/epdvm_teliko_110303.pdf)

comprises a new vision attempting to move from older practices to new ones including the direction of Lifelong Learning. The Ministry aspires to include Lifelong Learning as part of the wider redesign of the educational model in Greece. In 2011 the Greek Minister of Education (Feb 2, 2011, Minister's opening speech in

'The Lifelong Learning in relation to Employment' meeting,

(<http://www.minedu.gov.gr/grafeio-typoy-kai-dimosion-sxeseon/omilies.html>) mentioned

that particular attention should be paid to the knowledge capital, personal abilities and human resource skills.

Although efforts are made to modernise and synchronise the educational system with political, social and economic changes, it still continues to be highly centralized (OECD, 2011; Zambeta, 2000). Each subject taught at school is based on a single textbook which covers a specific amount of the subject-knowledge. There is no flexibility at all in the content of a course. The syllabus of a course is defined by the state educational curriculum which is developed by the Institute of Educational Policy, an educational foundation which attends to the educational policies of each government. Instructions are to be followed uniformly by all teachers.

Centralisation has an impact on teaching goals and procedures (Avdela, 2000; Couloubaritsis, 2007). Education policy makers, teacher supervisors and teachers assume that there must be direct instruction to the student. Teachers tend to control this transference of information while young children very soon realise that their task is to accept and not to question the knowledge offered to them. Students rely on teachers to decide what and how much to study and the students' only duty is to replicate what they have studied. It is very rare a case to find Greek primary

teachers who make room for the students to develop their creativity, spontaneity and critical thinking. To find teachers who employ student-centred methods in class and facilitate rather than produce knowledge is an utterly unprecedented case in Greek schools or universities (Ioakimidis and Myloni, 2010:296). It can only happen in some Greek primary schools where innovation and school change is part of the school status quo like in some private schools or in Experimental Schools (Eurybase, 2009-2010:86). Student-centred methods and educational technologies are considered progressive education and as such they are mostly met in well-famed private schools where they usually welcome educational novelties.

Funding is usually the key to establishing educational reforms (Lundalh, 2002). At the time of writing (2013), however, austerity measures due to an economic crisis in Greece imposed cuts which had an impact on the amount of appropriation in education. Thus, reforms in education could not be funded and have been either postponed or have had a slow process of materialisation. Debate has also started about decentralizing the Greek education by giving the control and supervision of schools to municipalities according to 'The Kallikratis Plan', the new government reform plan (<http://www.ypes.gr/el/Regions/programma/>) for decentralized administration. Generally speaking, reforms (Feb 28, 2011, Minister's speech in the conference 'Information and dialogue between the Ministry of Education and The Mayors', <http://www.minedu.gov.gr/index.php/grafeio-typoy-kai-dimosion-sxeseon/omilies.html>) that the Greek Ministry of Education contemplates relate to the new role of the student ("The Student First - New School"), teacher education, the digital classroom and ICT learning at school, vocational education, and reforms in higher education.

There have been many initiatives, developments and efforts in the Greek education system in the last thirty-five years. What is absent, however, is continuity and

cohesion in reforms since one does not necessarily relate to the next; on the contrary, most of the times a recent reform cancels a previous one (Avdela, 2000). As a consequence, 'schools have little time for consolidating change or investing in changes' (Fragkouli and Hammond, 2007:465) and, then, changes are bound either to have a short life or die.

1.3.2 The foreign language learning in the Greek Primary Education

Children in Greek primary schools, both in public and private schools, start their studies at the age of six and finish at the age of twelve. Among other subjects the National Curriculum (NC) includes the compulsory learning of two foreign languages, English and French / German (Eurydice, 2010; Greek Ministry of Education, 2010; Eurostat, 2011).

The NC specifies the principles and philosophy of teaching English in the Greek public school (Institute of Educational Policy, 2003). According to it, the purpose of learning English is to develop the necessary language skills to communicate in different cultural environments. Students are also to understand that foreign language learning is not just useful in communicating with people who have a different language and a different way of thinking. The curriculum asks them to realise that competence in a foreign language is crucial to gather and manage information from a variety of places.

Explicit in the NC guidelines is that teaching and learning English should promote active learning, in which multiple voices and communication are regarded as essential ingredients. Group work is considered as the appropriate way to learn English in class. Collaboration and communication are thought of as social objectives in learning. Evaluation is expected in the areas of language acquisition, and also in terms of language usage and communication. The aim of evaluation is

the investigation of the students' progress so feedback can be offered and areas needing improvement can be identified and supported with effective interventions. Yet there is an inconsistency that remains unchanged in terms of criteria for assessment. In the most recent reforms in education, the Greek Ministry of Education has made interesting points about formative assessment but, since there is not a structured framework offered, formative assessment is neglected - if ever it has been used in the first place.

To help foreign language (FL) teachers use communicative methods more than structural ones in teaching, in 2007-2008 the Institute of Educational Policy was asked to author new English text books for Years 4, 5, 6 in Primary Education. The new books were used in school year 2009-2010 for the first time.

In more recent education policies for the Primary Education in the New School, a Unified National Curriculum (2011) for the teaching of Foreign Languages was designed. It has applied to all foreign languages taught at school since June 2011. It incorporates the six language levels of the Council of Europe. The new curriculum was piloted in 160 primary and secondary schools in school year 2011-2012 and was fully implemented in school year 2012-2013. The aim was to upgrade foreign language learning up to an equal level with that of second language learning in Europe ensuring, at the same time, a continuity of language learning from primary to secondary education. Foreign language learning continues to be exam-oriented and recently it has been directed towards the acquisition of the National Certificate of Foreign Language Competency (<http://rcel.enl.uoa.gr/kpg/>).

1.3.3 The particularities of foreign language learning in Greece

Learning a foreign language poses an interesting case of curriculum status in Greece. Greek students and their parents are mindful of FL learning but often

believe that FL learning at school is ineffective (Angouri, Mattheoudakis and Zigrika, 2010).

Greek as a language is used very little, if at all, outside the country borders. Instead, English, although a language without an official status in Greece, is regarded a language of communication. In everyday life, 'English plays an increasingly visible role in various domains in shop names, restaurant menus, even words and phrases that combine Greek and English, commonly termed 'Greeklish' and its knowledge is helpful when engaging with modern technology' (Sifakis, 2009:234).

The Greek state, taking into account both, the interest in EFL learning and the socioeconomic inequalities among students, promoted the teaching of one FL language at primary education in 1992 and a second FL language in 2005 (Mattheoudakis and Alexiou, 2009:231). Since 2010, all students have had their first encounter with a FL in Year 1 (six to seven year old children).

The quantity and quality of FL learning at private language schools (out of school), however, usually outperform FL learning at school. Private language schools have responded to the interest of the Greek family towards EFL and have offered learning packages which are promising and difficult for schools to compete with. Between years 1985 and 2003, when EFL was introduced for the first time in Year 3 in primary education, private language schools more than tripled in number (from 2,000 to 7,000) and still continue to increase until today. About 80% of Greek school children attend such language schools and the families spend on average about 880€ yearly on fees and text books (Mattheoudakis and Alexiou, 2009:232). Even the Greek Minister of Education, in October 20, 2010 (<http://www.minedu.gov.gr/index.php/grafeio-typoy-kai-dimosion-sxeseon/dilwseis/>) accepted that '92% of the Greek population consider FL learning, especially EFL, a

necessity but only 28% of them have learnt English in a Greek public school' (my translation).

At the time of writing (2013), going to a private language school to study a foreign language seems to be the norm for most Greek seven or eight-year-old school children, and even younger if the children come from a more affluent socioeconomic background (Mattheoudakis and Alexiou, 2009:238). However, being proficient in a foreign language (or even in many foreign languages) is not considered sufficient. Official certification of the mastery of the foreign language is sought as early as possible. It is usually assumed that by the age of 15-16 (i.e., preparation to take a university entrance exam occurs at that time) a FL student should have reached the C2 proficiency level of the Common European Framework of Reference for Languages. Although certificates have a temporal validity, in Greece they are recognised as having a permanent validity when it comes to applying for state posts.

Text books and materials which teachers are required to use in public schools are commissioned by the state for Year 4 and onwards. For Years 1-3, there is an approved list of text books that come from the Greek publisher market. In private primary education there is generally more choice of text books due to the fact that extended foreign language programs are offered. Text books in private schools usually come from the international publisher market and the choice of text books may vary from one private school to another.

However, the choice of text books in a private language school (out of school) follows a different logic. A national report on language learning materials (Tsopanoglou, 2000:11) in private language schools found that:

- a lot of material (58.7%) claim to be “communicative” or to promote dimensions of the communicative approach,
- materials for work in the classroom are more frequent (52.1%) with independent learning (44.4%) to follow,

- materials for the development of integrated skills represent the majority of input titles (54.1%),
- the language certification plays a very important role,
- in general, teachers show mistrust for materials in electronic form although there is a growing interest for online activities, and
- Greek publishers are numerous but they do not seem to have mechanisms for identifying needs, or plans of expansion, and lack awareness of the possibilities that European education programs can offer them.

In short, the foreign language student in Greece follows a contradictory learning route. Although the National Curriculum may suggest a communicative scheme in learning, these suggestions are restricted in practice. Moreover, although the private language school may fully recognise the need for communication in learning, it tunes the development of language skills towards the acquisition of a certificate in FL. Thus, the Greek student has mainly one choice, to follow an exam-oriented learning process which puts accuracy before communicative competence.

1.3.4 The English foreign language teacher in Greece

English FL as a discipline is studied at university level either because the English language, history, or literature is of interest, or because it is believed that the knowledge of English can offer work opportunities (Sifakis, 2009:234-5). During their four years of studies graduates acquire a thorough grounding in linguistics, culture and the history of the language, and develop an informed awareness of the pedagogic principles and methods they will need as teachers.

After completing their studies, the graduates can be hired in private schools without any further training. If the graduates wish to be hired in public schools they have to take an official exam (offered every two years) by the Supreme Employee Selection

Board (ASEP, *Greek acronym*), a state organisation which works with the Ministry of Education to select educators. The prospective English teachers are tested on EFL Methodology, Language Awareness and on Education Studies.

The successful candidates are eligible for positions in Greek public schools according to availability. At the time of writing, however, due to the economic crisis in Greece, the number of new teachers who were appointed in schools across the country depended on the number of teachers who were retiring - the ratio was one new recruit for every five people who retired. The consequence was that there was a growing number of teachers awaiting appointment (4,500 were already on the "list"), the majority of whom were working on contract on an hourly basis. Recent actions to freeze all civil servant recruitment further reduced the number of appointments (ELT News, 2011).

It is usual among young EFL university graduates to take the ASEP exam for Educators as soon as they get their degree without having either any classroom experience or any further training in pedagogy or school psychology. Mainly due to high rates of unemployment (<http://www.in.gr/>, 2011) young graduates are drawn to the possibility of a 'secure job' in the public sector. Once appointed, however, they are not evaluated since, until the time of writing (2013) there has not been an evaluation structure available for teachers; yet, recently the government has been pursuing significant changes involving comprehensive evaluation reforms, starting with the evaluation of schools.

The majority of EFL teachers in Greece are non-native speakers of the language. They use English mostly inside their classroom. This means that their level of language usage applies to the needs of their learners and runs the danger of becoming fossilised (Sifakis, 2009:234). Few chances to practise the language in

authentic environments are possible and this has become one of the problems of the profession in Greece.

Continuing Professional Development (CPD) is an issue for English teachers in public primary and secondary schools. According to a questionnaire survey conducted by The Panhellenic Association of State School Teachers of English (PEKADE Forum, 2009) more than half of the asked public English teachers replied that they had not attended any in-service training recently. To date, 'an ambitious in-service training programme [aiming to] link theory and practice using methods of adult education, such as active learning [and] new technologies...in order to manage the new curriculum' (OECD, 2011:25) has started. Efforts are made to alter old traditions of teacher training, such as 'emphasis on subject matter and pedagogic theory, neglect of teaching techniques, neglect of pre-service and in-service professional development' (Efthimiou, 1995:232).

National reform plans about CPD for teachers are received with skepticism by the OECD (2011:30-31). It is argued that the planned training schemes aim mainly at an individual level without any effort to provide training for teams from schools. The OECD report continues pointing that because the Greek schools and students are so diverse, the in-service training should be more locally led and training plans more subject-specific relevant to the teachers.

1.4 Summary

In order to help the reader follow the course of this research, the research context needed to be presented first. Therefore, a general outline of the Greek education system in Greece and of the foreign language curriculum in the Greek primary education was provided.

Some points were also made about the particularities of learning a foreign language in Greece. It was highlighted that Greek parents and students hold foreign language learning in high respect but not the teaching and learning of languages in public or private schools. Instead, there appears to be a wish to learn a foreign language outside school in private language schools as the quantity and quality of learning seems more promising. Yet, no matter where a student may attempt to learn a foreign language, he/she follows an exam-oriented learning process which most of the times puts accuracy before communicative competence.

The profile of the English foreign language teacher in Greece was also sketched. Some of the shortcomings of the profession were stated, such as the neglect of a teaching foundation period or of CPD training, the limited opportunities to practise the language in an authentic situation, and some of the administrative problems of the job.

The research context becomes more specific in the next chapter as particular characteristics of the school, the participants and myself are illuminated.

2 The Setting

The school and the foreign language learning in this school were the canvas of this research. The participants - the students, their parents and me - became the characters in the story. There were three stimuli that started this research study which are also explained below. All the above assembled to form the background of the research, that is, its setting.

2.1 The case of a Greek primary school, my school

This action research study took place at a Greek primary school situated at the centre of Athens. The school is considered one of the most prestigious private schools in Greece. The school was founded in 1924 and was run by a Catholic monastery order. Since 2002 its management has been turned over to school teachers, who have been instructed to follow and preserve the school culture initiated by the order (Institute of the Marist Brothers, 1998, 2005; *Appendix, Various 10, School Informed Consent*, p.364).

The school offers primary and secondary education to 1,600 students (6 -18 years old). The primary school is quite a large unit of approximately 700 children. Although it is a private school it does not necessarily mean that the students come only from 'elite' families. On the contrary, every year a certain number of children have their fees subsidised by the school if their homes face financial difficulties. Yet, it is undeniable that most parents belong to middle /upper-middle class in terms of their access to economic resources, education and cultural interests. Almost all of the students are Greek (less than 3% of the students' parents are Polish, Albanian or Syrian and - in most of these cases - their children are Greek nationals). The

majority of the students are Christian Orthodox or Catholic although there have been cases of Jewish and Muslim students.

All students in this project spoke Modern Greek as their L1 and all of them were white (School resources, 2010-2011). However, what varied a lot was the place of the students' residence. According to the Greek National Centre of Social Research (<http://www2.ekke.gr/>, 2002), Attiki (the region surrounding and including Athens) holds 55% of the urban population and 30% of the total population of Greece. Extending beyond the administrative city limits in an urban area of 3,808 km² (Eurostat, 2006:148), with a resident population of 3,812,330 (Hellenic Statistical Authority, 2011) and a habituated density of 1,031.5 hab/ km², Athens is the 4th most populous capital city of the EU. Children came to school from various parts of Athens and, as a consequence, they rarely lived close to each other.

2.2 The EFL learning in this school

The students in this study were learning English as a Foreign Language (EFL). At school, the EFL curriculum (<http://dhmotiko-patisia.leonteios.edu.gr/>) has been designed to fall into three didactic cycles each of which bears certain linguistic and cognitive characteristics:

In *cycle 1* (school year one and two; children 6-8 years old), students get accustomed to the phonetic and written system of the language and try to participate actively in learning by doing drilling and tracing exercises, singing, miming and playing games.

In *cycle 2* (school year three and four; children 8-10 years old), materials aim to support memory and fundamental cognitive skills, to familiarise students with

phonetic and written formulae / patterns of the language and to get students to communicate using the language actively.

In *cycle 3* (school year five and six; children 10-12 years old), materials aim to help students establish all the necessary cognitive strategies in order to create mental linkages, to practise speaking / writing in naturalistic environments and to communicate using the language actively.

The school has been recognised by the state as a Foreign (French-Greek) school, and has been granted approval to teach French as the first foreign language.

English (EFL) is taught as the second foreign language at school. English is taught for two hours weekly during the first year at primary school and for three hours weekly for the rest of the years in primary school. The EFL learning at primary schools follows a standardised curriculum imposed by the Greek Ministry of Education (see *Chapter 1*, pages 9-13).

Children are taught English in their regular classroom at school. There are usually two text books, a class book and a workbook that students use. Class work and homework are mostly distributed from those two books but teachers often use various other resources to supplement their course book material. Students are encouraged to keep notes about their homework in a school diary. Teachers can use this diary to communicate with the student's parents (short messages may be exchanged). When a course unit is completed, students take a progress test. Progress tests are marked by the teacher only; the test score (summative feedback) defines the student's progress grade. The teacher may choose to raise or lower this progress grade by taking into account the student's degree and quality of participation in class (formative feedback). Students are not grouped by ability during their EFL primary years.

2.3 The case participants

In this action research the participants that took part were my students, occasionally their parents, and I.

2.3.1 My students

Young primary students start their day in this school at 8:00 am and finish at 2:00 pm. Their school schedule covers five to seven subjects daily. Students prepare homework in almost every school subject daily and from Year 3 onwards they usually have to prepare for two tests on a weekly basis.

In their school schedule, every two hours they have a fifteen-minute break. No lunch break is provided. They usually spend their break in the school yard, in the school playground or in the school library. Most of the students stay at school when their daily schedule finishes. They attend extra-curricular activities in the afternoon school zone doing sports, taking music or foreign language lessons, or having subsidiary study periods with a teacher. The afternoon sessions are offered from 2:30 pm until 6:00pm Monday to Friday. Most primary students are driven to and from school by their parents or by the school buses.

With a rather heavy school programme running daily there is hardly any time for recreation for young children after school. Playing after school for young Greek children who live in cities is highly restricted. Both parents usually work and children either stay in the custody of grandparents or of an older sibling until the parents return from work. They rarely stay outside the house or play in a playground without the vigilance of an older family member. Young students usually stay indoors and play games on a computer. Or, they take private lessons in music or foreign languages or do sport activities. Evening hours are devoted to homework doing and

as homework duties grow with school years those hours may escalate to night hours and even to late night hours when students go to high school.

This study concerns a group of primary school children as they were learning English FL in a Greek private primary school. The English class was researched for three consecutive years (Y1, Y2, and Y3). The children were 8 years old when the study started and 11 years old when the data collection stopped.

2.3.2 Their parents

Home environment, out-of-school time and parental involvement are three interrelated pathways towards student achievement. Differences in family characteristics are, of course, important in explaining differences in student achievement (Coleman, 1966). Families, which are more conducive to education by helping with the children's homework or by becoming involved educationally in their children's out-of-school time, improve the children's chances of success at school. There is a wealth of literature that documents the strong ties of the family's educational beliefs, socioeconomic status and the child's school performance (Bourdieu, 1984; Fransoo et al., 2005; Horvat, 2000; Lamont and Lareau, 1988; Walpole, 2003).

Greece is regarded a country of 'traditional gender values' (Uunk, Kalmijn and Muffels, 2005:57) where mothers are responsible for the upbringing and school performance of children even if they are working mothers returning home later than their children. It has also been suggested that the parents' occupational status reflects the outcome of educational achievement (Burgard, Stewart, and Schwartz, 2003) and research with Greek families confirms that children's school performance is influenced by the parents' profession (Danassis-Afentakis as cited in Katsikas and Kavvadias 2000; Mattheoudakis and Alexiou, 2009). In particular, the

educational background of a mother can have an important effect on her children's attainment in school (Daouli, Demoussis and Giannakopoulos, 2010; Schultz, 2002; Valassi, 2009). It also appears that social and cultural factors such as the parents' occupation and education may have a more significant role than economic factors such as material resources (e.g. the possession of a computer at home, participation in extracurricular activities or travelling abroad) for school attainment (Marks, Cresswell and Ainley 2006).

The parents of the children who engaged in this research were mainly university degree holders (under and post graduates) and few of them were secondary education graduates. Almost all mothers were employed and only some were unemployed or not working. The employed mothers were mainly university educated, wholly so in homes when mothers returned home from work later than their children. In this particular case, mothers were the major parental capital.

2.3.3 This is me, my background as a teacher

When this research study started I had been teaching for almost twenty-five years. All of my teaching years had been in the private school sector. I started teaching as soon as I received my degree from the English Department of Athens University in Greece. I graduated as an FL English Teacher. No further practical training to start teaching was provided. My teaching career started in small language schools. Moving to a grander language school was a professional challenge for me.

After applying for a teaching post in a large language school in Athens, I was offered the chance to become a teacher under certain conditions. I taught in the morning and attended a one-year methodology course at school in the afternoon. I was taught by the school academic supervisor. At this large language school I had the opportunity to be tutored by famous teacher trainers in Greece. That period was also

regarded my practicum and my teaching was assessed by the school academic supervisor both in announced and unannounced class visits. Only when, at the end of that period I was accredited as a capable teacher, was I considered a teacher at that school. It was a year which built my teaching competence, perhaps, in a hard but, definitely, in an effective way.

I worked in that language school for seven years. During that time apart from teaching, I was encouraged by the school academic supervisor to take part in preparing and implementing teaching resources, designing and piloting tests and, training junior teachers. I was supported in giving in-service seminars and workshops to young language teachers. During that time I was employed by the British Council and was trained to become an Examiner for the Oral and Written Cambridge ESOL exams in Greece.

I soon discovered that I needed a theoretical framework to sustain the practical side of my teaching. I completed a MEd in TESOL in the University of Manchester, UK.

My next teaching post was in a Greek private school. Since then, I have been teaching English FL in primary and secondary classes to all ability groups. From 2002 to 2004 I was appointed Junior High Supervisor, a school infrastructure position. My responsibilities were, beyond teaching English, to care for all first-year students of Junior High (to a hundred and fifty students of lower secondary education). My role was both pedagogic and administrative. I had to record students' absences, inform students about current school events, see teachers and parents in relation to students' performance and behaviour, deal with student's problems, and in short, be responsible for the welfare of each and every first-year junior high student.

From 2004 to 2010 I was Head of the English Department at school. My new role was educative and administrative. I was responsible for the appropriate positioning of students in ability groups or classes, the choice of the right text book and the smooth running of the EFL syllabus in all school classes. I had also to author the final school tests and prepare test manuals or leaflets. For all the above I worked with seven English teachers. I was also a link between the school headship and the team of the English Teachers. Meeting parents to discuss the students' performance on a weekly basis was thought one of my most important duties. It was out of those years of meeting and discussing with parents that I learnt to value the seriousness of parental capital in learning.

2.4 The three stimuli in this study

This study would not have been conducted if there had not been three stimuli: an academic, a cultural and a personal one. Each stimulus was excited by a different impetus but the three stimuli blended inextricably together and rationalised this study.

2.4.1 The academic stimulus

In September 2004 a one-day in-service seminar was held for all teachers and staff of the school. John Elliott had been invited to be the keynote speaker. His talk was on school culture and school reform. This in-service seminar inspired a number of teachers and in December 2004 they decided on their own accord to work on developmental changes with the consent and support of the school. Three groups formed. The first group wanted to develop ways to support students with 'marginal behaviours', the second wanted to delve into research for new methodological ways to enhance learning, and the third group wanted to develop a network to present the teachers' attempts at school and connect with other education networks as well.

I was a member of the second group. The group consisted of two English teachers and one French teacher in 2004, and had seven members by 2010 (the same two English teachers, two French teachers, and three Greek primary teachers). A meeting was held on a specific day and time every month; the school made arrangements so teachers involved could meet that particular day. There was a group leader with administrative responsibilities (e.g., to collect and dispense material, to notify members about anything relevant to the group), and periodically a critical friend, an assistant professor from a Greek university, joined in the meetings. At the beginning of every year each group member committed him/herself to a

research goal he/she chose to reach, during the year he/she discussed the progress of the research with the group and at the end of the year he/she gave a rough account of the research findings/outcomes to the group. In the group there was complete freedom about the scope and process of the research. It was usual for most of us to explore practical problems of our classes using action research.

Yet, action research for us had a practical rather than a theoretical significance. Action research was understood as a way to reflect upon and affect pedagogic change at the level of the classroom. Basically, the group members were interested in finding ways for a more democratic and collaborative mode in learning. Teachers involved themselves in researching learning styles, studying techniques in class and at home, creative writing and benchmarks for written discourse, classroom management, group work techniques, and personalisation and ICT use in learning.

2.4.2 The cultural stimulus

Patterns of behaviour, attitudes and perceptions in a school may define its climate, its 'personality' (Hoy and Sabo, 1998), whereas a set of norms, values, history and traditions define the school culture (Munn, 2002). Jackson argued (1968) that education is a socialisation process and schools are responsible not only for the transmission of knowledge to students but also for the transmission of norms and values.

The cultural cornerstone of the school I work at has been that 'the educator in his/her effort to bring up children properly must love them all and love them all equally' (The Institute of the Marist Brothers, 1998:23). The educator must inspire the children with his/her style, according to which, he/she should be available, genuine, hard-working, caring, a family believer and a Mother Mary follower (Institute of the Marist Brothers, 1998). The school culture asserts that it is the

school's priority to cultivate the students' souls first and then their minds (Institute of the Marist Brothers, 1998).

However, any vision, as grand as it may be, can be pointless if 'it is not a guide to action and if is not shared by the key stakeholders in a workplace' (Richardson, 1997:1). Thus, the mission of the school has been to realise its philosophy in practice. Some examples of how the school utilises its culture may be the following.

The school leaders advocate that it is not a business enterprise and claims 'open door offices' as a sign of cooperation among principals, head teachers, teachers, staff, students and parents. It takes pride in creating conditions for collaboration by offering in-service opportunities to exchange ideas and promote communication with people in and out of school. It supports continuous learning of the teachers in the school by subsidising conference fees and educational courses. The school leaders try to celebrate students' success. In an effort to reinforce its culture, the school cherishes the stories and sagas of its founder on special celebrations every year. Symbols and artifacts are plenty around the school in an effort to nurture the feeling of a shared identity.

In this research the school culture was the cultural stimulus for me: it rendered a suitable behavioural environment and a positive climate for the developmental change I had in mind.

2.4.3 The personal stimulus

This study has been the combined product of my continuing professional development and my personal engagement with research. I desired to bring change and novelty in my teaching and in my students' learning. To do so, I needed to practise teaching using the skills of a researcher.

At first, deciding whether to start this research study was a hard decision to take. Time was the prime constraint as it is for many practitioners. Heavy teaching schedules and excessive workload leave little room for research (Allison and Carey, 2007; Borg, 2009). And yet, this is the paradox in the life of a practitioner who is drawn to research. He/she may experience time restrictions but encounters a milieu of research challenges. The classroom is nothing but an arena of constant conflicts, confrontations, and engagements and in that sense teaching can be synonymous to action.

Research in the classroom required time which could not be at the expense of teaching. Even when time was available for research into the classroom there was a certain degree of apprehension whether findings would be persuasive enough for the students, their parents, the teacher community and the school heads. My second important consideration had to do with research expertise. I felt similar to what Broekkamp and van Hout-Wolters (2007) describe as the conflict in the roles of practitioner-researcher. I felt I needed guidance to what made a good research area and worried about how educational research was conducted.

Indeed, although I sensed that in order to bring change as a teacher I had to become a researcher, the two professions seemed to contrast and not to complement each other. Being a teacher often is not the same as being a researcher; at least it is not believed to be so. They are thought of as two dissimilar professions (Halse et al., 2007). A researcher is seen more like a person who has a concrete task to investigate, to manage and to determine the most effective treatment. In other words, a researcher is a specialised scientist (Ravitch, 1998). On the other hand, Hargreaves (1996), comparing natural with social sciences, concludes that there seems to be no agreed knowledge base for a teacher.

The dissimilarity of the teacher's and the researcher's status puzzled me. How could a teacher be a researcher? Where was the overlapping area that the two professions met? I will return to this concern in later chapters as it was through action and reflection that I came to certain conclusions.

Looking closely at the three stimuli, I can say that the academic stimulus worked as an inspiration spark which luckily found kindle to grow. Yet, a spark needs a force to keep it ablaze. Therefore, I can say that I was influenced academically to attempt a series of developmental changes in my classroom, and the school culture and climate provided an appropriate environment to try them. However, it was my curiosity at the beginning and my persistence later on to see how the role of a practitioner and a researcher could blend together in educational research that led me into this study. Hence, if John Elliott inspired me and the school offered me the suitable environment to develop my inspiration, I dare say that my personal stimulus was the power that kept me going.

2.4.4 How the stimuli led me to preliminary research questions

The three stimuli came together in a very practical way when I was reflecting on my practice as a teacher. I had been educated and trained to employ teaching methods ranging from the audio-lingual to more communicative ones. My approach in class inclined to a communicative approach but drew on a 'mesh' of all the teaching methods I knew as classroom circumstances seemed to dictate. Yet, despite my classroom experience (25 years of teaching practice), professional expertise (a MEd in TESOL), a receptive disposition towards youngsters and their parents, and an insightful school culture, my teaching had never been personalised in a well-designed way.

Specifically:

- The communicative teaching approach promised a more relevant and challenging way of learning closer to the world that the students comprehended. This provided the students with the motivation to practise learn-how-to-learn techniques. Although I was committed to this stream of thinking in my teaching, approaches such as critical thinking, sharing with others, and communication processes were not well developed. Group work was summoned only when it applied to certain teaching material and it was never seen as an indispensable collaboration tool.
- Managing a mixed-ability class meant dealing with students of various backgrounds, competencies, skills, learning styles and dispositions. Yet, even if it had always been my inclination as much as the school's cultural ideology to care for each and every student, the process was not planned clearly and there was no action taken for continuity to take place from class to home and back again.
- Although the learning material was treated with care and students' attainment was regarded satisfactory according to test criteria, it had always been seen from my point of view and the students had hardly ever voiced their opinion over the quantity or quality of the learning material. There had never been opportunities for students to discuss and express their opinion among themselves about their learning.
- Although I undertook initiatives to provide a formative assessment, this was done orally without scripted records of any kind and rather intermittently. There had never been certain structured benchmarks prepared for the students' assessment. Students had a vague idea of what success was and no experience of self-assessment.
- Parents were very eager to help at home but they were not well-informed about what and how to do it. As a consequence, they were usually ineffective in their

effort to help. It was a usual phenomenon at PT meetings to brief parents repetitively what to and what not to do at home. Regardless of the school attempts to provide guidance to parents in the form of a booklet at the beginning of every school year (*'Recipes for Successful Homework'*), or my efforts to direct parents in PTs, the attempts proved helpful only to a small number of parents. This happened because only few parents had the time to either attend school meetings or read the booklet.

Observing the above closely, I felt that I wanted to question current practices and to challenge long-held beliefs. At the beginning I was inquisitive and curious to see what could be different. This became my first challenge.

Soon, however, curiosity turned into critical scrutiny and personal commitment to theorise about practice. This led me to engage actively in partnership with my students. For some time I had sensed that areas in instructing and learning needed to be reformed. John Elliott's speech on school change and readings about personalisation in learning offered useful guidance and influenced my plans for action. Reflective questions came one after the other. 'What can I do to help my young students enjoy their learning?', 'How can I sustain motivation in my teaching?', 'How can my teaching be more democratic giving equal chances to each and every student?' These kinds of questions were understood as preliminary research questions in this study.

To challenge educational theories is not overly ambitious in itself; it happens in the teachers' community. Practitioners often test their beliefs, become aware of problematic areas in them and question them in order to flesh new meanings (Elliott, 1987, 1991). However, the acceptance that young children have the right to be active contributors in learning is a completely different case. These are uncharted waters – at times, rough and hazardous waters. It means that opportunities to work

with children as partners are to be initiated and school structures created or reinforced to promote children's participation. It means that, even in cases where schools are willing to allow children engagement in research, consent will only be given after 'lengthy negotiations through layers of educational hierarchy' (Edwards, Sebba and Richinson, 2007:655).

McTaggard (1991a) argues that it is a highly political process when people are involved in taking decisions together in order to make changes because it affects the lives of others. It sometimes creates resistance to change both from the side of the participants and from the side of others (Brydon-Miller and Maguire, 2009; Fernández, 2002). It seems that providing teachers, school staff, students and their parents with adequate information and resources of what students' participation aspires is not enough. The concerns, resistance and anxieties of all parts must be met and dealt with as well (Thomson and Holdsworth, 2003).

Students' participation in the process of change became my next challenge.

2.5 Procedure arrangements

Questioning my current practices and engaging my students in the process of change occupied me for three years. Initially they triggered preliminary research questions:

- What is missing in my approach to teaching and learning?
- How can my strategies for student engagement in learning improve?
- How can my students express their opinion about the learning I offer to them?
- How can I teach my students to self-assess themselves?
- Is there a way to support parental involvement in learning? How can I reach parents at home?

The nature of those questions and my wish for personal involvement in a quest of developmental change suggested that action research was the suitable methodological approach because of its transformative potential and of the political and moral values that lay at its heart. *By studying and understanding the character of action research, I arrived at the overarching research question of this project: 'How can I modify my teaching method to become personalised in a well-designed way? What do I need to transform?'* (see also *Chapter 4*, p. 110). The research lasted three school years (Y1, Y2, and Y3), each year seen as a complete action research cycle following a spiral movement of design-action-reflection.

I was determined to include the students and this time it had to be *with* the students, not just *about* them. I revised teaching methods and a social collaborative environment was developed for students to improve their reasoning skills, to accommodate their different styles, and to create conditions for their strengths to grow.

In the study the theoretical concepts of personalised learning and ICT practice were central. There was a third concept, the concept of collaboration, which was key in both personalised learning and ICT. For reasons of clarity I chose to include it in the literature as a separate theoretical concept. *Yet, although attention was given to collaborative work in personalised learning, it did not develop as intended after the end of the first research year (Y1). I considered ICT practices to be a potential tool to sustain and highlight the process. The action research question was modified accordingly and became the overarching question in Y2 and Y3: 'How can I use ICT practices to sustain a well-formed personalisation scheme in learning? How much and how well can ICT practices do it?'*

This work hopes to explore a propositional piece of knowledge, such as personalised learning, turn it into practical knowledge, and sustain it pedagogically using ICT practices. It is assumed that the findings can generate a fresh theoretical understanding about the concept of personalising learning with technology. This conceptual knowledge can return back to the research community in a better clarified, defined and practically formulated form.

In order to tell the story with some coherence and in a structured way I start with the literature of the three theoretical concepts. Next, I present action research, the methodological approach that gave the framework for the overarching research question to develop, along with the methods I chose for this study. After that, the story begins.

3 Linking Theory to Practice and Practice to Theory

3.1. Introduction

As seen in the previous chapter (*Chapter 2*), I was concerned with the teaching methods and learning habits used in my classroom. As common for practitioners, I had started with the recognition of the existence of a problem (Hopkins, 1993); Elliott's talk on school change struck a chord in me and it signaled the beginning of this action research (*Chapter 2*, p.28). The talk prompted me to compare my practice with a new approach - that of personalised learning, which I was determined to explore.

I understood, however, that a certain degree of conceptual analysis was necessary. I believed that disciplinary knowledge as well as practical insight was important. Therefore, my interest in personalisation was twofold, first as an aspiration and a conceptual clarification for this project, and second as an opportunity to discover something of a wider value about an educational concept.

Therefore, I embarked on an inquiry into the concept of personalisation asking: What were the educational objectives of personalised learning exactly? What were the limitations of the approach? What were the principal pedagogic values of personalised learning, and what were the implications for practice in relation to learning processes, tasks and assessment? Was personalised learning the same or different from individualised, differentiated, and child-centred learning?

I was committed to doing something that might help my teaching and my students' learning, and I settled into action towards an identified end. The value of the concept of personalisation would become clearer as the inquiry unfolds. Even though this chapter appears before the story of the innovation, this was not chronologically

always the case. For example in Year 1 I considered the concepts of personalised learning and collaboration to be central. I had not, however, anticipated that personalisation would need ICT to extend and sustain the initiative. I did not anticipate that at the end of research Year 2 my students would be so interested in the social and communicative aspects of ICT.

In practice, then, the literature review developed piece by piece during the implementation and reflection time in each research cycle (*Chapter 5*, p.131-151; *Chapter 6*, p.162-181; *Chapter 7*, p.187-226). However to present it in this way would disturb the flow of the narration.

In this chapter I have grouped together all the relevant theoretical concepts that developed in the three research years. I understood them as sub-concepts clustering around three super-concepts: personalised learning, collaboration and ICT practice. I regarded the three super-concepts as the key concepts in the study.

3.2. Personalised Learning

The focal concept in this project was the issue of Personalised Learning. I cover this in sections on history, educational objectives, values and ambiguities, theoretical framework, similarities and differences with other approaches. The final section considers personalised learning in relation to my study.

3.2.1. A short background history of personalised learning

Historically, the concept of personalised learning has been seen as originating in the United States in the early 1980s, and was taken up in the late 1990s particularly in the UK. Again in UK in the 2000's, it became the central concept in a wider argument in the reform of public services (Hartley, 2012). In education personalised learning was politically associated with the 'Every Child Matters' agenda (DCFS, 2004) and was seen as having a particular role in enhancing outcomes for disadvantaged children, as much as gifted and talented ones. The 2020 Vision report (DfES, 2006b) suggested that personalised learning could help address problems of inequity in education.

Personalised learning appears to be guided by the Vygotskian constructivist theory: the students, being influenced by their social encounters, learn by co-constructing knowledge collectively. The desirable outcome is the student's autonomy and ownership of learning. However, personalisation as an idea seems to originate from the past. It appears to be in line with the Plowden Report (1967), an older educational attempt to fit the curriculum around the child. Apparently, the goal 'of skewing resources in education to redress societal inequalities' (Campbell et al., 2007:139) is not new.

The UK and USA were not, however, unique cases of personalisation in education. For example, in Australia in 1999, the *Adelaide Declaration on National Goals for Schooling in the Twenty-First Century* (Keamy et al, 2007:3-7) referred to key elements of the personalised learning agenda including lifelong learning, strengthening schools as learning communities, and the use of new technologies, particularly information and communication technologies. In 2007 the Australian report, *The future of schooling in Australia*, identified high-quality teaching, personalised learning and school engagement with community as essential to schooling.

In Greece, the new policy plans of the Ministry of Education in 2011 (see *Chapter 1*, p. 10) included most of the fundamental aspects of personalised learning, i.e. the central role of the student in learning, collaborative work, and ICT use. There have been Greek academics, especially in the faculty of psychology and education, who refer to pedagogic aspects of personalised learning in their writings (Kosmopoulos, 1995; Lagos, 2008; Matsagouras, 1998; Papakosta, 2007). Points have been made about personalisation, for instance, in books written about the Greek history of education (Bouzakis, 2011). Even the implications of personalisation for a need of a different classroom formation have turned other domains, such as in architecture, to research the physical properties of a school environment (Germanos, 2006; Beka and Samaras, 2008; Zepatou and Spyrellis, 2007). However, there is not a literature in Greek, as far as I am aware, that explicitly describes the personalised approach and its pedagogic relevance to Greek teachers.

Furthermore, there has not been one agreed translation of the term in Greek so far. 'Personal' has the meaning of 'shaping the private self' in personalised learning (Bentley and Miller, 2004; Leadbeaver, 2003). 'Personal' originates from the word 'person', and as a word, it is not easily translated in Greek. It may refer to the 'individual' (άτομο), 'subject' (υποκείμενο), 'human being' (άνθρωπος), or, to 'face'

(πρόσωπο/όψη) (Fytraki Dictionary, 2004:608). Therefore, it is not surprising that the above Greek sources use a variety of terms referring to the same concept. Most of them use the term ‘προσωπο-κεντρική’ /psosopo-kentriki/, or, ‘ανθρωπο-κεντρική’ /anthropo-kentriki/ pedagogy, and other sources paraphrase ‘person’ to ‘student’ or ‘child’ (παιδο-κεντρική /pedo-kentriki/, μαθητο-κεντρική /mathito-kentriki/) pedagogy. Moreover, in the new governmental policies in education (‘The student first - New school’, <http://www.minedu.gov.gr/index.php/neo-sxoleio-mainmenu.html>), the concept of personalisation appears with a completely different term, ‘εξατομίκευση της διδασκαλίας’, probably because it refers mainly to teaching than to learning.

If I were to translate the term, I would choose the view ‘person=άνθρωπος’ /anthropos/. The word ‘άνθρωπος’ /anthropos/ (άνδρας + ώψ = το όν με ανθρώπινο πρόσωπο, the being with a human face, the human being) (Bampiniotis, 1998:194) is etymologically an ancient Greek word which semantically relates well to the interpretation of the term ‘personalised’. Hence, translating ‘personalised learning’ in Greek would be ‘ανθρωποκεντρική μάθηση’ /anthropokentriki mathisi/ for me.

3.2.2 What are the educational objectives of personalised learning?

Personalisation has been considered by Leadbeater (2003) in the context of re-shaping the UK public sector services. He argued that the public good could be built upon the interplay of two constructs: of the state offering a platform of effective services to people, and of people’s decisions to choose the most suitable service (from the offered ones) to bring a change in their lives. Personalisation could be *shallow* if people had a limited voice to the design of a service, and *deep* if people were allowed to construct a service to match their needs. In deep personalisation, professionals would act more as advisors and less as authorities, helping people decide and shape the most appropriate service to their particular needs.

In a similar manner, personalisation has been seen in education as a way to 'co-script', in the sense of building common knowledge among students, educators, and other education stakeholders (Leadbeater, 2003:68). There can be a basic curriculum at which students anchor their own educational script to match their different learning abilities, styles and talents. The aim is to help the students understand their strengths in learning and build their learning targets upon them. It is important in personalised learning that students are involved collectively in learning in order to co-produce their knowledge. Self-assessing their performance seems important, as through it students may learn continuously, beyond the school walls. Continuous learning is likely to promote the students' self-regulation skills, and, eventually, the students' learning autonomy.

Personalised learning received the attention of the UK government and academics. After Leadbeater's paper, the Nuffield review (Hayward et al., 2005), the ESRC Teaching and Learning programme (Pollard and James, 2004), an NCSL supplement (NCSL, 2004), a government White Paper (DfES, 2005), and a review (Gilbert, 2007) offered more discussion of the concept of personalization. The Nuffield review was cautious, the ESRC analysis was supportive but pointed at some problematic areas, and the Gilbert review referred clearly to the transformative nature of personalisation and the future of teaching and learning. On the other hand, the NCSL supplement - produced in partnership with the DfES Innovation Unit - was more aligned with the DfES view, and the ESRC report followed suit. To underline dispute, the concept has not been clearly formed and defined so far (Campbell et al., 2007:140).

In the face of the above difficulty, it seems important to pick out some points made by different sources on the meaning of personalised learning. As seen earlier, Leadbeater (2003:68) saw personalisation as the empowerment of students to co-script knowledge with educators since 'personalised learning allows individual

interpretations of the goals and value of education'. Accordingly, personalisation seems to involve student voice. Voice is the process of articulating an intended outcome (Hadfield and Haw, 2001). It appears to connect to research (Fielding, 2004; Ruddock and Flutter, 2003) which takes students' voice beyond the level of participating in decision-making on school matters, having a wider focus on the students' intellectual growth. Researchers interested in student voice are concerned to the volume of the voice, the attention given to a voice, which voices are likely to be most or least heard, and the language used (Arnot et al., 2004). Hargreaves (2004) claims that student voice embedded in personalised learning promotes deeper engagement with learning, improves meta-cognitive skills, maintains greater responsibility among learners and better relationships between learners and staff (Hargreaves, 2004).

Student voice leads to a second characteristic of personalisation: the co-construction of knowledge among students with the help of the teacher.

Personalisation offers the view that students should be encouraged to participate with other students, teachers and agents in order to produce ideas, to debate and come up with solutions, and that the students' views should be consulted. This is sometimes referred to the pupils and teachers 'building together' knowledge meaning that students follow argumentative processes, negotiate, choose their own learning aims, and continuously self-assess their learning. Moreover, in the course of time, as opportunities for learning broaden and students are (meta) cognitively able to access them, autonomy in learning seems possible. Wider research is often put forward here to support the view that when students engage in partnership with others, learning is more meaningful (Kirby et al., 2003), and students are more likely to develop self-reflective skills (Fielding and Bragg, 2003). This is, however, a radical change of power, 'a rupture of the ordinary [as] it requires the intermingling and interdependence of both [=the student and teacher]' (Fielding, 2004:296).

The inclusion of every student in learning appears as a third objective of personalisation. Every voice is encouraged to speak up and participate into a collective construction of knowledge: the individual with his/her unique talents and abilities collaborate with others to build knowledge together out of shared needs and aspirations.

3.2.3 The values of personalised learning

Personalised learning strategies entail that the learning objectives should be clear, the students should know what educative goals they are after, collaborative work should be practised in groups, work done in groups should be shared with other people, and ICT practice should open the school to the world and connect the world with the school (Pulley and Jagger, 2006). Summative as well as formative assessment is considered important (Black and Wiliam, 1998; Black et al., 2004; Young, 2005).

Student-teacher relationships in a personalised environment are often informal. However, this informality does not suggest students-taking-control of the class. On the contrary, there is an underlying 'clear structure to the sessions, with the pace, direction and transition from one activity to another primarily controlled by the teacher' (Campbell et al., 2007:150). Additionally, the teacher is considered to own a high level of subject knowledge in order to help the students produce and criticise their ideas.

However important these features may be in learning, they are not as important as the active engagement of the students in tasks in order to co-construct answers. In other words, the merit of the approach is found in its deeper levels, it rests in its pedagogic value: in its social and collective nature (Campbell et al., 2007). It is assumed that the students, by practising collaborative learning in class, are likely to

gain from sharing and constructing knowledge together. It is also supposed that the students may use this mastery and extend it in learning forms out of class.

3.2.4. The ambiguities of personalised learning

In general terms, the official exposition of personalised learning in the UK and more globally appears to be descriptive, excessively optimistic and not analytical, as it is suggested in the extracts that follow:

- i. 'Personalisation puts citizens at the heart of public services and enables them to have a say in the design and improvement of the organisations that serve them. In education this can be understood as Personalised Learning - the drive to tailor education to individual need, interest and aptitude so as to fulfil every young person's potential'. (DfES 2004:4). Later, DfES (2005:para 4.6) elaborated on the issue of 'tailoring' arguing that 'personalised learning means excellent, tailored whole class teaching with all the resources available, from extra support staff to improved ICT being used to ensure that every pupil gets the education they need'.
- ii. The OECD report, '*Schooling for tomorrow: personalising education*' (2006:24), argued that 'personalised learning is not a return to child-centred theories; it is not about separating pupils to learn on their own; it is not the abandonment of a national curriculum; and it is not a licence to let pupils coast at their own preferred pace of learning. The rationale for personalised learning is clear: it is to raise standards by focusing teaching and learning on the aptitudes and interests of pupils and by removing any barriers to learning'.
- iii. 'Put simply, personalising learning and teaching means taking a highly structured and responsive approach to each child's and young person's learning, in order that all are able to progress, achieve and participate. It means strengthening the

link between learning and teaching by engaging pupils – and their parents – as partners in learning.’ (DfES 2006a:6)

- iv. DfES (2006a) positioned that ‘personalisation is the key to tackling the persistent achievement gaps between different social and ethnic groups. It means a tailored education for every child and young person that gives them strength in the basics, stretches their aspirations, and builds their life chances. It will create opportunity for every child, regardless of their background’. DCSF (2007:64) claimed that ‘the distinctive feature of the pedagogy of personalisation is the way it expects all pupils to reach or exceed expectations, fulfils early promise and develops latent potential. Personalised lessons are stretching for everyone. At the heart of personalisation is the expectation of participation, fulfilment and success’.

However inspiring the idea of personalisation appears to be in the above extracts, it carries a number of ambiguities. More specifically,

The concept of personalisation in education is not clearly defined, and the tensions within usage are not brought out.

Pollard and James (2004:6) agree on the pedagogic importance of personalisation, but they challenge the official conception from the start, arguing that ‘personalised learning is not a matter of tailoring curriculum, teaching and assessment to ‘fit’ the individual but is a question of developing social practices that enable people to become all that they are capable of becoming’. They seem to imply that social mediums and agents should form to be effective and available in order to help people become better. In a way, they echo Leadbeater (2003:49), who claims that ‘many of our biggest social challenges will only be met if we promote a mass social innovation within society: self-organising capacity to meet demand’.

If this is a critical view of personalisation as conceived officially, Tom Bentley, former Director of the Demos, takes a less confrontational stance. He argues that the existing resources should be utilised more effectively and should be planned to cover needs both of the 'insiders' (students and teachers) and of the 'outsiders' in education (parents, policy makers). He continues saying that 'personalisation is a strategy both for drawing on wider resources and influences for learning beyond the formal organisation of schooling, and for making more of the existing organisational ingredients by creating new flexibilities in tandem with new demands. The difference is that the demands are being fuelled from within - by teachers and students - as much as they are from without, by parents or policy-makers acting through external choices and channels' (Bentley cited in Keamy et al., 2007:3).

Moreover, the fact that personalisation started as a governmental reform casts shadows and brings inevitable dissension. Ledda (2007), a teacher himself, writes in the *Culture Wars*, a reviews web site (<http://www.culturewars.org.uk/>), that education is a central target of politics, as through education people's minds can be influenced and monitored. Politicians aim at modifying human behaviour and not intellectual development.

Ledda argues that, since participation is principal in personalised public services and citizens should collaborate with other citizens and agents, on the unfortunate event that something goes wrong, it is the citizens or the service providers who will get the blame.

For Ledda, personalisation in education follows a similar pattern with personalisation of public services. In a personalised classroom, the students collaborate with other students and the teacher, and if there are failing outcomes, it is the student or the teacher to be held accountable. Although personalisation as an idea originates from a concern to reform public life in order to become more effective for people, it can be a wishful politicians' plan to refrain from engaging with citizens.

The objective of student voice is unclear.

According to the Nuffield Review (Hayward et al., 2005), student voice may suggest that students are encouraged to explain what interests them most in learning as it can help teachers to understand what motivates their students, and shape learning aims accordingly. Alternatively, it may suggest that students, by expressing themselves, take an interest in learning and, consequently, they become engaged in it (Hayward et al., 2005). Whether one of the two, or both, views are considered in the concept of personalised learning, it is not clear.

Furthermore, student voice is a complicated issue in itself. It appears that what the students say may be impressive in relation to what they are asked, how they are asked, and who the person is that perceives their answer as such (Connolly, 1997). Students may also condition what to say, according to what they believe will happen after they have offered their views. Research suggests that young people can become doubtful of participation and consultation if things lead them to assume that their views are heard but are not considered - or, that their views appear to be considered (Prout, 2001).

Besides, if students learn to speak their minds, it is because someone asks important questions. However, who asks those questions, the students, or the teacher? Judging from the wording of the term, 'personal' suggests a turn to the student, and 'learning', a shift from teaching (Pollard and James, 2004:24). Thus, it is assumed that there is student-led learning. Such a turn represents a significant change in teaching and learning but there is not a clear framework to draw on to help establish how the new student-teacher relationship can be effective (Pollard and James, 2004). Besides, where does this assurance come that students would feel comfortable to move to the centre and speak their mind with a simple switch of roles?

Personalised learning is disruptive.

Leadbeater (2003) claimed that personalisation is an educational innovation with a disruptive nature, mainly because it asks for a different power distribution in the classroom. How much of this change is the teaching practice ready to accept, however? Although personalisation is attractive as an idea, it can be challenging for practitioners. At the level of classroom practice, personalisation implies additional workload, and, at the level of pedagogy, it suggests higher expectations and reformed relationships. Pollard and James (2004:25) cautioned that 'the response of the profession [to personalised learning] is a major risk factor'.

Personalising learning offers a shift of social dynamics.

Pollard and James (2004) argue saying that a shift of social dynamics is a desirable state which should be available to all students. In a school context, however, it is usually observed that the middle-class student and not the one from a poorer home has access to space, computers, or books. This may mean more inequality of resources for students. Additionally, the middle-class student is often privileged with parents with a good school experience, who are able to take a good decision and are willing to offer their time (Uunk, Kalmijn and Muffels, 2005). Young people from poor and disrupted families when given choices may not consider any other choice but that of their parents' education and profession. Moreover, time is not sufficient for people who struggle to make their living. If personalised learning invests in time, space and personal effort, then it is not made for the less fortunate (Leadbeater, 2004).

This is unfair because the people that mostly need personalised services are the less fortunate. It is exactly the paradox of the concept: personalisation was conceived to include and not to exclude the ones who are vulnerable. Leadbeater (2004:23) suggests at that point that the solution may lie in the role of the teachers

and other professionals to be ‘advocates, advisers, brokers and ultimately, solution assemblers [in order] to mediate the individual’s relationship with the services they need’.

There is a lack of clarity in conceptualising personalised learning.

David Hargreaves (2004) initially proposed a framework understood through nine gateways. Later on, Hargreaves (2006) simplified the model by clustering the gates together and ended up with four ‘deeps’: deep learning, deep experience, deep support, deep leadership.

DfES (2004) proposed and ESRC (Pollard and James, 2004) agreed on five components in the framework of personalised learning. Yet, this is a basic structure for classroom practice and details to each component, conditions for a different school context, influence from external factors, even the possibility of additional components in the framework have not been made explicit until now (Pollard and James, 2004). It appears that so far, personalisation has focused on learning and not on teaching provision, so the concept of personalised learning may not make full connection with lifelong learning systems, development of learning dispositions and learner identities (Pollard and James, 2004:5).

To sum up from the above, it can be said the personalised learning involves

- every student individually so all students are included,
- the empowerment of students to co-script knowledge together with other students and the teacher,
- students’ voice in the process of learning,
- a shift from teacher to student centeredness, and
- the engagement of every stakeholder in the service of the student.

It seems that the value of personalised learning rests in its pedagogic insight that ‘building knowledge together’ is constructed socially and collectively.

The key lines of attack are that

- the concept has not been explicitly explained, defined and formed so far,
- the issue of student's voice is complicated by itself and, in using it in personalised learning, it seems to become ambiguous,
- for different reasons, the new relationship of student-teacher may be difficult for practitioners and students to adopt,
- the claim of personalised learning for equity and inclusion in learning may not work this way in practice.

3.2.5. The framework of personalised learning

Researchers within DfES (2004) proposed five key components as the framework of personalised learning (Figure 1). The five components are:

- (i) *the inner core* (AfL Assessment, Effective Teaching and Learning, and Curriculum Entitlement and Choice) that relates to the classroom, and
- (ii) *the outer environment* of the classroom (Organising the school, and Beyond the classroom).

ICT use permeates all components in an effort to enhance creativity, to extend learning opportunities, to accommodate learning differences and to sustain collaborative learning. In the framework, the components are thought to complement each other.

Each element is described in further detail below.

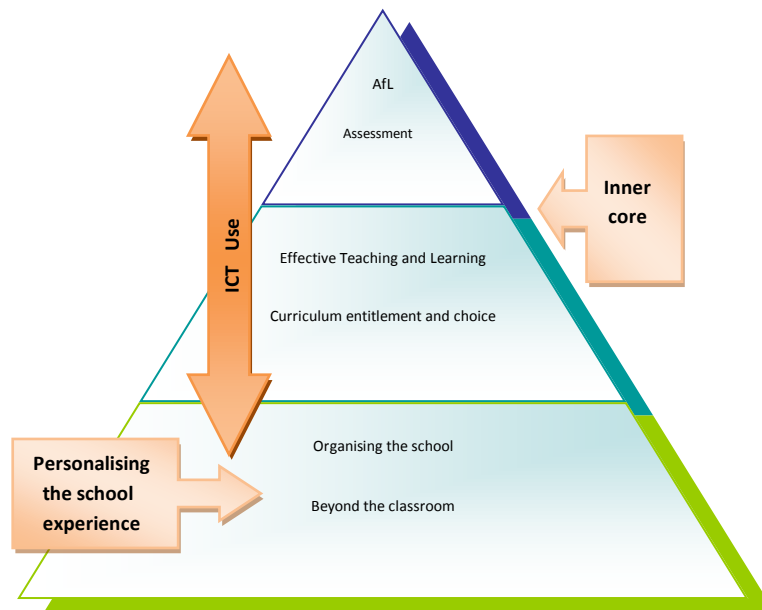


Figure 1 The five components of personalised learning (ESRC, 2004:4; DfES, 2004:8)

According to DfES (2004:8) and ESRC (2004:4), the framework of personalised learning comprises of:

The inner core

- *Assessment for Learning (AfL)* This is regarded as critical in promoting student achievement. Feedback is not only considered to come from the teacher but from the students as well. Self-evaluation is an essential process which connects students' learning with lesson planning and fosters learning environments.
- *Effective teaching and learning* Teachers should develop a variety of teaching methods and skills to improve the thinking skills of the students and accommodate different paces of learning. Collaborative learning is essential but individual learning finds room as well. ICT use is promoted as it is considered to be a helpful tool to transmit knowledge, open channels of communication and release creativity. Above all, the student is encouraged to realise his/her capabilities.
- *A flexible curriculum* This refers to the importance of students' choice and voice in their learning journey. Extended opportunities in learning beyond the basic

skills of literacy and numeracy, such as the learning of a foreign language, out-of-school study support hours or chances to improve their sport, artistic or social talents, are regarded influential. The school curriculum may build on the national curriculum and, by having a flexibility to choose what else to include, could provide prospects for further academic achievement and creativity development. In such ways, it is considered that students may be helped to have rich curriculum experiences to make choices for a career in the rapidly changing world.

The outer environment

- *Organising the school for personalised learning* The school headship is expected to create conditions for quality teaching and learning, conditions that have to do with challenging and effective practice for teachers, compelling ICT use, and a safe and secure environment for students. It is important that school espouses students' initiatives to express their views in surveys, conferences or various educational programmes, and that the students' successes are celebrated.
 - *Beyond the classroom* Building partnerships with other agencies beyond the school gates is regarded key to support learning. In that way, students may have the chance to get best advice and support about their future. In cases of vulnerability, young people may find the appropriate support to their needs by collaborating with a range of professionals.

3.2.6. Similarities and differences between personalised learning and other approaches

Is personalised, differentiated, individualised and child-centred learning the same thing? It seems there is not a clear answer to this. Those four learning approaches have sides that touch, at certain areas they complement each other and at other areas it seems that personalised learning has evolved out of the other three. They

share more than differ and this may be confusing to what each specifies. In an effort to mitigate this complication, I offer a definition of differentiated, individualised and child-centred learning below.

Differentiated learning (DL) stems from beliefs about differences among learners, how they learn, learning preferences and individual interests (Allan and Tomlinson, 2000; Anderson, 2007; Ellis et al, 2008; Rehora, 2008; Rock et al, 2008). Research on differentiation includes the emotional or social difficulties of disadvantaged and gifted students (Neihart et al, 2002). The concept of differentiation originated in the US, and is closely related with the agendas of two American Education Acts, the No Child Left Behind Act (NCLB, 2001) and the Individuals With Disabilities Education Act (IDEA, 2004).

Ravitch (2007:75) defines differentiating instruction as a form of instruction that seeks to 'maximize each student's growth by recognizing that students have different ways of learning, different interests, and different ways of responding to instruction. In practice, it involves offering several different learning experiences in response to students' varied needs. Educators may vary learning activities and materials by difficulty, by topic, and by students' preferred ways of learning or expressing themselves'.

Individualised learning (IL) is a term that has many meanings. Hergenbahn and Olson (1993: 252-253) say that individualised learning is the transformation of sensory stimulation that the human brain actively operates. Sinitza (2000:19) says that individual learning is the capacity to build knowledge through individual reflection about external stimuli and sources. Dixon (1999:60-61) defines individual learning as 'the process whereby knowledge is created through the transformation of experience'. It looks like personal experience is the key component in all descriptions.

Individualised learning is usually found in life-long learning and in technology-enriched training. It is considered an approach for both instructional design and for self-directed learning. In the first case, the learning content is shaped by a teacher to the student's needs and style, and an individual learning path is arranged to optimise the learning process. In a self-directed case, the student's acquisition of knowledge and skills happens without external control (Sinitsa, 2000:19).

Child-centred learning (CCL), deriving from student-centred learning, is a term associated with the work of Dewey (O'Sullivan, 2003), Piaget and Knowles (Burnard, 1999), and is often used to differentiate from teacher-centred (content oriented) learning strategies (Kember, 1997). Assuming that children are naturally motivated, children are perceived to have a choice on their learning, and children's education to revolve around their needs. It appears that there is not an explicit definition of CCL (O'Neill and McMahon, 2005), and theoreticians regard the student's choice in their education (Rogers, 1983), a shift of power to the student (Brandes and Ginnis, 1986), and student's doing actively than passively (Gibbs, 1995) the main principles of CCL.

Looking at the four approaches with a critical eye, it seems that:

Personalised learning and differentiated learning are *similar* in terms of pedagogy, assessment and teaching strategies or techniques. Both personalised learning and differentiated learning are interested in an education system that is not one-size-fits-all and does not use instruction to teach only to the middle. Both favour a system that accommodates all students' needs, particularities and talents.

Personalised learning is *dissimilar* to differentiated learning when teaching approaches are taken into consideration. While students' engagement is important in both learning concepts, teaching and learning in personalised learning is an active and social process focusing on learning skills such as information processing and

reasoning. Differentiation understands the preferred learning style of a student but at the same time limits the scope of learning to this preferred learning style. Instead, personalised learning continues from where differentiation stops by reminding to teachers to broaden the range of learning experiences and opportunities to ensure that all students engage and interact while learning (KS3 National Strategy, 2004-5).

Personalised Learning and Individualised Learning are *similar* when intervention towards the less able student is concerned since both learning approaches comprehend the importance of self-regulation, gratification and feelings of success. They are similar as both approaches aim at autonomy in learning. Yet, at the same time they are *dissimilar*. Individualised learning engulfs the shy, the introvert, and the not so confident students but does not provide a well-structured learning environment for the weak students. Individualised learning is in favour of a learning environment where the students own their learning; yet, they rely only on themselves to build knowledge. In this way, peer pressure is limited but, at the same, time they are denied of peer support systems to learning. Personalised learning highlights high expectations for all students and warrants it into a class where group learning and tailored intervention for the underachieving are regarded as best practices. Autonomy in personalised learning is constructed in social interaction as the student makes sense of his/her experiences by linking them with previously attained knowledge (KS3 National Strategy, 2004-5).

Personalised learning and child-centred learning make *similar* suggestions for curriculum design. Both approaches underline the idea that the students may choose what and how to learn according to their needs and objectives. Both approaches seem to endorse similar assessment practices (self-assessment and formative assessment). In both approaches, students are encouraged to make choices, which may imply that in both cases the students and not the teacher model the content. This student centredness seems to relate, in similar forms, to student

regulation skills, and different learning competencies. Therefore, both cases seem to signify a shift from content to process in learning.

Personalised learning is *different* from child-centred learning when examined at a deeper level. Although both approaches focus at the student's empowerment to tailor the learning content, each approach does so by following a different learning theory. Child-centred learning centres on 'the Piagetian notion of the individual child's "readiness" to proceed to the next developmental stage' (Hartley, 2009:429), and follows a cognitive pedagogy, according to which information processing is important. Personalised learning emerges as a co-product from the joint efforts of all agents participating in education, that is, the child, the teacher, the parent, and any other educational provider involved. Personalisation aims at a pedagogy which rests on the behaviourist, the cognitive, and the constructivist learning theory (DfES, 2007). In fact, acquiring skills, processing-information skills, constructing-knowledge skills, and collaboration skills are all included in the pedagogy of personalised learning (Hartley, 2009: 428). In addition, although both approaches point at the individual student, individualism is treated differently by each approach. Child-centred learning obtains a developmental individualism, whereas personalisation a neo-liberal individualism (Hartley, 2009:429). Hence, while child-centred education values the needs of each child individually, personalisation values the needs of every child individually and 'portends a collective endeavour on the part of others to provide them' (Hartley, 2012:7). Furthermore, individualism in child-centred education seems to underline the choices, whereas in personalisation it seems to highlight mostly the voices of the student. In this sense, choice suggests a libertarian agenda in education, whereas voice an egalitarian one (Hartley, 2009:430).

What makes Personalised Learning *different* from the other three learning approaches is its unique argument that the role of each stakeholder and component

in education should stay connected and interrelated in a collaborative fashion at the service of the student. Leadbeater (2004:24) argues that 'personalisation is a characteristic - indeed the culture - of the *whole* system. Personalisation challenges much of the current education script, the accountability frameworks, assessment regimes, the roles of parents, the roles of teachers, students and other adults, the nature of the buildings and, indeed, the way each of these components interacts' (italics in original). Professionals in all settings are encouraged through guidance and best practice to plan for the individual child and have high aspirations for every child's progress. This should allow 'a more seamless approach to learning' (DCSF, 2007:22).

3.2.7. The value of personalised learning reflecting on my practice

The literature review on personalised learning helped me to come to conclusions about the meaning of personalisation and establish some propositional knowledge about the concept. Visually, I understood the concept of personalised learning (Figure 2) as a tree diagram. On the left side, at the base of the diagram, the theoretical ingredients accumulated and then started to merge and combine into more condensed theoretical constructs until they coalesced into the personalised approach, at the tip of the triangle on the right. For instance, moving from left to right, theoretical considerations such as 'connecting new information to existing knowledge', 'thinking strategies', 'planning', 'attention', 'self-monitoring', 'self-evaluation', and 'feelings of success' emerged and developed into the more condensed theoretical concept, that of 'cognition & metacognition' and 'self-regulation'. Then, they condensed even further into issues of 'metalearning', 'self-efficacy', 'outcome expectations' and 'active engagement' which were the core blocks of the learning approach. In order to sustain its value as a learning approach, personalised learning utilised ICT use as a tool and pedagogy to strengthen the

skills, beliefs and intentions of the students. Or, seen differently from right to the left in the visual graphic, I saw the personalised learning approach as an umbrella under which notions and theoretical considerations linked, interrelated and interwove.

Theorising about personalised learning left me, however, with a series of practical questions, which I wished to explore in my research project. In particular,

- What were the difficulties of personalised learning in practice? How much was possible to achieve?
- What were the limits of personalised learning when theory was put into practice?
- Could I say, at the end, whether it was a worthwhile concept for me?

The answers to the above questions appeared as I was taking action, or as I was reflecting on action during the three years of research, but otherwise are summarised below. The wider questions concerning personalisation are later discussed in *Chapter 8* (pages 259-305).

Personalisation in my practice signified a shifting of my older instructive *objectives* to newer ones, objectives which I have espoused ever since in my teaching.

Specifically, I became committed to

- use teaching methods to improve my students' reasoning and encourage assessment for learning, (see *Taking Action in Y1*, p.157)
- accommodate their different styles and paces of learning and create conditions for their strengths to grow, (see *Lessons for Y2*, p.176)
- be partners with my students in an effort to offer them choice and voice in the quest of knowledge (e.g., in *Description of the Action Plan in Y2*, p. 183),
- and, develop a vision of education for all of my students (e.g., see the provisions made in Y2 to include all students who wished to participate in the online inter intervention, p.183-185).

How concepts are integrated in this action research study, a tree diagram

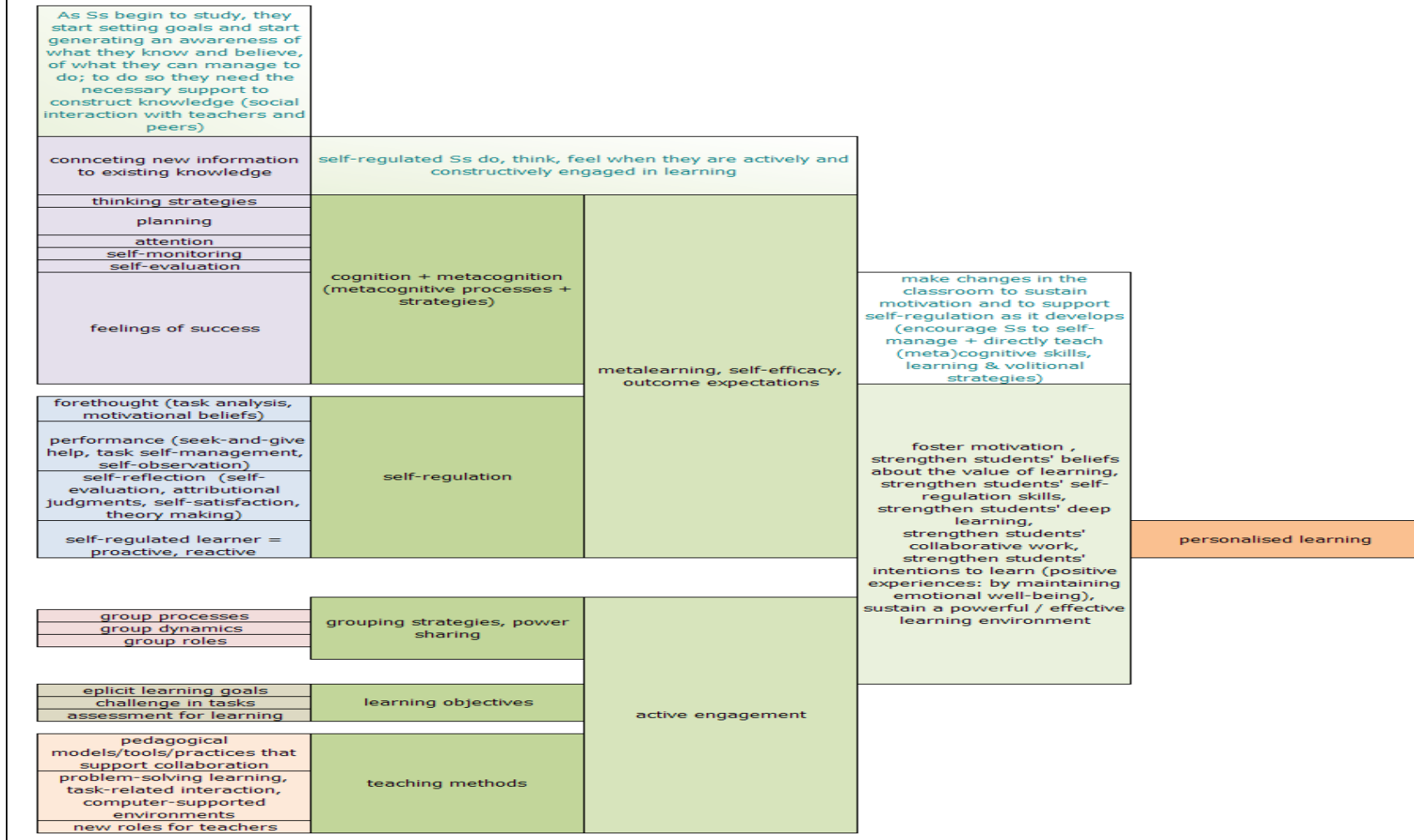


Figure 2 The conceptual map of personalised learning

Therefore, at this point, I could offer my working definition of personalised learning.

For me, it was an approach to learning which *aimed* at the following:

- their self-efficacy beliefs and outcome expectations,
- their self-regulation and higher order knowledge skills,
- their collaborative procedures,
- their sense of belonging to a community where knowledge is built collectively,
- the expression of students' capabilities, and
- ethical issues in learning.

It aimed at the 'personal' element, that is, at 'the human being'; in this sense, 'personal' referred both to the student and teacher. Consequently, 'personalised learning' referred *both* to the learning *and* teaching processes that took place in a classroom. In short, it is an approach that involved both the student and the teacher in partnership.

I considered both the teacher and the student having power. However, it was not power that was distributed unequally and one of the two sides took the grander portion; it was not even power that was distributed equally and each side took an equal portion. It was power with a complementary nature: each side was ready to cover the needs of the other, as partners do. I-the teacher offered knowledge from my expertise, and the students offered knowledge from new learning environments and practices. The two sides united forces. To do so, both sides engaged in argumentative processes, and voices of both sides were out through dialogue, argumentation and negotiation. That was why the student's voice was important not just to be heard but also to be recognised.

Students made choices; they decided how to appropriate opportunities offered to them in and out of class, and learnt to design their own learning. That was how I understood 'the system made to fit to the needs of the student'. I did not believe that it had to do with a tailored curriculum; curriculums are usually inflexible and it is

difficult, if not impossible, to be tailored. Student's choice had rather to do with the learning agenda of the student: the ways to acquire content and to process ideas. As learning was jointly constructed, each student made use of his/her own agenda and joined his/her experiences with other students'. In that way, it was hoped that all students within a classroom could learn effectively, regardless of their ability differences.

I-the teacher tried to offer opportunities by providing clear-cut, challenging and enjoyable learning tasks (p. 155), and promote various forms of feedback about success and failure, and future learning objectives. Those learning opportunities were experienced collectively by students: they connected socially and built, shared and communicated knowledge among themselves.

Personalised learning seemed to be welcomed by the children and their parents; they often expressed feelings of contentment and made judgments of success about my pedagogic innovation. Specifically, children found the online tasks 'an unexpected experience', 'fun to do' whereas parents reported that the online intervention was 'simple', 'relevant and useful to the children's needs' (from students' focus group and parents' telephone interviews, Year 3).

However, time and resources were not abundant, at times they were limited due to work load and cost of expenses. Hence, I tried to make use of what was available and not of what would be best to have. For instance, when the school declined my request to subsidise the subscription cost to an online learning platform, I turned to free educational online resources.

As far as I-the-practitioner was concerned, I felt committed to diffuse the innovation among the children, parents and the school teacher community. I relied on my instructive skills and computer abilities and expanded this knowledge with further theoretical reading, with getting technical support from experts and with experiential

practice. Yet, the developmental flow of the innovation was slow. As a matter of fact, my students and I spent one school year to establish a personalised learning environment before ICT practice was integrated. It was in the third year of the study that personalisation appeared to influence the learning of the children and mainly the learning of the children that took part in the study in all three years (e.g. in Year 3, online intervention users were noticed to update their self-assessment chart regularly without my prompting).

The developmental flow of the innovation was also slow at the level of school headship, leadership and school teacher community. Although the school culture provided a suitable environment and values congruent to the concept of personalised learning, school heads and leaders were in favour but detached. School teachers were unfamiliar with personalised learning and ICT use at the beginning but, as they became gradually informed, they started showing signs of interest.

Trying to draw conclusions about the 'acceptance lateness' at school, I presume that the change-holding was due to the extent that the school showed a capacity towards development. In this light, the organisational dimensions of the school need to be evaluated to see how well the school projected a capability to accept a development, and, if not, what held back its capacity to change. I could name a number of reasons that may explain why the particular school did not incorporate quickly the innovation of personalised learning with the use of ICT.

Firstly, my school is a religious school with a catholic education agenda, which the school considers of foremost importance in the learning of students (Institute of the Marist Brothers, 1998, 2005). Christian values of love, reconciliation, justice, peace and equality are fundamental, and it was what helped me to attract the attention of the heads and leaders at school about my intervention. Nonetheless, although the

school regarded those values critical for cultivating the nature of the individual student, the school heads and leaders had some difficulty seeing how those values would be incorporated in a learning model for classroom use.

Secondly, academically the school has been interested in students exploring their maximum potential in all areas of the curriculum (e.g. students' university entrance results have always been a measure of success for the school, and such information is displayed with pride in the school newsletter and school site). Yet, this adherence to academic outcomes in a Catholic school, as Hurley (1958:18) pointed, may be challenging for the teacher who is asked to 'recognize that the important consideration for learning is that factors such as intelligence, attention, intense effort, and knowledge of results should become operative'. My intervention, on the other hand, focused more on communication than academic attainment, away from what the majority of the other school teachers were concerned with.

Finally, the school was private and at such schools the consumer-driven choices of assertive parents should not be forgotten. In Greece parents are interested in the outcomes of the educational achievements of their children and, at least in primary years of their children's education, become much involved in it (see p. 24). However, facing a grim future prospect ahead due to the financial crisis of recent times, parents were interested to what could produce beneficial but also instant results for their children.

In fact, I believe all stakeholders showed a delay in embracing personalised learning because they all wished to see immediate effects on learning. It is usual for people such as teachers, heads, leaders, and parents to be attracted to interventions which offer prompt effects, due to the little time available, heavy workloads, or financially stressful times. After all, personalised learning is capable of producing beneficial

results (see p.290, 292), but produces these results after setting a long-term plan in motion.

Although change did not diffuse - at least, not so much as I wished, I argue this does not prove a deficiency of personalised learning in bringing in stakeholders and promoting changes wholesomely at school. In fact, this piece of work points to the opposite. Parents, teachers, heads and leaders engaged in the change that personalised learning aimed at; they just did not follow a consistent pattern of acceptance, probably since they engaged in the study in different ways at different times. I argue that it is more appropriate to talk about late adoption, and this, in all likelihood, because personalising learning with technology is a learning approach that operates slowly and not in haste.

3.4 Collaboration

A key concept in this project integrated both in the personalised learning and in educational technology, was the issue of collaboration. It is, then, appropriate to look at what collaboration means in a school environment, and what group roles, group strategies and group dynamics are regarded as. Then, some insights follow on the issue of communicative competence in language learning when children collaborate. Finally, parental involvement is explored as a possible collaboration link between home and school in relation to children's learning.

3.3.1. Collaboration in the classroom

Collaboration is a two-way process in which two or more people work together to realise shared goals by building and sharing knowledge. Collaborators take up social power roles within a decentralised and egalitarian group.

Collaboration as a term is often used interchangeably with that of *cooperation*. According to Panitz (2004) however, they are two distinct notions and this study accepts this divergence. Collaboration signifies the philosophy of interaction, and cooperation the structure of interaction. Collaborative individuals are responsible for their actions and learning, and respect the contributions of their peers, whereas cooperative individuals are responsible for the accomplishment of the group product or group goal. Eaves¹ argues that 'sub-dividing a problem and allowing a network of volunteers to opt-in and provide solutions is a highly efficient skill; however, those involved in the project many never need to talk, exchange ideas or even interact; collaboration [...] unlike cooperation, requires the parties involved in a project *jointly to solve problems*' (my italics) .

¹ <http://eaves.ca/2007/02/05/wikis-and-open-source-collaborative-or-cooperative/>

Schrage (1990:140) in his book *Shared Minds* says that collaboration is not about agreement but about creation: 'collaboration is the process of shared creation: two or more individuals with complementary skills interacting to create a shared understanding that none had previously possessed or could have come to on their own. Collaboration creates a shared meaning about a process, a product, or an event. In this sense, there is nothing routine about it. Something is there that wasn't there before'.

Denise (1999:27) echoes the above and differentiates collaboration from communication, coordination and cooperation: 'collaboration is unlike communication, it is not about exchanging information. It is about using information to create something new. Unlike coordination, collaboration seeks divergent insight and spontaneity, not structural harmony. And unlike cooperation, collaboration thrives on differences and requires the sparks of dissent'.

Collaborative learning has recently received much attention. Research indicates that collaborative learning environments improve students' achievement, increase students' motivation, concentration and self-esteem, extend time on a task, strengthen interpersonal relations and develop teamwork skills (Slavin, 1990; Slavin, Hurley and Chamberlain, 2003, Webb and Palincsar, 1996). Children with disabilities seem to benefit from collaborative work while group members learn to develop more positive perceptions about their peers with learning disabilities (Putnam, et al., 1996). It has also been found that collaboration helps delinquent youngsters establish social communication skills and self-esteem with their peers (Rutherford, Mathur and Quinn, 1998). In fact, Johnson, Johnson and Stanne (2001) claim that there is no other pedagogic practice that can achieve such a multitude and heterogeneity of outcomes at the same time.

Socio-cultural theories underline the view that learning is deeper when students are actively engaged in learning. Students become active when they work in a shared social context interacting with others (with an adult or other students) rather than when they work alone or when they listen to the teacher (Rogoff, 1990; Tolmie et al., 1998; Wood, 1998). Actually because there is mutual control over learning, peer interaction is likely to facilitate learning (Piaget, 1976).

Having said all that, in this study the term 'collaboration' means the ways that the students followed in order to solve a problem creatively as they were interacting. When 'collaborative work' is mentioned, it means the measures taken to establish partnerships into the classroom, namely the group strategies, the students' choices concerning group roles and the ways they used to balance power.

3.3.2. Group strategies

To expect collaboration and learning to take place once students are grouped is a simplistic thought. What is necessary is a structural framework for groups to maximise cooperative learning, because through structure students understand how they are to work together and to coordinate their efforts (Johnson and Johnson, 1990). In this way they also acquire a sense of independence and group identification, which creates an intention to contribute to the group (Deutsch, 1949). Blumenfeld et al. (1991) argue that collaborative learning does not spring naturally from cooperative work. Group members are required to exhibit clear communication and constant monitoring of their understanding but in order to do so they need to possess considerable cognitive and metacognitive skills. Such sophisticated processes, however, are unlikely to be seen in young students, that is why teachers should provide scaffolding help first.

Students are placed in classrooms according to their age and ability at a school level (Dean, 1992), and that can be viewed as an initial nested context. Within

classrooms further nested contexts can be introduced (Baines, Blatchford and Kutnick, 2003:13) ranging from one student to the whole of the class. The decision to organise students in groups should have a pedagogic foundation and it cannot relate to restrictions as class size or whether the teaching methodology requires it or not. Group decision should dwell upon the learning objectives and needs of each and every student in the classroom (Kutnick, Blatchford and Baines, 2002). Baines, Blatchford and Kutnick (2003:12) suggest five dimensions to be taken into consideration when group decisions are to be made for a class: (i) the size and number of groups in a class, (ii) the working arrangement between group members, (iii) the adult support in groups, (iv) the group composition and, (v) the curriculum and task type undertaken by the group.

Research suggests that there is a relation between group size and effective learning (Kutnick, 1994) indicating that small groups are the most effective for learning (Lou et al., 1996). It is argued that groups for younger children should be kept small in size (Gillies, 2003; Katz, 1995). Lou et al, (1996) ascertain that ideally a group should have up to four members, and Wasik (2008:516) sets the rule 'of not exceeding five' members in a group. Groups should be kept small in size as children do not possess the conversational skills, confidence and experience to interact with many others (Blatchford, et al., 2003).

Children as young as six or seven years old may successfully engage in collaborative interaction while, when younger, they may start with social skills such as co-ordination, imitation or instructed learning (Tomasello, Kruger, and Ratner, 1993). Collaborative interaction exercises cognitive skills such as conversational skills (Tomasello, Kruger, and Ratner, 1993) while it provides the social context for the children to scaffold each other's learning and assimilate the skill of seek-and-take help (Forman, 1992; Fuchs et al, 1997).

As far as adult help is concerned, it is assumed that the support of a knowledgeable adult can be beneficial to individualised learning; but such help is treated with skepticism as it may become instructive to students in a class (Wood and Wood, 1996). Instead, it has been reported that when teacher's scaffolding is provided to small groups, students' quality work and concentration increases and there is better behaviour management in class (Blatchford et al., 2001; Hendrick and Weissman, 2007). Individuals in small groups have also been observed to learn more when they aim at a group product or share a group goal (Mulvey and Klein, 1998). The number of groups in class has been seen to relate to learning and to adult involvement but, so far, little is known about the relationship with chronological age (Baines, Blatchford and Kutnick, 2003). Research suggests that mixed ability in groups promotes collaborative work (Rogoff, 1990; Vygotsky, 1978) while similar ability in groups helps students to stage their learning (Forman and Cazden, 1985). However, study findings about collaborative work in mixed ability or similar ability groups are inconsistent.

While the nature of a learning task is important for a group to work effectively, the inappropriateness of a task to a group type may result in ineffective or threatening learning to take place (Galton and Williamson, 1992). It is suggested that certain types of tasks are more suitable for specific group types. Tasks requiring students to apply skills to new areas are better suited for collaborative work (Howe et al, 2000) since students will have to develop cognitive strategies to join the old knowledge with the new. There is even indication that tasks which carry a certain degree of ambiguity, in terms of outcome or process, may be more effective for group work (Doyle, 1980). Research also allows us to believe that the merging of conceptual and procedural knowledge can happen more readily in a computer based environment (Howe et al, 2000) as it registers a weak authority towards the student and it is less antagonistic than the teacher (Furth,1988). However, more ground has

to be covered concerning types of tasks and types of groups both in primary and secondary education.

3.3.3. Group roles

In everyday daily life people are seen to belong to various groups: in families, in work teams, in sports / social / religious groups. This leads one to think that a group has some stereotypical features. A stereotype is defined as 'the perceiver's knowledge, beliefs, and expectations about a human group' (Hamilton and Trolier, 1986:133). We understand little about stereotypical properties across types of groups; this is an under-researched area.

Lickel, et al.'s (2000) typology of group types identifies four kinds of groups: *intimacy* groups (e.g. family, support groups), *task* groups (e.g. jury, play cast), *social* groups (e.g. Jews, women) and *loose associations* (e.g. people queuing in a bus stop). Accordingly, group types are observed to have characteristic features, serve different functions and follow different normative rules for social interaction (Lickel et al, 2006). It is converged from the above studies that intimacy, task and social groups are 'distinct, naturally happening, psychologically meaningful, and use cognitive structures widely' (Spencer-Rodgers, Hamilton and Sherman, 2007:370).

The degree that a group shows a 'groupness', a social cohesiveness is known as entitativity. Spencer-Rodgers, Hamilton and Sherman (2007:370) regard intimacy and task groups as the groups with a high rate of entitativity. It is found that homogeneity and essence in groups – two distinct entitativity conceptions – are related to beliefs about broad social categories, whereas perceptions of role differentiation and agency are related to beliefs about smaller, more dynamic task groups (Spencer-Rodgers, Hamilton and Sherman, 2007:384).

People may be selected to become members in a particular group. In team-based organisations a staff selection system which is oriented only towards knowledge, skills and abilities is inadequate. Interpersonal skills in a team environment cannot be ignored (Morgeson, Reider and Campion, 2005), which is why tools to assess the interpersonal skills of individuals are included in staff selection systems today. One way to understand interpersonal skills in groups is by looking closely at the roles members take as they execute team work, manage the group relationships, and preserve the social balance within the group (Sundstorm, De Meuse and Fetrell, 1990).

Stewart, Fulmer and Barrick (2005) define a group role as a number of related and goal-directed behaviours characteristic of a person within a specific situation. The term 'role' certainly carries the implication of a drama being played by actors, a theme that is transferred from members into the group (Sundstorm, De Meuse and Fetrell, 1990). But it also means that individuals feel free to exhibit their uniqueness and not disguise it in a role. Jans, Postmes and van der Zee (2011:1130) argue that 'these feelings of individual distinctiveness may, in turn, strengthen the degree to which members view the group as an entity and become identified with this group'. In general, roles are regarded one of the fundamental and defining features of groups (Hackman, 1990) and of organisations (Katz and Kahn, 1978).

Yet, although roles in a group are regarded a crucial issue for team work (Belbin, 1993; Sundstorm, De Meuse and Fetrell, 1990), literature on group roles is scarce. Recently Mumford, Campion and Morgeson (2006) developed a role typology comprising three categories, namely of task, social and boundary-spanning roles. Task roles (Contractor, Creator, Contributor, Completer, and Critic) relate to work execution and group objectives. Social roles (Communicator, Cooperator, and Calibrator) involve maintaining a positive social environment in which groups work.

Boundary-spanning roles (Coordinator and Consul) take into consideration behaviours that group members exhibit outside their team. However, how group members assume their roles seems to revolve around the issue of individual differences, a research area where very little investigation has been done.

One possible relation of the roles and individual differences can be found in what is called *team role knowledge* - that is, 'the knowledge an individual possesses about the nature of team roles and the contingencies governing their use' (Mumford, Campion and Morgeson, 2008). It is likely that such knowledge gives students a broad range of roles from which to draw, and when perceiving a change in their role requirements they can adapt (McIntyre and Salas, 1995). Adaptability may be essential, especially when situations are ambiguous. When work is assigned to a group, it is not always clear who is assigned which role or task. Group members understand this ambiguity and face the group goals with uncertainty unless they summon their role adaptability and adjust to a variety of roles to accomplish their task. In other words, role knowledge is important to perform a role effectively.

3.3.4. Processes that influence group dynamics

Wilfred Bion's (1961) work has influenced theories of group dynamics. According to Bion, in every group there are, in fact, two groups present: (i) the rational working group, and (ii) the emotional assumption group. The working group is the operational side of a group, what the group has to do to accomplish a task: the group members cooperate to test conclusions rationally, seek-and-take help and learn from experience. The assumption group is the emotional side of the group, what the group assumes unconsciously in order to ground its behaviour. Those assumptions are of three kinds: *dependency* (security in the group is attained by a leader), *fight-flight* (security is attained either by fighting or by running away from

someone / something) and *pairing* (security is attained by the interaction of only two members in the group, the rest of them listen and follow eagerly). When the group adopts one of these three basic assumptions, their behaviour interferes with the group's attempts to accomplish the task; yet, all groups are known to alternate between their two sides, the operational and the emotional (Bion, 1961; Rioch, 1970).

In a working group an important operational process that may cause trouble to its members is that of seek-and-take help. It is a crucial, and also a learnt skill (Webb and Mastergeorge, 2003). Group members should learn to use it not by just exchanging help in the form of giving out an answer but by involving explanations. In this way cognitive (re)construction of knowledge occurs which is more effective in learning (Webb, 2008). The help-seeker should learn to ask specific questions and interpret information given critically. The help-giver should learn to give specific answers to help recipients to solve problems. Explanations given should be relevant to the needs for help, timely, correct and should be such that can allow the help-seeker to correct his/her misconceptions (Webb, 1989, 2008). At the same time, the help-giver should learn to improve his/her strategies as to how to recognise, reorganise and clarify material (Rogoff, 1990; Webb, 1991). The teacher's responsibility is to offer norms for such student behaviour, to model it, and to encourage both active roles by providing opportunities for such student behaviour.

Whether students use the 'seek/take help' roles depend on group actions. If a student does not understand or know what to do, he/she may ask for help. Research has shown that if he/she asks a specifically focused question, he/she is more likely to get an explanation as an answer (Webb and Mastergeorge, 2003; Webb, 2008). If, instead, he/she asks a general, unfocused question or gives a statement of

confusion, he/she is likely to be given an answer and not an explanation or he/she may even be ignored (Webb, Nemer and Ing, 2006).

By asking specific questions the help-seeker's cause of confusion is better understood and a specific response is likely. Again, specific questions may function as a signal that the help-seeker is interested in learning especially if he/she is persistent in asking for help. If the question is general or if it is rather a statement about confusion, the help-giver may not know how to formulate a relevant answer. The group members, then, may believe that because the help-seeker is too confused to understand, they should supply an answer without an explanation. Sometimes they may choose to ignore the help-seeker as they tend to believe that he/she depends on their work and see him/her as a loafer or free rider (Salomon and Globerson, 1989).

It is true when the help-seeker expresses general questions, indeed, he/she may be confused or be a work-deflector (Webb and Mastergeorge, 2003). It could also be, however, that he/she wants to avoid trying for fear of failure, or does not want to risk appearing stupid (Middleton and Midgley 1997; Newman 1998). It is often the case when the help-seeker expresses general questions to be ignored or insulted. Then this student usually stops persisting and withdraws from group work (Salomon and Globerson, 1989). It appears that students may not enjoy group work because loafing may take place (Phipps, et al., 2001) usually with high achievers being the loafers' victims (Forrest, Kershaw and Bott, 1998). Wing-yi, et al. (2008) suggest that loafing is minimised when both high and low achievers experience positive group processes.

A group is required to possess certain knowledge in order to manage a learning task. This managing knowledge can be 'knowing-about' or 'knowing-how' (Bereiter and Soardamalia, 1993:49). The 'know-about' domain covers 'the semantics

(vocabulary, facts, symbols, etc.) and episodes (the various types of challenges or problem settings encountered in the domain)' and the 'know-how' domain is the 'understanding of how the basic semantic and episodic pieces of the puzzle are causally linked' (Lubatkin, Florin and Lane, 2001:1355). Mostly knowledge is known as *declarative* and *procedural* (Anderson, 1983). Declarative knowledge is explicit knowledge whereas, procedural knowledge is skill or task-related. Bereiter (2002) believes that the two knowledge categories are meaningful only when they are linked. Additionally, Bereiter (2002:148) offers a broader typology of knowledge (statable, implicit, episodic, impressionistic, skill and regulative knowledge) categories, which are integrated when there is a high level of mastery: the deeper the mastery, the deeper the integration.

Consequently, when students work in groups to accomplish a task the two types of knowledge should be intertwined. At the same time students need to make a decision, a quite complex process since it may involve social, economic, ethical and political considerations (Driver, Leach, Millar and Scott, 1996). To develop decision making skills, students should learn how to reason, to evaluate alternatives and to weigh up evidence, in short, to develop the skill of argumentation (Jimenez-Aleixandre and Pereiro-Munoz, 2005; Zeidler et al., 2003) and critical thinking (Wegerif, 2004). *To argue* means that information is communicated, evaluated and justified against a body of evidence and opposite views are clarified using dialogic ways. *To think critically* means ideas and evidence are explored, speculated and assessed.

Although seven to eleven year old children are capable of critical thinking skills, few opportunities are planned and, in the event that there is a chance for conversation in the classroom, the teacher usually controls it and the students rarely engage (Baines, Rubie-Davies and Blatchford, 2009). A curriculum ideally should ideally

provide opportunities for students to develop reasoning and a line of arguments in structured and coherent ways (Cazden, 2001) so that students can practise how 'to cope with uncertainty when having to make choices and decisions' (Maloney and Simon, 2007:1818).

Wing-yi et al. (2008) state that both the kind and the quality of interaction are important. They believe that when the quality of interaction among group members is high, learning outcomes are better. They also argue that quality in interaction sustains a higher collective efficacy for both high and low achievers. This quality is comprised of four elements in group processes: *positive interdependence, individual accountability, equal participation* and *social skills*. All four elements must be present. In other words, it is important that (i) every member feels that he/she needs the other group members to succeed; that is why there should be mutual learning goals, joint rewards, shared resources and assigned roles in each group, (ii) the success of the group depends on the individual learning of all members; that is why every member should contribute and this contribution should be evaluated and feedback should be given at an individual and group level, (iii) every member should have a share of work; that is why all members in a group should actively participate, and (iv) social skills in communication, helping skills, decision-making, trust building and conflict management are needed as they will facilitate group interaction.

3.3.5. Emotional life of the group: power balance within groups

In the classroom, group decision-taking is a political process as power has to be distributed among members. *Power* is the ability of individuals and groups to influence the process of resource allocation and secure their particular interests (Lukes, 2005). Time and ideas are the resources. How equally time and ideas are distributed influences the result of the inquiry process: if they are distributed as

equally as possible, dialogue is promoted and collective decision is reached; if they are not distributed equally, the classroom starts to encounter conflict problems.

When power is not well balanced and conflict arises, the emotional life of the group is shaken and the classroom environment is in turmoil. At such times, the processes of collective inquiry malfunction. According to group dynamic theories, such mishap in the emotional life of a group can, however, be seen as a possibility for further progress and growth (Bion, 1961; Rioch, 1970; Smith and Berg, 1987). Burgh and Yorshansky (2011:446) argue that 'the emotional state of the community as a whole, and the unequal sharing of power could be understood as the community's way of signaling their own needs and solutions for conducting collective inquiry'.

Indeed, when the group's emotional life is under distress, it means that the group has adopted one of the basic assumption states (dependence, fight –flight or pairing). Yet, it does not mean that this is threatening to the group's ability to proceed developing cognitively. On the contrary, the basic assumption states 'contain defence mechanisms which allow groups, on the one hand, to continue the inquiry in accordance with the members' emotional abilities, and on the other hand, to identify perceived threats and slowly subject them to conscious deliberation by bringing these threats to the group's attention in a manner which they could handle' (Burgh and Yorshansky, 2011:446).

We see young students doubting equal participation and non-authoritative behaviour even when equal sharing of power is registered in the group. How they perceive equal sharing of power or how they contradict unequal sharing of power is behavioural evidence that students are engaged in a painful process of social reconstruction which materialises at the students' own pace (Sharp, 1993). Arendt (1998) argues that every child is different and unpredictable and the child's individuality can influence and shape the world with new forms and ways that cannot

be foreseen. Power is generated among individuals as they deliberate about their world. This realisation gives young children an agency to participate and influence the world. When in groups children are seen to exhibit non-anticipating behaviours, those behaviours should be understood as expressions of newness and communicative power (Arendt (1998). In other words, young students should be given opportunities to experiment their originality and mature as political agents.

When young students struggle to actualise power sharing in their groups, one of the teacher's pedagogic responsibilities is to scaffold the emancipation of the students. The teacher should offer routes to young students to try out their ideas. He/she should not restrain their community inquiries and should not frame the students' processes in predetermined structures. It is affirmed that 'the community of inquiry can work quite well in classrooms where students are favourably disposed to the notion of collaborative inquiry [but] it also has the potential to be a viable option even in cases where students may enjoy exercising power within the classroom by being deliberately disruptive and very reluctant to give this up' (Burgh and Yorshansky, 2011:449).

3.3.6. Limitations

No matter how many the advantages and merits of collaborative work appear to be, both teachers and students can be reluctant to give it a try. Teachers perhaps due to increased control disruption (Cohen, 1994), conflicts or need for support to a number of groups at the same time, disbelief that students can work together especially the low achievers, and that group work can be time consuming. Teachers may comply with the opinion that group work is unimaginable because students do not possess the communication skills to interact actively (Cohen, 1994; Lewis and Cowie, 1993; Webb and Palincsar, 1996). On the other hand, students may worry lest group work is threatening and risky to their self-esteem and that it may bring

forward conflicts and embarrassment if they provide a wrong /controversial answer (Blatchford and Baines, 2010; Chang and Lee, 2001; Wolters, 2003). Conservative voices point to the contradiction that reformers may be arguing for student voice, but in practice, what students think, or say that they want, is order, good humour and clear explanation.

Nonetheless, suspicion, mistrust, fear or even hostility towards collaborative work should resolve with dialogue and community building. Students' power-related behaviours in groups should be regarded as a means to an end and not as an end to itself. Besides, how effective the students' behaviours are in their groups depends on how the teacher understands power and how the teacher understands the students' manifestations of power distribution.

3.3.7. Children collaborating with other children in language tasks: a setting for enhanced communication skills

One of the principal learning objectives in personalised learning is that students work collectively in constructing knowledge. This suggests that students should aim at doing more than completing a particular assignment, solving a specific problem, memorising something read or covered in class. Co-constructing assumes that students collaborate to achieve cognitively advanced goals; for example comprehending material at a deeper level, solving problems that may have more than one possible answer, creating original answers, or making sophisticated decisions. In other words communicating meaning induces higher-order thinking (King, 2008). The challenge is whether young students are likely to have the cognitive skills in order to engage in such complex communication.

What is exactly 'communication', and how is it related to learning? Etymologically the word 'communication' originates from the Latin word 'communicare' which

means share, with its root mun- relating to words 'munificent', and 'community', and its word body -munus relating to the idea of 'gifts or duties offered publicly' (Peters, 1999:7). Communication may be defined as

'any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge, or affective states.

Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms, and may occur through spoken or other modes' (de Valenzuela, 1992:2).

Wigforss (1999) suggests that the communication process is complete once both parties have found the exchange of the message satisfactory.

Language, speech or communication usually occur in overlapping contexts and they are often terms used interchangeably (Hartas, 2005). However, they are different.

Language is the coded system that people use to convey meanings, feelings and intentions; speech is the oral form of a language; and communication is a wider term that includes verbal (language spoken or written) and the non-verbal (tone of voice, facial expressions, gestures or body language) forms of message-exchange. For this reason, communicators need to possess more than linguistic skills; communication requires communicative competence, that is, a mastery of social norms to appreciate intention, to empathise with the listener, and use oral and written language effectively (ibid, p.11).

Language acquisition is a process that young children grasp very early on in their lives. Research in nursery years (Robson, 1983) suggests that children's oral language can present complex linguistic structures involving abstraction and reasoning, and their dialogue style may resemble that of adults' (e.g. a comment triggering another comment in response). However, in order to be effective communicators children need time to appreciate, practice and gradually learn how to

use techniques, such as turn-taking, seeking-and-giving help, repairing broken communication, keeping or changing a discussion topic, compromising, or negotiating a view. Furthermore, children face more complex circumstances in the classroom in their attempt to communicate: they have to understand a question, usually asked by the teacher, and respond to it as effectively as possible within a rather short period of time (Hartas, 2005:12-13).

Research has shown that children are more concerned with writing than reading, and with writing seen as a product (e.g. spelling) than as a process (i.e. structure of content) (National Assessment of Educational Progress, 1990). However, this may be because children become aware of a problematic area in writing, such as spelling, but once they master it they stop paying attention to it anymore (Wray, 1993:67).

Collaboration and communication among children is important in language building. The question is, however, if children can teach other children. Williams (2007) is certain that children are aware of the act of teaching as they often exercise it in teaching games to their peers. Gopnic, Meltzoff and Kyhl (1999) argue that the capacity to develop by training is written in people's biological chain, but the drive to learn is people's strongest instinct. Marton and Booth (1997) add saying that humans are the only species on earth who teach its young. Barnett (1973) argues that we are homo docens, born with an innate quality to teach.

Premack (2010) claims that when it comes to teaching, one should teach the other with a pedagogic purpose; that is, to teach effectively, one should understand what the other sees, wants, tries to accomplish. According to this theory, when teaching means more than training it is a combination of observing, acting and evaluating. The ability to empathise with the other, to act, and to assess if a change has occurred are strong pedagogic dimensions in teaching. It is also a bi-directional

process: it is a shared experience; both sides practise. Premack and Premack (1996) argue at this point that it is unthinkable for people who train in language together not to be expected to share the experience of building language.

Communication development seems to occur within partnerships (Harding et al, 1995), but the question is how to make use of this for intervention, prevention and facilitation in relation to the development of language communicative competence. For instance, many variables, such as the child's cognitive abilities, and the social context can contribute to different communication patterns (Stern, 1985).

Additionally, by interacting, choices are co-constructed, choices that a child needs when acting and when interpreting actions, such as, 'engaging or not engaging; 'rituals, the rules of the game', and 'obligations' (Harding et al, 1995:28-29). The process is unpredictable and leads to multiple outcomes, some desired, some not (Harding and Moisan, 1987).

This, however, does not discredit the fact that sharing a learning experience in class can be both helpful and important for children of all ability levels (Watanabe and Hall-Kenyon, 2011). Hence, if writing is thinking, children should have ways to practise thinking and exchange their understanding with others. Instruction for young children, should highlight intended communication even above process or product, it should have a communicative nature (Pritchard & Honeycutt, 2006).

3.3.8. Parental involvement: a school - parent collaboration

The role of the parents in school education has been perceived as important worldwide, and has consistently been associated with students' academic attainment (Hill and Tyson, 2009; Jeynes, 2007; Walker and MacLure, 2005). Policy-makers seem to favour PI ('Children's Plan' in the UK, DCSF, 2007; 'No Child Left

Behind' in the USA, USDoE. 2001; 'Schooling Strategy' in New Zealand, MoE, 2005) and effective schools are considered to promote PI (Grant and Ray, 2010); PI is usually presented as a potential solution to educational unpromising situations (Standing, 1999).

Jeynes (2005:245) defines parental involvement (PI) as the 'parental participation in the educational processes and experiences of their children'. 'Parental' may entail anyone who has a parenting role with children, and 'involvement' may refer either to home-based activity (e.g. homework supervision) and/or to school-based (e.g. parent education seminars).

Research suggests that PI may be beneficial to teachers (Myers & Monson, 1992; Phillips, 2005) and to parents themselves (Pomerantz and Moorman, 2007). To teachers, it may encourage a parent-teacher relationship, warm teacher spirits, and strengthen school climate. To parents, involvement in their child's education may improve confidence and satisfaction in parenting (Scottish Executive Education Department, 2006).

Nonetheless, there is dispute about what PI is claimed to be according to literature, and how it seems to work in practice at school (Christenson and Sheridan, 2001). Moreover, even when schools engage with parents with the intention to collaborate, it is debatable if the parent-school collaboration works equally for both sides or whether it tends to benefit the teacher/school side (Grant and Ray, 2010; Lumby, 2007). Additionally, attitudes from 'professionals' (i.e. psychologists or teachers) about parents can be negative; these may include perceptions of parents being 'problems' or 'adversaries' (Sonnenschien, 1984).

Parental involvement may be distressing for both teachers and parents (Turnbull and Turnbull, 1986). Teachers may be skeptical about involving parents because they need to invest time, there may be no external reward for their efforts, or they

may feel that parents show low commitment or parenting skills (Epstein & Becker, 1982). Teachers may also show reservations towards parents if they presume that parents would question their professional competence (Epstein & Becker, 1982), or blame them for the children's problems (Vernberg & Medway, 1981). Yet, even when professionals hold positive attitudes about PI, it is not always clear that they perceive PI to be a partnership based on reciprocal communication. Parents, on the other hand, may see difficulties in their involvement with school due to time pressure; language barriers or cultural differences; fear of authority-based institutions; parent illiteracy; family problems; negative education experiences; health; or, living arrangements (Becker & Epstein, 1982; Plevyak, 2003).

And, yet, as much as teachers may be responsible for the learning of the children, so are parents responsible for their children. That means that parents need information about the academic progress and behaviour of their child at school; problems that their child may have and how school addresses them; the organisation of the school and how it affects their child; and, their parental rights and responsibilities. Communication between parents and school becomes effective, however, when it is regular, when it is welcomed from both sides, when there is 'openness' of information to parents, and when school is able to offer many different ways of contact to parents (Hornby, 2011).

Many models of PI have been developed - differentiated by their philosophy and purpose for involving parents (Bastiani, 1989; Epstein, 2000; Wolfendale, 1992). The most known model is the one developed by Epstein and her colleagues (Epstein et al., 2002), which has a framework of six major types of parent involvement: parenting, communicating, volunteering, learning at home, decision-making, collaborating with community. This model has appeared in modified versions (e.g. Rodriguez, Collins-Parks and Garza, 2013) with specific research aims.

The literature of PI highlights that parental help has an impact on children's education and its process is rather well understood. What is needed is to plan for further research in order to explore the 'multi-dimensional developments in parental involvement for pupil achievement' (Desforges and Abouchaar, 2003:90). For instance, research on the 'hidden curriculum' in homes may be designed to clarify the parental modeling that seems to influence the children's self-regulatory skills in school learning (Martinez-Pons, 2002). In general, it is observed that the parent-school partnerships have not developed as expected regardless of recognition and resources.

3.3.9. The value of collaboration reflecting on my practice

The literature review on collaboration guided me to consider the distinct nature of the concept of collaboration compared to those of cooperation and coordination. It also helped me to explore particular characteristics related to group formation, rules, and dynamics. This conceptual understanding led me to consider some practical challenges in my inquiry. More specifically I became concerned about

- how I could build knowledge with my students,
- how power could be distributed between my students and me,
- what learning skills were needed to enable my students' argumentative processes,
- what problems I might anticipate concerning group dynamics, and how to address these problems.

The answers to the above questions appeared as I was taking action, or as I was reflecting on action during the three years of research. Questions concerning

collaboration, in a broader sense, are later discussed in *Chapter 8* (pp. 266, 282-286).

3.4. Information and Communication Technologies (ICT)

This is an action research study about using new technologies in teaching and learning. As such, it aligns with a wider body of work about the use of Information and Communication Technologies (ICT).

3.4.1. Introduction

Defining ICT is hard to do. Definitions are numerous and, depending on when they were ascertained, they appear incomplete later on, as technology advances and newer technological forms evolve. Therefore, instead of providing a definition, it seems more appropriate to describe what Information and Communication Technologies (ICT) mean in this piece of work.

ICT and the term 'technology' or 'new technologies' in this study refer to the computers and access to the internet as well as to telephony, wireless networks and any other social internet-connected mediums which offer access to information through communication. Where 'online' or 'network technology' is used in this study, it refers to the computer-based environment that (social) network systems offer to the students to share and communicate their work with others.

I will now look at the history of ICT, and at school reform, personalisation, pedagogy, and age in relation to ICT.

3.4.2. The history of ICT in education

Historically, information was sent and received in a variety of forms, such as smoke signals, drums, runners, pigeons, or semaphores. Since the time people habituated places, distance (*tele*: Greek prefix, meaning 'at a distance', Bampiniotis, 1998:1785) pressed a need for communication. Therefore, what is believed as a new concept it is, in fact, a very old one: information and communication technologies have always been around us, and, at present, they offer 'new methods, ways and tools of doing what they have always done' (Tusubira and Kyeyne, 2001:2).

In the last 40 years information and communication technology permeated areas such as science, media, capital, social services, leisure, traveling, education, and law. Its digital nature is so fast that 'everything appears to take place at an accelerated rate and to produce dramatic change in a very short time' (Gere, 2002:10). The western world is not just accommodated by technology; it actually relies on technology. The presence of technology is so pervasive nowadays that we cease to notice it anymore: it is simply everywhere.

Yet, although technology advances and permeates so many domains, this uptake cannot be seen in education. What one can capture by examining closely the progress of the educational technologies is the different perspectives on change across time (Hammond et al, 2009). As machines progressed, so did ICT use (van Melle, Cimellaro and Shulha, 2003): from Computer Assisted Instruction, to Multimedia and Hypermedia, to Networks and the Web access and, to interconnectivity with mobile communication and voice technologies. Educational software developed from programming in BASIC and LOGO to using Web 2.0 new technologies, such as cloud computing and virtual learning platforms.

21st century technologies and mobile telephony offer a broad array of devices to people to be informed, to share and communicate this information with others as never before. By bringing digital interactivity, interconnectivity and content creation/remixing (Greenhow, Robelia and Hughes, 2009:249) to the education arena, 'alternative avenues' to 'knowledge building' are open (Scardamalia and Bereiter, 2006:104; Yang, 2009:12). New literacies such as digital and media make their presence as technology is initiated into learning. This may influence people to believe that the traditional teacher-centred learning model with time and space limitations (Crawford, 1996; Piccoll, Ahmad and Ives, 2001) is old and obsolete and should change into a newer learner-centred, collaborative and heuristic learning environment with the help of technology (Crawford, 1996). However, determining if a learning context is traditional or not, if it needs change or not, if technology can help or not, needs careful investigation.

3.4.3. ICT and school reform

If ICT does suggest change, the wider literature tells us that change is difficult.

Sarason (1990) argues that although educational reforms may be necessary they are predicted to fail. According to him, there is a 'gulf that separates the world of school with the world outside' which cannot be bridged regardless of the fact that technology can connect the two worlds. Miller and Olson (1994) caution that technology reforms in education are hard to predict, there is an aura of revolution and power around technology which distorts the slow and evolutionary process needed to sustain innovation. The enthusiasm with which governments and agencies nationally and internationally promote technology use in education may be counterproductive. Cuban (2001) warns that this enthusiasm can be unreflective about transformations that may be unnecessary.

Moreover, implementation of new technologies at schools appears not to have been put on an educational basis, but stimulated by technology advancement. This may lead to an uncompleted innovation, a 'cycle of failure' (Ehrmann (2000), according to which the cycle starts when a new technology is introduced but because it does not prove up to expectations it dies away only to begin again with the advent of a new technology development. Implementation has lacked pedagogic direction: there is reason to believe that so far educational interventions have put technology before learning. Or, as Watson (2001:252) says, there is reason to believe that the cart has been placed before the horse.

Literature also suggests that ICT constraints, that is, obstacles to ICT use, such as anxiety, fear of change, technical problems, unavailability of technical experts or technical knowledge, may influence negatively the teachers' technology use and the level of development at school (Wood et al., 2005). On the other hand, ICT enablers, such as ICT policy adoption at school, collegiality about ICT knowledge and optimal use of ICT resources, may influence positively ICT decision-making at schools (Baskin and Williams, 2006:463). Research suggests that openness to new information (Erdley et al., 1997; Mikulincer, 1997), persistence and problem-solving processes (Dweck and Leggett, 1988; Rom and Mikulincer, 2003), remediation (Mikulincer and Shaver, 2007) and emotional reactions (Dweck and Leggett, 1988; Lazarus and Folkman, 1984) are mechanisms that may work as antidotes to ICT resistance.

3.4.4. The benefits of ICT in education

Nonetheless, various claims have been made about ICT in education. For instance, UNESCO espouses ICT as it argues that the diffusion of information and communication technologies can improve education, social and economic development worldwide (Leye, 2007; UNESCO, 2004). In the study *Information and*

Communication Technologies in Schools (UNESCO, 2005), a number of advantages and opportunities that ICT offers are described:

- different learning styles of both advantaged and disadvantaged learners can be catered,
- learning can be more effective as a multimedia context may involve more senses and a hypermedia context more connections,
- problem-solving can be provided in a local or in an international context,
- teachers are given the tools to save time (e.g. keeping records/archives/grades with a quick retrieval and easy access, making handouts for classes, presenting visual/oral materials)
- teachers may be offered ways to increase productivity (e.g. compiling material in a data bank, inspect/correct students' work online)
- ICT use may be helpful in the everyday life of a school (e.g. exhibiting the school profile in a site online, uploading/downloading/sharing material with other institutions or schools)

Researchers, though, caution that the association of ICT and learning is not direct.

ICT use is one of the many environmental factors that may influence learning.

Therefore, ICT use does not work 'in the absence of the other factors' and it does not 'impact outcomes independently of the others [factors]' (Salomon, 1994:80).

Instead, research suggests that ICT use influences learning indirectly: it reinforces learners' motivation, skill acquisition, independent learning and teamwork whereas it increases teachers' enthusiasm, efficiency, collaboration and technology competency (Balanskat, Blamire and Kefala, 2006). For example, important skills like metacognition (Ruthven, Hennessy and Deaney, 2005), self-evaluation (O'Connor, 2003) and information literacy (Yang, 2012) are likely to be fostered in a rich ICT curriculum; in addition, software variety (such as videoconferencing,

simulation, website searching, email exchanging) may improve the quantity and quality of learning by enhancing the working memory (Vogt, Kumrow and Kazlauskas, 2001).

Looking at these claims in more detail, in respect to

- *Motivation*, teachers report that ICT use affects positively students' behaviour, motivation, communication and process skills (Comber et al, 2002). The multimedia /hypermedia context and interactive nature of technology is found to be engaging especially to primary students and to increase duration of attention on a task (Higgins et al, 2005).
- *Skills and competencies*, tasks can more easily be tailored to accommodate students' needs and differences (Ramboll Management, 2006). Students learn to organise their learning by managing their work electronically (ITU, 2004), feel supportive to develop self-regulatory skills (Graesser and McNamara, 2010), and working collaboratively becomes the norm (van Kessel, Hulsen and van der Neut (2005). It is also suggested that students show more responsibility and independence at they own their learning when they use ICT (ITU, 2004).
- *Teacher-student relations and roles* can alter with the use of ICT. The teacher has the opportunity to become more facilitating, less directly instructive, more supportive in guiding the students to explore and discover. Yet, although students' independence is promoted, teaching practice or the teacher role may not change, partly due to teachers' lack of confidence in ICT use (Harrison, Comber and Fisger, 2002), and/or due to the teachers' mistrust in students' capabilities to manage without their instruction (Toots, Plakk and Idanurm, 2004). Research work (Osborne and Hennessy, 2003) suggests that although there are few teachers ready to integrate ICT use in motivating and stimulating ways, the ones who do it are the teachers who are by nature innovative. In other words, technology does not guarantee a change, it only gives potentials. It is the teacher who makes a

pedagogic choice (Armitage and O’Leary, 2003). When, how often and why a teacher may - or may not - take this decision is an issue discussed later (pp. 86-90).

- *Web 2.0 technologies*: research evidence suggests that Web 2.0 technologies (eg. cloud computing, online learning platforms, VLEs) support (Padmore et al., 2006), collaboration processes, enjoyment and motivation are promoted (Valentine, Marsh and Pattie, 2005), teachers and students develop a bond (Rau, Gao and Wu, 2008), and parents develop a trust with the teacher (Sporte, Luppescu and Nanjiani, 2004) and with their children (King and Li, 2009). It appears that the key benefit of Web 2.0 tools in learning is ‘the modeling of exemplary practice’ (Passey, 2011:394). Students are allowed to decide which learning behaviour is best for them and adhere to that position. Teachers may include those behaviours in practice and even expand learning opportunities to reach home and parents. In general, it seems that the architecture of virtual technologies is what may offer benefits for learning.

3.4.5. ICT and personalisation

As seen earlier (p. 41), personalised learning is an approach that aims at readjusting the dynamics of the teacher-student relationship, and engaging all stakeholders involved, in the service of the student. It is like looking at the function of the education system in reverse: up to now, the student conforms to the system, now the system should ‘offer bespoke support’ to the student (Green et al., 2005:3).

Becta, the *British Educational Communications and Technology Agency* in the United Kingdom, was responsible for developing and supporting the national strategy for technology in education until 2010

(<http://webarchive.nationalarchives.gov.uk/20110130111510/http://about.becta.org.uk/display.cfm?page=2075>). Becta developed research projects to explore the

impact of ICT in education. It involved two overarching and related strands of work: educational research and analysis, and technology futures (e.g., harnessing technology strategies, Becta 2007a, 2008a, 2008b, 2009a, 2009b; Davies and Good, 2009; impact of technology, Underwood et al., 2008, 2009, 2010; personalising learning with technology, Becta 2007a; Higgins et al., 2008; Robinson et al., 2008; Underwood and Banyard, 2008). Some of this work was explicitly focused on personalisation (e.g. Becta, 2007b; Underwood and Banyard, 2008; Higgins et al., 2008; Robinson et al., 2008) and the evidence was used to inform practice and policy, at least, in respect to ICT.

Becta project evidence (e.g. Becta, 2009a; Underwood, et al, 2008, 2010) implied a need for further research on issues associated with personalising learning with technology, such as

- Challenge in learning,
- Students' investment in their own learning,
- ICT-mediated learning experiences and assessment design,
- The digital divide,
- Curriculum aspects inhibiting ICT use,
- A clearer view of ICT integration in the curriculum.

This shows that there are unclear areas, even tensions in explaining the relation of personalisation and ICT. Arguably, even on the remote possibility that there were no 'discontinuities' (Underwood et al, 2008) in the picture of personalising learning with technology, it would be simplistic to think that all students would react the same to such a learning approach. For instance, one of the attributes of ICT is that it may encourage problem-solving strategies (Slavin, 1990); yet, no matter how challenging a research task with ICT can be, some students may experience difficulty coping with it, and may tend to revert rather than progress when using such a task

(Veermans and Järvelä, 2004). Another research project (Squire, 2004) suggested that in an interactive and personalised learning environment the highly self-efficacious student may accept the experience, whereas the less self-efficacious student may reject it. Besides, is there any evidence that shows that young students themselves are crying out for personalised learning with ICT use, as the reformers suggest in their arguments about the voice of the child?

It is assumed that the students develop their interests, talents and capabilities in a learning environment which offers the experience of 'work[ing] in diverse locations, with diverse groups and cultures while monitoring their own learning' (Underwood and Banyard, 2008:235). Green et al. (2005) argue that such a claim is only possible with the affordances of technology. According to the above researchers (Green et al., 2005:5), technology could be harnessed to support the goals of personalisation, in particular, to create diverse learning environments, to offer ways to students to develop their skills, to support students' self-assessment, and to empower students to make educational choices. Hence, ICT seems to come into the picture of personalised learning more as a necessity than as an enhancement.

A research project (Underwood et al, 2009), influenced by the above claims (Green et al., 2005), was conducted in order to offer a clearer view of potential factors that may have an effect on personalising learning with and through technology. To do so, a descriptive model of the effective use of digital technologies for the personalising of learning (Underwood et al., 2009:14) was designed based on Salmon's previous models (2000, 2002), and was used to test school e-maturity.

The model operates in two levels. The first level describes three iterations: (i) the personal learning space where the learning takes place, (ii) the teaching place where the teaching takes place, and (iii) the living space, which is acknowledged beyond school, providing further input to the learning and teaching. In this model,

the term space is used to cover physical characteristics and technical specifications, as well as cognitive qualities which help to generate learning. The second level of the model describes the behavioural and psychological capabilities of the participants and of the technologies that are important to influence learning, for example the effectiveness of users and technologies to support collaborative work, the creation of a reciprocal channel between school and home, and a convergence of leisure with learning (ibid. page 14).

However, the model is complex; perhaps, because it depicts learning as it is: dense and complicated. It is difficult to see how the practitioner might use this; perhaps models are supposed to simplify after all. The model was tried across thirty sample schools, fifteen primary, fifteen secondary, distributed according to sector size and social advantage. All schools were considered to be e-mature, ranging between moderate to high in e-maturity. Thirty head teachers and ICT tutors, one hundred and fifty classroom teachers, three hundred primary and three hundred secondary students responded to a survey conducted with interviews and questionnaires.

The model was partially validated, and the results presented a complex picture of impact. Personalised learning did not 'always relate to improved performance', did not necessarily require ICT, but where both agendas occurred, 'there was a synergy which had beneficial effects' (ibid. page 17). This last point is important. It suggests that when the two components are parted, there is no or little change observed. However, when the two components are seen in unison, there is reason to believe that effective results are possible.

According to the findings, ICT was observed to offer personalised opportunities which resembled to computer-assisted individualised learning, and as such, making a small contribution to creativity development. Students' reactions appeared to differ, with only some students gaining from a rich ICT learning environment but not

all (ibid. page 17). The report claims that individual differences were the cause. Moreover, even if personalised learning and ICT appear to influence performance positively, this is not shown across all students; it seems to offer benefits to the middle and to the majority but not to the extremes, to the talented and to the inept students.

ICT use may connect school with home and home with school, but is this possible for every student? Because factors like disability, ethnicity, gender, age, skills and education, and economic factors could have an impact on technological access and accessibility (Elsley, 2007), and, as such, relate to equity issues. Moreover, however aspirational it may be that students engage with technology, they often do it in ways that are partially framed by school. Besides, schools explore technology differently; some are more willing to integrate and engage in technology than other schools.

Policy makers, managers, teachers, students, parents seem to have different perceptions about policies of harnessing technology and personalised learning, and generate a range of adoption patterns (Underwood et al., 2009; Higgins et al., 2009). Research suggests that this inconsistency deepens, as each stakeholder seems to be unaware of each other's different perceptions (Underwood and Banyard, 2008).

Drawing from the above, it can be argued that if curriculum reform is to be envisioned, ICT use is a promising constituent, but it may not be a catalyst. Where does ICT use stand in relation to personalised learning, then? Underwood et al. (2009:10) argues that 'digital technologies do not in and of themselves lead to a more personalised learning experience'. It is rather that ICT may live in and through personalisation but personalisation is not all about ICT. Personalised learning offers

a suitable context for ICT and for the development of a personalised approach (Underwood, et al., 2009: 36-38).

3.4.6. ICT and pedagogy

Outcomes and conditions in a technological developmental change are related. This means that outcomes do not happen in vacuum but conditions trigger the appearance of outcomes. Additionally, the way conditions are set may oblige particular outcomes to appear, although patterns of outcomes are not always predictable (Cuban, 2001). The developmental process is not linear, not even cyclical, it is rather a continuous process of 'iteration and feedback' (van Melle, Cimellaro and Shulha, 2003:280). When conditions are set, outcomes appear which make further conditions emerge, which, in turn, generate further outcomes; it is a spiral movement signifying development at the same time.

Therefore, outcomes and conditions interweave in the process of a technological developmental change. Hence, there is no point identifying which comes first, the outcomes or the conditions. Perhaps, for the practitioner-researcher it is easier to envision a learning goal (the learning outcome) first and then to see how much of that is feasible (the learning conditions). For this reason, I choose to start by examining firstly pedagogic concerns about the outcomes and then to talk about the conditions in a technology developmental change.

Moon and Leach (2008:1) argue that the benefits of ICT use may stem from a teacher's pedagogy which relates to the following dimensions:

- educational goals and purposes,
- a view of learning and learners,
- a view of mind and knowledge,
- learning and assessment activities,

- the roles and relationship among learners and between the teacher and the learner,
- discourse, and
- tools and technologies.

Once the teacher understands that ICT use is not compatible with traditional approaches and there is a need for change, he/she may notice that his/her identity as a subject expert (subject knowledge), subject teacher (school knowledge), teacher (pedagogic knowledge) or as an individual (personal knowledge) is challenged (McCormic and Scrimshaw, 2001:44). This complexity of knowledge may signify the implications that an ICT implementation may have for a teacher: he/she may have to change any of his/her knowledge views. And, taking it one step further, it may mean that whereas a teacher may find an ICT developmental change exciting at some point, another teacher may find it threatening.

The change may progress through three levels, increasing the degree of sophistication in the ICT use (McCormick and Scrimshaw, 2001): to improve efficiency by replacing some conventional resources, to extend the teaching/learning possibilities, and finally to transform teachers'/learners' conceptions about the nature of the subject. Each level of change may affect the above pedagogic dimensions differently when ICT is used. At the same time, the dimensions may interact differently when a certain level of change is applied (McCormick and Scrimshaw, 2001:51-52). The researchers caution whoever takes up an initiative with ICT. Even though an implementation approach may target a certain level of change only, ICT use will inevitably move to other change levels as well. The implementation agents should explain that from the start and teachers/schools should prepare accordingly regardless of the level of change they prefer to support. McCormick and Scrimshaw (2001:37) argue that the more sophisticated the mode of change, the more significant the ICT impact on learning seems to be. According to

the level of sophistication then, a certain level of competence may be required (Lewin, Scrimshaw and Somekh, 2009) and training/professional development schemes for teachers should be planned accordingly (Yang, 2012). Yet, teachers and schools should be trained not just in the use of technical tools but on the theoretical aspects of technology and be supported in reflecting insightfully about agency, autonomy and empowerment. For example, a teacher may need to be trained on the know-how of services in a Learning Platform, but it is essential that this person is trained to understand why to use the collaborative and communication potentials the online services offer. This is the way, it is argued, to build the e-maturity of a school, to incorporate technology that is, and not just to apply technological tools (Underwood et al., 2010).

Research suggests that pedagogic change is evolutionary rather than transformative (John, 2005). New modes of classroom practice in relation to ICT develop gradually (Jamieson-Proctor et al., 2006; Underwood and Dillon, 2011); it is a complex change, which takes time and effort. Teachers may need to try hard and perhaps for long to align every pedagogic element in the classroom with an ICT initiative (Wood, 1998); teachers may also need time to feel at ease with a certain technological tool, otherwise, they are likely to refuse using it (Watson, 2001). Even though, Jamieson-Proctor et al (2006) argue, the teaching profession is conservative and likely to resist change, Underwood and Dillon (2011:323) posit a more optimistic view saying that teachers should not be seen as 'luddites or laggards [in using ICT]' because 'a new pedagogy takes time to learn, but once learnt, benefits flow'. Research suggests that the more technology experts teachers become, the more motivated they become in using ICT, which is promising (Selinger, 2001).

The potentials of technology are one area of concern; the second area of concern is the number of conditions that need to be taken into consideration in order to apply and sustain ICT-mediated pedagogy. And this is because technology does not

warrant change; it only offers opportunities. Yet, making the most of an opportunity needs a number of decisions to be made.

Cartwright and Hammond (2007:395) present a possible landscape of conditions that are set before, or as technology is applied in a school. Thus, causal conditions (official requirement to use ICT, ICT school infrastructure, supportive school environment, training, and technical support), contextual conditions (socio-economic, age of the students, ICT capability of the students, curriculum, and school ICT sustainability), and intervening conditions (teachers' behaviour/intention expressed in subjective norms, attitude and control beliefs) are described as areas where decisions have to be made. The researchers conclude (*ibid.*, page 404) that due to the multitude of variables it is unrealistic to follow a particular ICT initiative-structure because it is regarded 'best practice'. Instead, it is more pragmatic to use a 'best fit' ICT model; accordingly, only specific elements which are relevant to a specific school/teacher/student context can make sense for a change. Loveless (2011) supports these views suggesting that teachers should model their practice from good ICT examples which are close to their context and experience. Selwyn (2008, 2011) also talks about a teaching practice which is characterized by the 'state of the actual', by the actual in situ realities in technology education.

Apart from the teacher's influences and his/her individuality that may be responsible in the course of an ICT implementation (McCormic and Scrimshaw, 2001), more factors may intervene (Becta, 2010:4): the curriculum to which the teacher has to respond, the students, and the school as an organisation. According to the research finding, when an ICT developmental change is planned, a wider picture should be considered where policies and conditions for ICT use are to be taken into account.

Supposing a school teacher is aware of technology potentialities and has a developmental plan for an ICT implementation that fits well in the context of the

particular school, his/her decisions may not finish here. The next step to take could be to evaluate the strength of his/her implementation goals for using ICT. Van Melle, Cimellaro and Shulha (2003:278) provide a structure for the teacher to map ICT developmental progress from one phase to the next; or, to help the teacher notice where he/she stands, what may come next and where he/she needs to make headway.

Such evaluation strategies may feed continuously into a new line of judgments, a factor that can enable sustainable ICT use. In fact, van Melle, Cimellaro and Shulha (2003:272) define sustainability as 'the ability to maintain an ICT project over the long term' and argue that attention should be given to sustainability for three reasons: (i) it accredits ICT use with a long-term life and a broad change context, (ii) maintained ICT use may bear long-term results, and (iii) systemic results are only likely to happen if ICT use is maintained. A key finding of that study is that sustainability amounts to success in an ICT innovation (ibid. p. 272).

Recognizing the importance of sustaining ICT use is the first step towards ICT integration in education. 'Sustainability becomes the thread that links the essential elements' in an ICT developmental change (ibid. page 281). Taking decisions and making judgments on them is a continuous process that resembles the evolving movement of a spiral. The relations among the elements-conditions defining a context are 'much like using the kaleidoscope, a different pattern produced with each turn' (van Melle, Cimellaro and Shulha, 2003:280).

In short, ICT integration should have a facilitating role in a developmental process. It can be a pedagogic tool for change and, as such, it should not be regarded as the catalyst for change. There should not be a distinction between the 'learning about' (vocational) and the 'learning with' (pedagogic) but rather a continuum from 'learning

about' to 'learning with' technology (Hawkridge, 1990). There should be an attempt to mesh one pedagogy with one educational policy (Watson, 2001).

3.4.7. Young children and ICT

The ability of young children to use audio, video, and graphics actually 'appears to be stronger in each successive cohort' (Oblinger and Oblinger, 2005:2). Exposure to technology starts at a very young age. According to a survey, 65% of US children aged four to eleven spend an average of two hours every day in front of a computer, a TV or a game console screen (Anderson, Economos and Must, 2008); toddlers (4-6 years old) spend 90% of their time using media screen on a typical day (Kaiser Family Foundation, 2006). Young school children aged 7-12 may be familiar with more screen names than home phone numbers (NetDay, 2004) while US teenagers (56%) seem to prefer the internet more than the telephone (Lenhart, Rainie and Lewis, 2001). A European survey with Greece participating (Tsitsika et al., 2012) reported that 92% of the young adolescents (14-17 years old) taking part were members of, at least, one social network site, with more than 500 online 'friends' each of them, spending, at least, two hours daily network-connected.

Children are sometimes labelled 'digital natives' (Prensky, 2001) since they have been born in the 1980s and onwards, that is, in the digital age. They are usually considered 'fluent in the digital language of computers, video games and in the Internet' (Prensky, 2005:8) 'and [in] all the other toys and tools of the digital age' (Prensky, 2001:1). Recently Prensky (2008a) described the new generation of children as 'i-kids' in an effort to show how dependent these children have become on technology that is permanently available around them. He even suggested (Prensky, 2008b) that technology could become so powerful that it could transform what or how young people learnt.

Moving on similar ground, other authors call all young people born in the 1980's and the 1990's the 'net generation' (Tapscott and Williams, 2008), the 'homo-zappiens' (Veen and Vrakking, 2006), the 'net-savvies' (Levin et al., 2002), the Google generation (Rowlands et al, 2008), or the 'new millennium learners'. Others continue in the same light and attribute distinct characteristics to children of the 2000's, and thus, after the 'generation X' and the 'generation Y', they see the 'generation M' (media), the 'generation V' (virtual) or the 'generation C' (create-connect-click) (Rideout, Roberts and Foehr, 2005; Veen and Vrakking, 2006). Children in the digital age are thought to appreciate 'being literate in media and ICTs in ways that exceed what many [adults] know or consider worth knowing' (Alvermann, 2004:5).

These views about technology seem to set children apart from older people, a view which much circulates in the community of policymakers and technology businessmen widely. However these concepts of 'digital natives' have little empirical backing. For example, Rowlands et al, (2008) were interested in the information behaviour of the 'Google generation' and looked at the skills that users of Web 2.0 technologies practised. They concluded that there was little proof to say that the Google Gens' technology behaviour and use was better or worse than that of older people (Rowlands et al, 2008:297).

In short, there is little evidence which suggests that young people adopt radically different learning styles in technology (Margaryan, Littlejohn and Vojt, 2011). On the contrary, it has been observed that children use technological tools that demand basic/simple skills, that children may be quick in searching but not necessarily adept in developing effective research strategies, that young people seem to move hastily in picking information without evaluating its relevance and accuracy, and that they choose to scan and click on hyperlinks instead of reading in an analytical way (CIBER, 2007a, b). The evidence suggests that young people are text rather than writing producers, channel rather than create knowledge (Hansford and Adlington,

2008) and show interactive skills but not editing skills in communication (Moody and Bobic, 2011), or critical thinking skills in the web (Lorenzo and Dziuban, 2006).

Is the problem, then, how young people process and evaluate online information? Moody and Bobic (2011:175) argue that it is not that net-students 'see technology differently than we do, it is that they do not see it at all'. The researchers continue saying that computers for most of us mean information and communication tools, artifacts. For the net-students, however, computers are communication and play (Tapscott, 2008), they are sociofacts (Moody and Bobic, 2011:176), they are the social links that influence young people when logged in a social network (Poland et al, 2005). Young people simply map technology in different ways from older people. Regardless of how young people use the web, it is true that digital technology is a 'condition under which young people conduct their lives' (Selwyn, 2009:365). Then, perhaps, it is more appropriate to talk of the 'media ecology' of the young (Ito et al, 2008:8), the convergence of the traditional media with digital and interactive media, than of 'digital nativity'. Therefore, young people, who cannot think of their lives without Google, YouTube, Twitter, Facebook, or without a smartphone, should not be condemned as technology-obsessed people. Venkatraman, a young Gen Y-er herself, says (2009:11): 'Despite the common perception, we can read and write. We may not have a bookshelf stacked with hundreds of hardbacks, but we have already read more blogs than previous generations and share our thoughts, our opinions and our creativity on our own individual blogs. We still refer to the dictionary as often as our parents did; the only difference is that it is a digital version in the Favorites section of the PC'.

This leads us to infer that it may not matter whether young people and elders understand technology in different ways. Maybe, there is something else that is more important. Livingston (2009:43) argues that 'although young people's

newfound skills are justifiably trumpeted by both generations it would be unfortunate if this blinds us to the real challenge of using digital media, namely the potential for engagement with information and education content and for participation in online activities, networks and communities’.

There is a tendency to believe that children are intuitive, creative and riskier (Lenhart, Madden and Hitlin, 2005; Livingstone and Helsper, 2007, 2008) in technology matters. This has been taken to mean that young people are the ones who will use technology more than older people because they can anticipate danger or challenge. Children may be more open than older people to computer use because of power reasons: it seems that there is an ownership of young people over digital technology (Braun, 2001). Yet, one ought to be cautious here: is this a matter of how old this person is, or, is it a matter of how intentional this person is to participate in technology?

3.4.8. The value of ICT reflecting on my practice

Summarising, ICT in education seems to

- involve claims about advantages and opportunities when in use,
- mean difficulties for school reform
- bring up pedagogic issues when outcomes and conditions for a technological developmental change are thought
- relate to personalised learning, and
- show a dispute with age.

Looking at the theoretical background of ICT use in education, I developed some practical questions that I wished to explore through my project:

- Was the link of ICT and personalised learning a useful one?
- Could personalised learning live without ICT?
- How could I understand the various claims made about ICT use in practice?
- Were the children in my study, by nature of their youth, technologically more adept than older people, let's say, their parents?

The questions lived inside me throughout the three years of research, as I focused on them during action and reflection. I discuss the significance of ICT use, and its relation to personalised learning in *Chapter 8* (pp. 267-271, 286-289) after the evidence has been presented.

4 Methodology and Methods

4.1 Introduction

This study was an account of my experience of integrating ICT practices in the personalised learning of my students. It was about human action. To understand it, I had to understand the rules governing human actions as they happened in their social settings (Fay and Moon, 1994). In this study, the students' actions related to social structures, rules, conventions and practices happening inside a certain context, in classroom and online form. What was needed was not just the descriptive view of the researcher but rather a critical interpretation of the situation researched, or better, both (Argyris and Schön, 1989).

This study used action research in an effort to describe, interpret *and* reflect upon situations taking place in a classroom or in an online environment. Since it was a matter of transforming certain procedures for the good of the students, it was thought that action research was a suitable approach.

It seems appropriate, after the presentation of the theoretical concepts, to continue with the presentation of the methodology and methods. In such a way, this piece of work gains a structural form and the flow of the story is not interrupted later.

3.2 The participants

The participants in this study were the class of primary children to whom I taught English as a foreign language, and their parents.

3.2.1 The students

This study concerns a group of primary school children as they were learning English FL in a Greek private primary school. The research occurred in three consecutive years (Y1, Y2, and Y3). The children had the same age in each research year; that is, they were 8 years old when the study started and 11 years old when the data collection stopped. In Y1 twenty-six children, my whole EFL class, were involved. In Y2, sixteen children, part from my EFL class, participated. In Y3, twelve children from my EFL class and thirty-nine children from other school EFL classes took part in this piece of work (Figure 3).

In Y1, I introduced personalised learning as a new learning methodological approach in my class – that is, to twenty-six children, all eight to nine years old. Data referring to them were collected through diary notes. During Y2 personalised learning, in respect to my foreign language teaching, included an integration of ICT use in the curriculum. Sixteen students from my class participated in an online intervention, nine boys and seven girls, nine to ten years old. They became the focus of the research in Y2 and the research findings in Y2 refer only to those sixteen students. Data were collected through diary notes and questionnaires.

Towards the end of Y2, there were a growing number of students who wished to participate in the online intervention. Thus in Y3, I took the decision to accept any new student who was willing to take part as long as he/she was in the same school year as

the existing participants. Thus, fifty-one children-participants joined: twelve existing (older) participants from Y2 and thirty-nine new participants. Data were collected through chat logs and focus group interviews.

Children-participants carried their idiosyncracies, particularities and talents in learning. At times, that meant some difficulty with children having learning difficulties (e.g. one dyslexic student in class) or behavioural / emotional / social difficulties (e.g. one student with withdrawn and frustration attitudes; two students with disruptive, antisocial and uncooperative behaviour). In view of a crisis, I usually offered individual help and support to the child. However, as personalised learning focused on each student with the intention to include all students into knowledge construction, I encountered a different challenge with those students. Since students worked collectively, the students' troubling particularities projected at a group level causing trouble or disruption of communication. Problems arose in relation to group strategies (e.g. Diary Notes Y1/October, no. 3a, p.159), group roles (e.g. Diary Notes Y1/November, no. 4a, p.161), group dynamics (e.g. Diary Notes Y1/December, no. 4c, p.169), and group team knowledge (e.g. Diary Notes Y1/November, no. 4b, p.170).

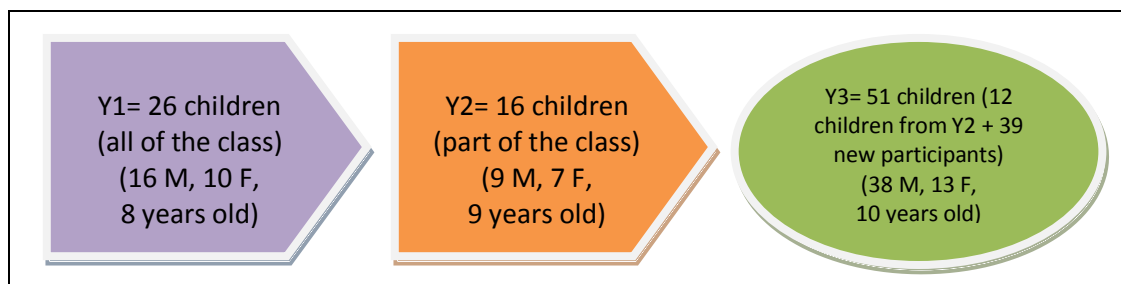


Figure 3 The pattern of children-participants from Y1 to Y3

3.2.2 The parents

The parents of the children were approached to take part in the research (p.191, 210).

The parents were mainly university degree holders (under and post graduates) and few of them were secondary education graduates. Almost all mothers were employed, though some were unemployed or not working. In this particular case, mothers were the major parental capital.

In Y1, no parents participated in the research. In Y2, I offered the parents a similar online intervention as offered to their children. Following from this, all the parents of the sixteen children in Y2 were included as parent-participants. Data were collected through chat logs and questionnaires. In Y3, I offered the online intervention to all parents who had a ten-year-old child at school during a parent school open event (see p.211). Of a total school population of one hundred-and-two ten-year-old children, parents of fifty-four children were present the day I gave a seminar on Educational Technology. Fifty-one parents (N=51, 43 mothers and 8 fathers, in their 40s-50s) finally participated in the online intervention in Y3 (Table 1). More than three quarters of the participant parents were mothers. Of those fifty-one parent-participants, twelve were parents of existing (older) children from Y2 and thirty-nine were parents of new participants. Data were collected through chat logs and telephone interviews.

Table 1 Details about the parents

Parents	
Families of a 10-year old at school	N = 102 (100%)
Parents present at the meeting (mother or father)	N = 54 (53%)
Parents who finally registered (mother or father)	N = 51 (50%)
Gender (parents who were present at the meeting)	44 mothers, 10 fathers
Gender (parents who finally registered)	43 mothers, 8 fathers

4.3 Action research, the methodology

One of the main concepts in this project was the use of Action Research as a methodological approach. Thus, it seems appropriate to offer a definition of action research as well as the working definition of action research in this study. Constraints and quality concerns about action research follow. Finally, the overarching research question is presented as the opening of an action research plan.

4.3.1 Defining action research and its value

Understanding the context of Action research

Action research has been recognised for its 'breadth as a field of research practice' and for its 'depth as a discourse of theoretical insight' (Altrichter et al., 2002). It is used in educational settings across the professions: in industry, hospitals, local government, and other workplaces (Atweh, Kemmis and Weeks, 1998; Eden and Huxham, 1999; McNiff, McNamara and Leonard, 2000). Perhaps, it is most visible in education, where its popularity became prominent in the mid-20th century, particularly with reference to the professional learning of teachers. The literature on action research is rich in definitions (Kemmis, 1982; McKernan, 1988; McTaggart, 1991a; Noffke, 1989; Wallace, 1987). Among the many, there is, however, a definition of action research which has become classic:

'action research is simply a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out' (Carr and Kemmis, 1986:162).

Trying to paraphrase the above definition in small and comprehensible pieces, the participants at the Brisbane International Symposium on Action Research in 1989 presented a working definition of action research which reads like that:

'If yours is a situation in which people reflect on and improve (or develop) their own work and their own situations by tightly inter-linking their reflection and action; and also making their experience public not only to other participants but also to other persons interested in and concerned about the work and the situation, i.e. their (public) theories and practices of the work and the situation, and

if yours is a situation in which there is increasingly data-gathering by participants themselves (or with the help of others) in relation to their own questions; participation (in problem-posing and in answering questions) in decision-making; power-sharing and the relative suspension of hierarchical ways of working towards industrial democracy; collaboration among members of the group as a ``critical community"; self-reflection, self-evaluation and self-management by autonomous and responsible persons and groups; learning progressively (and publicly) by doing and by making mistakes in a 'self-reflective spiral' of planning, acting, observing, reflecting, replanning, etc.; reflection which supports the idea of the 'self-reflective practitioner',

then, yours is a situation in which action research is occurring' (Altrichter et al, 2002:130).

Still, there is much dispute about the definition of the term. Therefore, it may be more useful to clarify the concept of action research first. In this study *action research in education* is what will be particularly discussed.

Understanding the concept of action research

Action research is a process which facilitates the development of reflective thought, discussion, decision and action of ordinary people participating in collective research on 'private troubles' (Mills, 1959:7-12) they have in common. Kurt Lewin (1890-1947), a

social psychologist, who is recognised as the person who named the approach as '*action research*', came to describe its characteristics after a series of practical experiences in the early 1940s. 'No action without research; no research without action', Lewin concluded. For Lewin, action research meant the discussion of problems followed by group decisions on how to proceed. Action research included the active participation of those who were exploring shared problems. After the investigation of these problems the group took decisions, monitored and kept notes of the consequences. Regular reviews of progress followed. The group would decide when a particular plan or strategy had been exhausted and fulfilled, or come to nothing, and would bring newly perceived problems to these discussions.

4.3.2. Constraints of action research

Action Research lives with a number of issues and difficulties. Specifically,

How is knowledge defined in terms of truth in action research?

Lewin's research paradigm of plan-act-observe-reflect became a taken up conflict. Lewin always believed that the process ('*praxis*'-action) was properly adhered to a theoretical framework ('*theoria*'-theory). And this is indeed where the first contradiction about action research appears. If the truth for Action Research depends on social relationships and action, on what realm of thought does it rely? This is unclear in action research: the etymological origin of the term conflicts with its philosophical aspect.

According to Plato and his followers, '*theoria*' seeks to approach the divine while '*praxis*' has to do with human activities, the mundane world of people (Lobkowitz, 1977). The dichotomy echoes the 20th century distinction of '*pure*' and '*applied*' science. Positivists

and pragmatists transcended the Greek dualism as they considered that science offers answers based on logic to problems, and those answers should be dispensed to society (Hammersley, 2004). Pragmatism is in dispute with 'the Cartesian dualism in regard to the question of action' (Joas and Kilpinen, 2006:326). Rorty (1999:33) claims that inquiry should not be understood 'as a means of representing reality, but rather see it as a means of *using* reality' (italics in the original); a reality at which judgments, universal criteria or even whole belief-systems are tried (Nielsen, 2006:134). Action is an ongoing cyclical process, to which failure is possible, and if happens, the mind tries to reconstruct the faulty action by reflecting on what went wrong. Acting, for pragmatists, involves rational choice defined in relation to how a line of action is followed (Joas and Kilpinen, 2006:331).

Carr and Kemmis (1986), in their famous book *Becoming Critical*, accepted a separation of theory from action; the two notions are distinct, but they are also linked within the framework of critical theory, as expressed by Habermas. According to Habermas' theory of rationality (1973), critical thinking can promote self-reflection through the process of enlightenment. Being transformed, the person gains practical reasoning to take decisions.

Elliott (2005) doubts that 'merely a transformed consciousness can derive future action' and finds the Habermas' link between critical theory and action very weak. Elliott strongly believes that enlightenment is one thing and empowerment is a completely different thing. Carr and Kemmis (1986), by relating their work with that of Habermas', were not able to explain 'how teachers may become empowered as moral agents of worthwhile educational change' (Elliott, 2005). It was actually a point Carr and Kemmis (2005) themselves accepted later that '[on the event of] a new edition of *Becoming Critical*, [they] would need to take into account Elliott's attempt to show how the idea of

[the Aristotelian] practical philosophy is expressed in practical action research'. In this particular philosophy, 'praxis' means 'moral action' and Elliott (2007) suggests that action research gives a moral agency to teachers to improve school situations. Carr (2006) emphasizes this moral aspect of action research saying that 'the 'end' of praxis is not to make or produce some object or artifact...praxis is a form of 'doing' action precisely because its 'end' - to promote the good life- only exists, and can only be realised, in and through praxis itself'.

Is action and research possible in action research?

The second contradiction again relates to the two components of the term 'action research'. Is action research a form of research, or is it a form of action? Does action research relate to inquiry, or to acts? As Hammersley (2004) suggests that it seems to be 'an oscillation between the two components rather than transcendence of the difference between them'.

Additionally, which is the way that one gets to know in action research? Reason and Bradbury (2001:2) argue that 'knowing' is an evolving process of life, it has verb rather than noun properties. The 'primary purpose of action research is to produce practical knowledge that is useful to people in the everyday conduct of their lives' (ibid, page 2). They suggest that the ways of knowing are not the pursuit of the academics only, but the everyday actions of people who try to create meaning in their lives. Macmurray (1957:84) argues that the starting point for epistemology is 'I do' and not 'I think'.

Is action research problem-based or impulse-based?

John Dewey (1929), an influential writer and a pragmatist himself, claimed that any inquiry starts when one finds him/herself in a problematic or indeterminate situation (Putnam, 2006:281). Dewey was interested in enabling teachers to apply scientific methods, which were not cut-off from ordinary life, in order to solve practical classroom problems. That was quite revolutionary at that time when science was meant only for specialized agents. Then the issue of the '*problem*' became puzzling. A problem, according to its Greek origin, means 'something that is thrown in front of a person'. This may have an 'imposed relevance' (Schutz, 1970) to inquiry. And it can definitely be true; when practical problems arise, they need to be investigated and solutions to be found. But inquiry can be instigated by curiosity, too. Aristotle believed instincts to be the principal connection of human beings with their world (Lear, 1988). Therefore, inquiry can also well out of 'intrinsic relevance' (Schutz, 1970) and not just out of practically imposed problems (Hammersley, 2004).

How is action research related to teaching practice?

There is also some debate as to what the two components suggest when research involves another activity such as teaching. Does inquiry occur separately from teaching? Stenhouse (1975) sees teaching as the equivalent of inquiry while Hammersley (2004) accepts that 'there is an overlap between teaching and inquiry but not an identity'. Teaching and inquiry may share many characteristics but not all. Teachers become researchers as they get engaged with problems. But, usually the teaching goals are different from the inquiry goals and this can cause tension either in teaching or in research.

Hammersley (2004) suggests a typology of inquiry outlining the value of prime concern and the distance of inquiry with other activities: inquiry-subordinated-to-another-activity and inquiry-treated-primarily. The former offers relevant and usable information to a small social force, but fails to provide a generalization. The latter, does the opposite. The specialised inquiry offers general answers but they may be complex and difficult to decipher. According to this typology, action research is mostly classified as inquiry-subordinated-to-another-activity. And since inquiry subordinates to a practical goal, action research has a transformational power rather than a power to produce knowledge.

4.3.3 My working definition of action research and the meaning of action research in this piece of work

The transformation power of action research is, in fact, a topic much revisited in works of influential researchers (Freire, 1970). Basically, action research aims at changing three things: practitioners' *practices*, their *understandings* of their practices, and the *conditions* in which they practise (Kemmis, 2009, Kemmis and McTaggart 1988).

'Transforming our practices means transforming what we *do*; transforming our understandings means transforming what we *think* and *say*; and transforming the conditions of practice means transforming the ways we *relate* to others and to things and circumstances around us... Action research aims to be, for better or worse, a *practice-changing practice* that aims at transforming the sayings, doings and relatings that compose one's own life' (Kemmis, 2009:463-464)

This is exactly the position this particular study took. Action research was understood as a practice of self-reflection and democratic action in the classroom to develop sayings, doings and relatings; an engagement in 'praxis'. Kemmis and Smith (2008:4)

see 'practice' as a general term suggesting a variety of activities in a social setting by actors who are not necessarily conscious of the moral significance of their action, whereas, 'praxis' is considered the particular actions which are 'morally-committed, oriented and informed by traditions'. I regarded 'praxis' my intention for educational change, a struggle for change, a difficult but not impossible issue, as Noffke (2005) believes.

I believed that action was, as Dewey (1931) argued, an intermediary; action was a means to change circumstances. However, for the individual to develop a change satisfactorily, action should be according to purpose and knowledge. In my case, I fostered a pragmatic view according to which human knowing and human action were inseparably connected. Knowledge, for me, was to construct understanding holistically.

As an action researcher I planned (the designing stage of action research), acted and observed from close (the acting stage of action research) my own as well as other's actions, and took notice of the effects, success or failure of those actions (the reflecting stage of action research). A continuous flow of designing-doing-reflecting was fundamental to my approach. The goals of this research were to change my teaching and students' learning for the better *and* to construct knowledge. For me knowledge has a pragmatic nature, it is constructed in action and needs to be able to inform future action. Historically this pragmatic approach draws on an interpretivist character, but, differentiated from it, has an action orientation. As Goldkuhl (2012:142) argues, pragmatism and interpretivism

'share an orientation towards understanding, but there is an important difference: in interpretivism, understanding is seen as a value of its own; in pragmatism it is seen as instrumental in relation to the change of existence',

and Goldkuhl continues pointing that

'it is, however, important to see that understanding of the world may play an important role in an action context; a good understanding of the world created in a pre-assessment may be useful for preventing or conducting actions'.

Thus, my research seeks to present new knowledge on personalisation constructed through action. To accomplish that, it was important for me to work in partnership with the students and other educational stakeholders as a viable way to verify meanings all the time. In all three years I was an action researcher trying consciously to change things as best as I could. In Y1 I participated myself in the changes, whereas in Y2 and Y3 I felt I had to assess people's perceptions about the relation of ICT in learning, reconstruct a fuller meaning out of a variety of opinions, plan an online intervention, and, finally, evaluate it. The inquiry had an interpretative mode, especially in Y2 and Y3, but it was an inquiry aiming at change in the leaning of my students. It was also an inquiry aiming at improving my practice; it was a story as to how I experienced my growth as a practitioner.

In general, this work follows the idea that action begins when something needs to be done about a particular situation (Kemmis and McTaggart, 1988) and also attunes with Hammersley's view (1987) that an action research project may spark out of teacher's curiosity as well. Whitehead (1989) places the living 'I' at the centre of the educational inquiry and I cannot agree more. I am convinced that:

"I' is not an abstract pronoun', "I' often exist as a living contradiction, in that I say I believe in one thing but do another....[and] I need to find ways in which I can live my values in my practice. This will inevitably involve asking, 'How do I improve what I am doing?' (McNiff, <http://www.jeanmcniff.com>)

Finally, Elliott's (2005:368) view about Action Research Methodology gave me the framework to define my research:

'Educational Action Research is shaped by a particular normative conception of education that values inquiry and free and open discussion as core features of the learning process. In the light of it, I attempted to develop concrete strategies for linking research to practice in a form that enabled teachers to effect change in their classrooms[...] theory from my perspective arises in the context of practice and its warrant is determined in practice. Therein lies the unity of theory and practice'.

Pulling all the threads together, I can say that I used action research as a problem-based methodological approach aiming at developmental change for me personally and for my students. **To be more precise:**

- I observed first, planned, then took action and finally reflected on my actions in order to change teaching and learning in my classroom. I used my role as a teacher to study a problem of practice from within - to understand and interpret what took place in my classroom.
- I combined the role of the researcher with the role of the teacher. I became the link between 'scientific understanding' and 'local knowledge' (Greenwood, Whyte and Harkavy, 1993); I established what van der Riet, (2008) calls 'a constant dialogue between the insider and the outsider'.
- I wished my students to be actively involved in their learning; the aim was that the students should take control and become more responsible, autonomous and self-managing in their learning. By extension, I wanted my students to engage in the research. I thought that students were the key since they knew best what was and what was not working for them. They had the knowledge yet it was only hidden inside them (Freire, 1970), but if they were involved in the research process actively, they could claim this knowledge as theirs.

- My intention was to involve more stakeholders along the way (e.g. my asking for support from school heads and Greek school teacher in Y1, p. 158; my attempts in Y2 to communicate my findings to other teachers in order to familiarise and presumably get them interested in the change plan, p. 191; my offering of a training session to parents in Y3, p. 216), and I wanted to access parents voices as well.

4.3.4 Considerations about quality and ethics

In general terms, when action research takes place, it occurs in a certain context over a period of time in order to reflect and transform certain conditions for the good of the many. Yet, questions remain about the quality of action research, in particular about its validity and reliability, its ethics, its data collection as well as its evaluation (Adelman, 1989; Noffke, 1991; Reid, 1992). Because an action research study is usually reported in a narrative manner, the quality of its report may also be criticised (Feldman, 2007; Heikkinen, Huttunen and Syrjälä, 2007; McTaggard, 1998).

What is the meaning of 'specific' and 'general' in an action research case?

An action research project covers a sequence of events in a particular context over a period of time. Could this be generalised at all? Definitely not explicitly, says Winter (2002). Although 'the general is not despicable', 'the particular does deserve praise', says Stake (1978:8). Descriptive records of a case can be useful information 'to make extrapolations to different cases' (McTaggard, 1991b:169). And vice versa, generalisations can endorse plans for concrete action in specific cases.

Understanding the particular is a *naturalistic generalisation* in the sense that something is understood as it is developing and as it is possibly shaped in another similar situation. Action research starts small and develops, that is why most action research is

case study research. Elliott (2007b:238) goes one step further as he argues that 'the greater the particularisation of descriptions of action situations, the greater their potential to throw light on possibilities for action in other situations'. What the above authors make clear is that there is not prediction but expectation.

Quality in action research

Research of any kind should be of quality. For a research project to have good quality, however, validity is expected. Campbell and Stanley (1963, 1966) defined validity in relation to quantitative methods (experimental and quasi-experimental designs and measurements) and in relation to the theory of causation (Broudy, Ennis and Krimerman, 1973; Krimerman, 1969). In more recent times, the theory of causation was criticised on the ground that the methods of natural sciences could not apply to social sciences in the same way (Cronbach, 1982; Guba and Lincoln, 1985; House, 1980).

Interpretive research is rather the kind of research that describes and interprets.

Hammersley (1992) believes that research is valid if 'it represents accurately those features of the phenomena that it is intended to describe, explain, or theorise'. He asserts that statistics can provide proof as well as other kinds of data (words, pictures, etc.) on the condition that whatever data is used must be accurately represented. Thus, quality in interpretive research has been related to many concepts such as credibility, persuasiveness, verisimilitude, compellingness, explanatory power, interactivity, vulnerability, therapeutic value (Ellis and Bochner, 2000; Hatch and Wisniewski, 1995; Heikkinen, Huttunen and Syrjälä, 2007) to name only some of them. Yet, one must be very careful as to what those concepts refer to, to the validity of action research or to the validity of an action research report (Feldman, 2003, 2007).

It is argued that since the goal of action research is mainly to improve situations for people, it requires a set of norms that carefully and precisely describe how the outcomes of the research offer improvement to human beings. Taking into careful consideration, therefore, the moral and political aspect of action research, Feldman (2003:27) finds value in research if the 'work is well grounded, just and can provide the results we desire'. McTaggard (1998) referring to participatory action research says that research findings should exhibit an informative, pedagogic, educative and prudent quality. He then suggests five activities that the researcher should always adhere to when providing information: credibility among participants, triangulation of data, participant collegiality, transparency of data and provision for the testing of the research arguments. His views about quality in action research point to a reflexive knowledge that must derive from a dialogic process.

Ethics in action research

Action research 'brings with it a democratic imperative to challenge oppression and nurture and sustain social justice' (Somekh and Zeichner, 2009:6). It is the kind of research that cherishes morality, ethics and the balance of power among participants and researcher.

Ethics and quality are interwoven in interpretive research. Ethics is a central issue to what quality is concerned with, because quality relates to morality and values. It is a necessary concept but not a sufficient condition for quality according to Groundwater-Smith and Mockler (2007). The researcher may follow all necessary ethical procedures but it could be just procedures s/he follows 'at the cost of fully engaging with the ethical and relational matters of research, with people' (Rossman and Rallis, 2010:381).

Quality criteria in action research

Altrichter et al (1993) suggest four criteria for the evaluation of the quality of action research, transparency and triangulation, testing through practical action, ethical justification, and practicality –all of which seem to rotate around the ethics concept.

Anderson and Herr (1999) consider five validity areas, outcome, process, democratic, catalytic and dialogic validity. Mishler (1990) and Furlong and Oancea (2006) put the concept of 'trustworthiness' at the centre of research and Winter (2002) finds collaboration and self-questioning among participants as principal quality issues.

Groundwater-Smith and Mockler's criteria of quality in action research (2007) regard three areas, evidence, purpose and outcomes. It seems their classification provides a clearer picture of what quality of action research is, in the sense that it is a condensed form of all the above criteria descriptions.

Among those criteria, there is the criterion of transparency, in the sense of 'sharing' data, observations and outcomes and establishing an 'audit trail' (McTaggard, 1998) with the research community. This can only imply that communicative structures must be developed to let practitioners exchange their views with researchers. Although Action Research may receive both positive and negative feedback, all is important for learning. Groundwater-Smith and Mockler (2007) describe criticism as 'a powerful hammer' which should 'not be used only to crack very small nuts'. Additionally, academic criticism should not be received defensively by the practitioner-researcher. Although it is very hard, criticism should be accepted as a 'way to engage with substantive arguments and set issues of personality and motive aside' (Thrupp, 2010:129).

Conducting action research suggests a constant dialogue with the data, the literature supporting the data, the participants, the research community and others having an interest in the study. Reporting action research needs to have quality, to have a value; it needs validation as well. Winter (2002) says that an action research work can be of certain value if the action research report sounds 'persuasive' enough. *Persuasiveness* seems to be connected with the *authenticity* of a research report, that is, by how serious its analysis is. The reporter should employ a 'dialectical reflexivity', that is, s/he should present a perspective which must be trustworthy. S/he recognises his role as a presenter of a text of multiple realities and makes clear that what s/he gives is his/her interpretation only. Then, each perspective can have a voice and all voices may get involved in the report, which should be mostly tentative to knowledge claims.

The next important question is how to produce an action research report of high quality. How can it be 'dialectically reflexive'? Feldman (2007) suggests four points. The report should have a clear and detailed description of data, it should give a full account of why it is a more truthful story than someone else's story, it should provide space for other perspectives, and it should explain or theorise why the action was successful.

McTaggard (1998), echoing Winter and Feldman, emphasizes the importance of the plurality of perspectives in the report and the explicitness of data collection and data construction.

Defining quality in this piece of work was a complex issue. I realised that the developmental change I had in mind related to how I had gained knowledge to put my ideas into action and how I had tested the accuracy, relevance and credibility of this knowledge. It also related to how I had planned, structured, collected and analysed the data. Moreover, it had to do with how much ethical and democratic the developmental

change was meant to be. Those issues about quality lived inside me throughout this study research.

Using an action research approach I was - according to Dennett (2001) - narrating, since it is in the nature of action research to describe a sequence of events developing through time. Events in action research happen in a particular context and have a unique character. Nonetheless, an account of the underlying *structure* of a specific case may enable the reader to observe in what ways one situation could resemble the structure of a similar situation, as Bassey (1981) suggests. Winter (2002:144) argues that 'it is at the level of "structure" that a number of situations may be similar, whereas at the level of "surface detail" each situation is uniquely different'.

As this was an action research project, it relied on collaborative relationships among myself, my students, and their parents. I was aware that I constructed a picture of a multitude of realities. As I was the centre of the narrative, my voice was 'reborn', as Barthes (1977) suggests, through the process of presenting a plurality of perspectives.

I can claim that my findings were true and did not seek to defend a correspondent view of reality. However, I was concerned to present my work in such a way as to be accepted as *trustworthy*, i.e. my work could *persuade* the reader of the insights of particular situations. I noticed that Whitehead (1985) uses the term *authenticity* in action research to claim validity, to raise a 'criterion' by which an individual could make a 'claim to knowledge'. By 'authenticity' he has in mind an investigation based on successful acts of 'empathy' with others, avoiding 'violating the integrity of an individual' (Whitehead, 1985:58-59). In fact, Whitehead suggests that there should be a critical stance on any experience with an intention of a *dialectical reflexivity* of all perspectives, including the perspective of the researcher. Seen in this light, the variety of voices in

this project 'claim to know', they react to a situation and they become reflexive. At the same time, the disparity of voices offer a *transparency*, a clear picture, and do not integrate together; they are in 'dialogue' with each other. In this sense, 'authenticity' recognises the validity of other possible perspectives, a fact that is essential in action research.

As I reported of this particular action research study was concerned, I tried to adhere to the concepts of '*authenticity*', '*reflexivity*' and '*transparency*' (Feldman, 2007; McTaggard, 1998; Winter, 2002). For this reason, a plurality of voices and perspectives were important and there was concern for the report to be based on a solid ethical ground (see also '*the report writing*', p. 277).

And finally, I came to a conclusion about what quality criteria to test this work against. I agreed with Smith and Deemer's (2000:894) reliable list of features to use in order to assess this interpretive research, a list 'that [could] be challenged, added to, subtracted from, modified, and so on, as it [was] applied in actual practice –in its actual application to actual inquiries'. Following Groundwater-Smith and Mockler's suggestions for quality criteria in action research (2007), I include three quality criteria in this study:

Quality of purpose: issues relating to the 'praxis' of the research,

Quality of outcome: issues relating to ethicality of the research

Quality of theoretical understanding: issues relating to theoretical substance and argumentation.

I describe in full detail the quality criteria of this study in *Chapter 8*, p.264.

Consent in this action research

Concerning consent, three types were required for this research work:

Children's informed consent: I presented my plans for pedagogic change to the students first among other educational stakeholders (e.g. '*moment of uncertainty*', p. 273), consulted them during the research process (e.g. Diary Notes Y1/November, no. 5c, p.163), and respected their views (e.g. children's perceptions about 'playfulness online', p.201). My foremost wish was that the children engaged and not merely involved in the development of change; that is why, it was important that children were knowledgeable on this project and willing to participate (e.g. '*description of Y2 action plan*', p. 183). My theoretical selection strategies when designing, collecting or analysing evidence were constructed to offer every child an equal opportunity to participate and express himself/herself and, in this way, to allow all children to voice their views (e.g. '*children's interviews in Y3*', p.224). This ensured I was meeting ethical guidelines as, for example, applied in the department in which the research took place (*Ethical Approval Document*, Appendix, p.363), and in educational research more generally (eg BERA , 2003, 2004). It also helped me to defend the credibility of my later conclusions about the research (see p. 199, 201).

Parents' informed consent: As the worth of parental capital was recognised from the start (see p. 27), it was important to inform and familiarise parents with the pedagogic change I had in mind (see p.191). I asked for the parents' consent and sought their help regarding their own as well as their child's participation in this work (e.g. '*organising the interviews*', p.226). With the parents' opinions appended to the children's opinions, a more complete interpretation of the data was offered which added to the credibility, transparency and trustworthiness of the evidence (see p. 221). The parents' views

were not just welcomed but also appreciated in shaping theory in this work (see p. 238, 242).

School's informed consent: I informed the school heads and leaders about my developmental plans (e.g. p. 158) and asked for their consent and their support. They agreeably offered both.

Summing up on action research, it can be said that action research

- is a form of self-inquiry about the knowing, and the doing of people aiming at a change,
- may be triggered by practical problems or curiosity,
- understands social phenomena as complex systems with an ever-shifting character; therefore, it seems more appropriate to examine if outcomes are reasonable rather than valid,
- revolves around the image of a 'spiral', which signifies the progress of a developmental change,
- educational action research is more likely to aim at a developmental change than to knowledge production.

Action research highlights a number of issues at stake relating to the complexity of a social circumstance, such as the classroom: it is a complex social system, which may respond differently to identical situations; this implies that the system and not the situations is responsible for a response. Investigating the (inter)relationships of agents and elements that take place within a system give an understanding to particularities, and to the possibilities of adequate actions to a situation. Is there a purpose of the 'particular', then, in the wider picture of the 'general', and which is it?

I revisit these questions later in the *Conclusion* (p. 307), in an attempt to identify the meaning of Educational Action Research for practitioners like me.

4.4 Arriving at the Research Question

I decided to set up an action research plan. The class was seen as an opportunity for developmental change since it was fully acknowledged that the class was 'the key site for professional and research energy' (Fielding, 2007:332). Starting from preliminary research questions, I developed an action research question: '**How can I modify my teaching method to become personalised in a well-designed way? What do I need to transform?**' The research lasted three school years (Y1, Y2, and Y3), each year seen as a complete action research cycle.

The spiral movement of designing-taking action-reflecting sounded a viable path to follow. However, I was determined to include the students. Transformations were to be planned. Only this time it had to be *with* the students, not just *about* them. Therefore, the planning phase was prepared very carefully and took time.

Two areas needing change were chosen: the role of the teacher/of the student and the learning procedures. The aim was to help young students understand and use skills like collaboration and communication. I believed that such learning procedures could support my students' autonomy in learning. To do so in a thorough way, the roles of the teacher and the students needed to shift: the students to be brought to the centre and the teacher to the periphery.

Yet, although close attention was given to the components of collaboration and communication, they did not develop as intended after the end of the first research year (Y1). It was understood that a tool to sustain and highlight the process was needed. I considered that ICT practices could provide this help. The action research question was modified accordingly and set forward in Y2 and Y3: '**How can I use ICT practices to sustain a well-formed personalisation scheme in learning? How much and how**

well can ICT practices do it?. From then on, this question became the overarching action research question in this study.

When I started this research study, the research question (RQ) was relatively *clear* in my mind, in the sense that I knew *what* I wished to research, and, in a way, *how* I wished to go about in doing this research. As a practitioner, I understood there was a complexity of relations in my class. At the same time, I looked forward to being in partnership with my students to bring change. That is, I aimed at a change that I knew it involved a complex development (see p.250). In this manner, Action Research as a research approach came naturally in the study.

The RQ was rather clear in my mind, but it covered a research area in a *broad* sense. I had a central but also general aim and I needed to focus on specific areas which were unclear or not so obvious at the beginning. In essence, going about in this study was data-driven; it was like following a 'trail of clues' (Denscombe, 2007:29). Research became 'emergent and sequential' (Lincoln and Guba, 1985). This is why after the first year of research the RQ evolved according to the emerging data.

4.5 My Methods

The methods I used in this research study were Diary notes (Year 1), Diary notes and questionnaires (Year 2), Chat logs and interviews (Year 3), with one method leading into the next in three consecutive research years (Year 1, 2, and 3). Each is considered in turn, but before starting this presentation, I would like to point out a problem in the analysis of the data: the language used in all methods to collect the data (except in the children's chat logs/questionnaires and the diaries) was Greek. Translation may cause trouble in the reliability and validity of the research as it is difficult to transfer the same meanings from one language to another (Twinn, 1997). To solve the problem, I gave careful attention to the phrasing of the questions, especially in the questionnaires and in the interviews. As the questionnaires were data resource that partially led to the interviews, language had to be helpful towards close and clear translation. It was a daunting task because it needed a good deal of preparation time, but I thought it was the only way to reach to a theoretical perspective reliably.

I used QSR NVivo 10 (http://www.qsrinternational.com/products_nvivo.aspx), a qualitative analysis software programme, which could handle texts of multiple languages. Therefore, I used the authentic version of the collected chat logs and interviews, and kept the Greek and English coding structure in close translatable terms. Throughout this piece of work when an example is offered, it is always mentioned if it is a translation case.

At a later part I explain in specific terms how I analysed the chat logs and the interviews (see *Chapter 7*, p. 227).

I chose a collection of methods; I chose as though 'choosing among tools in a toolbox' (Axinn, 2006:68), in that, I chose according to the suitability of a method to the research demands at a given time. I started with diaries as a method that could 'record' situations and acknowledge a difficulty, continued with questionnaires as a method that could bring forward the perceptions of the children and parents in a wide and predefined way, and, finally, I engaged in chat logs and interviews as methods that could allow the children and parents to express their perceptions more freely, and me to delve deeper into their views. I chose to use a variety of methods because I realised that the variety of methods could enable comparison and contrast not just between data derived by the methods but by different sources, ie parents and children (see '*interviewing parents*', p. 221).

4.5.1 Methods of research Year 1: Diary notes

The research diary is a valuable research instrument when there is a need to report behaviour. It is a recording form seen in action research together with research logs and field notes (Newbury, 2001) but also a research tool seen in medicine and health care (Broderick et al, 2003; Elliott, 1997; Stopka et al, 2004; Thomas, 2007), domestic labor (Craig, 2006), language learning (Rao and Liu, 2011), and psychology, sociology and social geography (Hislop et al, 2005). Its distinct nature of reporting is based on the fact that it presents evidence in a non-linear way, in a 'halting time-line' trying to 'capture the real inner drama' of research (Kaplan cited in Marshall and Rossman, 1995:15) and to 'add detail about a person's experiences to research' (Worth, 2009). Diary notes are meant to record observations, thoughts and questions and they are distinguished into two types, the 'event-based' (entries describing an event at the time it

occurred), and the 'time-based' (entries describing all events happening within a regular time period) (Levesque, 2011:692).

Diaries report an experience or event close to the time it happened. Therefore, memory relates to factual information, something that adds to the reliability of the method. In contrast, retrospective reporting (narrating a past event much later in time) usually offers a reconstructed account of the past (Eisenhower, Mathiowetz and Morganstein, 1991) under the influence of the personality and mood of the person recalling the past event (Goodwin and Sher, 1993).

I kept a diary on a weekly basis. It was considered a 'research diary' aiming at collecting qualitative information about the process of personalisation in class ('time-based'). Its notes proved valuable to capture events at their happening time (Mechanic, 1989; Verbrugge, 1980), to record routines (Pavis, Masters and Cunningham-Burley, 1996), and - used in a reflective mode - to develop questionnaires and interviews afterwards (Corti, 1993; Silverman, 1996; Zimmerman and Wieder, 1977). Basically, the diary method was not used for generalisation reasons but for its potential to extract essential information out of raw data (Ely et al, 1991).

I had a specific format that I followed in diary data collection which seemed to reflect its essentially ethnographic nature, the focus being more on organising than categorising the note-taking work (Sanjek, 1990; Emerson, Fretz and Shaw, 1995). I made rough notes within the period of a school week; they were notes-as-reminders, verbatim when possible, which I expanded into fieldnotes within the same day I happened to take them. I kept them coded (by date) in an electronic form for easy retrieval and safety reasons. The notes were brief, reflective pieces of writing which described, and raised questions about particular events or processes happening in class. It was my recording

means of observing something at its beginning (i.e. of the intervention of personalised learning), which neither I nor my students were familiar with.

For this reason, the diary had an 'open' format (Corti, 1993; Elliott, 1997), that is, I had a rough plan of what to look at. I only focused on four areas, which were about the following:

- how my students and I felt about **in relation to collaborative work** (group roles, group dynamics, group emotional life), argumentative processes (negotiation skills), learning tasks (explicit objectives, challenge, clear information about success) and assessment procedures (feedback, summative and formative assessment) (e.g. Diary Notes Y1/November, no.4a; Chapter 5, p.161).
- ideas about what the cause of the problem was **in relation to collaborative work** (group roles, group dynamics, group emotional life), argumentative processes (negotiation skills), learning tasks (explicit objectives, challenge, clear information about success) and assessment procedures (feedback, summative and formative assessment) (e.g. Diary Notes Y1/November, no.5a, 5b; Chapter 5, p. 162)
- what actions were **in relation to collaborative work** (group roles, group dynamics, group emotional life), argumentative processes (negotiation skills), learning tasks (explicit objectives, challenge, clear information about success) and assessment procedures (feedback, summative and formative assessment) (e.g. Diary Notes Y1/November, no.5d; Chapter 5, p. 164)
- how the actions seemed to affect the class and me **in relation to collaborative work** (group roles, group dynamics, group emotional life), argumentative processes (negotiation skills), learning tasks (explicit objectives, challenge, clear information about success) and assessment procedures (feedback, summative and formative assessment) (e.g. Diary Notes Y1/January, no.8; Chapter 5, p. 172)

The research diary was seen as ‘the melting pot’ for all the different ingredients of a research project - prior experience, observations, readings and ideas (Newbury, 2001:3), and as ‘the vehicle of ordered creativity’ (Schatzman and Strauss, 1973:105). In this sense, the research diary worked as a ‘mirror’ (Clayton and Thorne, 2000:1520) reflecting matters prior to, during and after data collection. Accordingly, the diary notes helped me to take in issues which were ‘at the back of [my] mind’ and ‘lay behind normal behavior’ (Elliott, 1997). For instance, by studying the notes later during Y1, I noticed how group dynamics in class developed (e.g. Diary Notes, Y1/November, no.4b; Chapter 5, p.170)

I started with a personal diary as a data collection method. Every event put down in it was titled and details of the incidents followed. No further data analysis was done.

Yet, diary keeping is an improbable task if the diary keeper does not invest considerable time and effort in writing it, or does not find this kind of writing comfortable enough (Stone et al, 2002). In this research study it was easy to decide on the method of diary keeping (Sheridan, 1993:35) as I was a person with a predisposition to keeping and collecting items.

A diary is a notebook where often sensitive data is kept. As such, it should not be read by others. For this reason, I coded the children’s and their parents’ names, and treated the diary data with much confidentiality (see *Appendix, Various 11, Ethical Approval Document*, p. 365).

4.5.2 Methods of research Year 2: Diary Notes and Questionnaires

At the beginning of Year 2, I decided to use ICT practices (using an online learning platform) in order to reinforce the learning taking place in class and empower students to choose what, how much and when to study even outside class.

Diaries (documents-of-life)

Diary notes were kept again to record my actions and my students' reactions to ICT use. This time it was a 'document-of-life diary' (Plummer, 1983) aiming at listing rather than commenting on the events (see *Appendix*, Various 7, p. 351). They resembled what Schatzman and Strauss (1973:100-101) describe as '*observational notes*':

'statements bearing upon events experienced through watching and listening ... they are the Who, What, When, Where and How of human activity'

and '*methodological notes*'

'statements that reflect an operational act completed or planned, an instruction to oneself, a reminder, a critique of one's tactics, notes about timing, sequencing, stationing, stage setting or manoeuvring'.

The Y2 diaries were also like what Burgess (1981:76) calls '*substantive accounts*', 'a chronological account' of the events that have been observed and of the informants who took part in them'.

Diary writing needs time and effort. It also needs the strength to persist and conform to a writing ritual (Stopka et al, 2004). As I explained earlier, I found relatively easy continuing keeping a diary for a second year, basically out of a personal liking for the act. Secondly, I saw a kind of usefulness in this type of diary. In there, I kept my own and my students' actions and reactions in a list-form, a list to refer to in case I failed to remember the whereabouts of an event or experience.

Questionnaires

At the end of Year 2, the diaries pointed to a new survey direction: a need to investigate my students' and their parents' perceptions about ICT use (see *Chapter 6*, p.195, 200). I intended to reach to all participants at once and get answers to a predefined set of questions. My purpose was to collect in order to compare. To compare answers, however, one needs consistency in questions (Axinn, 2006). The standardised mode of the questionnaire method can offer that; at least up to a certain degree, as the same question may mean a different thing to different people (Groves et al, 2004). In addition, it could additionally provide a wide view of the empirical data, easily, and at a low cost of effort and time.

Three questionnaires were delivered (see *Chapter 6*, p.161; Appendix, *Questionnaires*, p.352, 353), two to the students (online, both in Greek) and one to their parents (in paper, in Greek). The analysis of the data collected from the questionnaires was statistically descriptive (percentages were run for every answer) (see *Appendix, Various 8, 9*; p. 352, 353).

Empirical data usually relies on experience or observation; yet, when analysing such data the significance of the implications is often overlooked (Munn, 1990). In other words, there was reason to believe that the children's and their parents' perceptions would be wide and inclusive but I had to be careful not to miss the forest for the tree.

Additionally, data from a questionnaire may lend well to breadth but it does not lend itself so well to depth (Denscombe, 2007). It is also difficult to monitor the 'accuracy or honesty of the responses' (ibid. page 32). And, although there is not much difference if a questionnaire is given in a paper or web form (Denscombe, 2006), it is always challenging for the researcher to get completed questionnaires.

However, questionnaires can provide data on panoramic and empirical meanings about matters that happened at specific time. For more details and for a warrant of receiving a response on which the research can make judgments about its accuracy and honesty, a more direct (personal) form of survey may be needed.

4.5.3 Methods of research Year 3: Chat logs and Interviews

In Year 3, my research aim was to explore further the students' and their parents' perceptions about learning online. The survey course angled towards a need to obtain data which were more detailed and focused in-depth (see *Chapter 7*, p.210).

Comparing answers was not suitable anymore. Instead, flexibility in the structure of the question was mustered in an effort to let out the participants' point of view (Weiss, 1994). For this reason, the research methods in Year 3 were less standardised and more personal. I explored chat logs and conducted semi-structured (focus group and telephone) interviews.

Chat logs

All during Year 2 and Year 3, an archive of *chat logs* was saved. Both students and their parents were informed that the logs would be recorded and used as research material, and I had their full consent on the condition that the data would be treated anonymously. 'Chat logs' in this study are understood the authentic text-conversations of online users in a computer online learning platform in real time but virtual space.

Computer log analysis can be a powerful qualitative method in research (Asunka, Chae and Natriello, 2011; Elnahrawy, 2002) but literature review on chat log analysis is hard to find. However, it appears that chat logs can provide understanding about how critical

thinking and knowledge building takes place in online communication (Pena-Shaff, Martin and Gay, 2001; Zhu, 1996). Especially when students are guided to review their answers before they respond online, communication becomes rich in text (Pena-Shaff and Nicholls, 2004). The fact that chat logs are automatically saved as texts in a computer system makes their analysis economical in terms of time and cost (Ice, 2004). It is a practical advantage which, however, has to align with the research aims and objectives in order to be useful.

The disadvantages of the method relate to its practical and ethical nature. Using chat logs as a data collection method is relatively easy, enjoyable and not time consuming, on the condition that some provisions have been made beforehand. In a computer-mediated environment, 'easiness' may rely on how accessible the communication can be for the chatters in relation to resources and computer expertise; questions such as 'where to chat' and 'how to chat' should be treated before the data collection begins. 'Enjoyable' may mean that the chat-participant experiences secure feelings to express him/herself online; therefore, personal idiosyncrasies and system characteristics should be expected to influence online communication. It can be a 'not time-consuming' method, as chatters meet online from anywhere at any time. However, it is a tedious before-chat-time, as chatters should schedule when to meet first.

It is a research-friendly method regarding transcription. The computer system allows the researcher to save the written form of a complete transaction with the click (or a few clicks) of a button. Yet, no matter how easy it is to collect and save the chat log data, the identity of the chatters may be a serious blow to the quality and ethics of data collection. The virtual form of communication may offer privacy which can be unethical if an unwanted or untrue chat participant hides behind it (see *Chapter 7*, p. 213). Instead,

transparency of identity is necessary: it is ethical and indispensable that both the respondent's and the researcher's identity be revealed right from the start.

Telephone interviews

The data collection from diary notes and questionnaires suggested (e.g. a need for a parents' training session, see *Chapter 6*, page 177) that more modifications were needed to provide open communication channels for parental involvement. The small number of parents that used the chat service and their answers in the questionnaire revealed that there were constraints in the parents' communication when using ICT. For those reasons, *semi-structured telephone interviews* with the **parents** were conducted to attempt to discover the causes of the 'problems' (see *Chapter 7*, pp. 242-246).

Stephens (2007) argues that the telephone interview can be a valid and productive method. No matter how geographically dispersed the participants are, or how sensitive a research area is the use of the telephone may increase the availability of the participants. Even when the researcher is unknown to the participant, the intensity of the 'surveillant other' (Walkerdine, 1990:195) decreases and the participant does not feel threatened or intruded on the telephone as when at the participant's home. Next to the control of physical space the participants may acknowledge a control of social space. It is acceptable for participants to rearrange an interview at a more convenient time and they can have control over the conversation to be uninterrupted and private (Holt, 2010; Stephens, 2007).

Talking on telephone may not provide visual cues but the very lack of them makes 'everything to be articulated by both the participant and the researcher' (Holt, 2010:116). Fuller discourse data is then produced, suggesting that there is a relationship between the mode and the method of evidence collection. In general, if

consent is given by the participants and explicit directions for the conversation have been provided to them, it seems that telephone interviews may turn out to be expeditious and thorough research encounters (Irvine, 2010).

I relied to telephone interviewing as an 'in situ' condition. Parents were unobtainable mainly due to their work schedules so the possibility of staging a face-to-face interview was not possible. I called parents at home in order to explain the goal of the research, to arrange an interview date with them, and to get their consent about their child's interview. There were two broad areas to investigate (see *Chapter 7*, p. 243) and an interview guide plan to follow (see *Appendix*, Table 21, p.361) but, apart from that, conversation was allowed to flow freely. The fact that parents recognised me as a school teacher helped to build trust and intimacy and reduce awkwardness and anxiety during the interview (see *Chapter 7*, p.222). Questions were semi-structured (Kreuger, 1988), ordered from the most general to least general ones (Stewart and Shamdasani, 1990). In the guide plan there were four questions with a few prompting questions in each (Kreuger, 1988). I took some field notes during the interview. They were not detailed notes but rather points to remember. Later, each interview was audio recorded and parents' names were codified (parents had been notified and agreed to be recorded).

The most productive mode of data collection in social science has been the face-to-face interview for its immediacy of conduct and anything else is usually considered a 'second best' method (Holt, 2010; Stephens, 2007). For this reason, the absence of non-visual cues (appearance, age, posture, gestures) is considered a basic drawback in the nature of telephone interviewing (Gavrila, 1999; Nova et al., 2012). On the event of a telephone interview, participants may not take the hint to elaborate on their experiences, or the researcher may not have the chance to notice an awkward moment

coming and, thus, be slow in helping participants reformulate their words (Irvine, Drew and Sainsbury, 2010).

As with every methodological tool the success of using it lies in the hands of the researcher. Especially in the case of telephone interviewing, however, both the researcher and the participants should feel confident using the telephone.

Focus-group interviews

Focus group interviews with **students** occurred at the same period with the parents' interviews. There were again two broad areas to investigate (see *Chapter 7*, p.234), and an interview guide plan to follow (see *Appendix*, Table 22, p.362).

Attention was given to the number of focus groups (Morgan, 1988) as well to the size of each focus group (Kreuger, 1988; Merton, Fiske and Kendall, 1990) in the study. There were four focus groups of four to five students in each group. Questions were semi-structured and ordered from the most general to the least general ones. There were five questions with a few prompting questions in each. Children were asked to interact with the other members of the group in their attempt to answer to my questions. I took field notes during the interview in the same manner with the parents' field notes. Each interview was video and audio recorded. For reasons of anonymity in the research, the audio scripts were used for analysis after codifying the students' names. Videoing was used only as an alternative saving condition in the unfortunate case of data loss or unclear cases of audio recording. Children had been informed beforehand and had given their consent to the conducting of the focus group interviews.

The aim of the parents' and children's interviews was to find out 'how respondents talk[ed] about the phenomenon of interest' and in a way to 'interpret previously obtained

qualitative results' (Stewart and Shamdasani, 1990:15). I believed that the discussions in the interviews would 'yield a more diversified array of responses and afford a more extended basis for designing systematic research on the situation in hand' (Merton, Fiske and Kendall, 1990:135).

Focus group interviews are unique in the sense that they allow participants to express themselves and collaborate with the other group members in order to answer to a question (Axinn, 2006; Krueger, 1988). Nonetheless, the method is not without difficulty in the data collection. The usual causes of difficulty noted (Denscombe, 2007: 190) are that the researcher needs to be very experienced in monitoring the flow of the session, there is more than one participant and their personal differences can trigger conflict in the conversation, and data may be hard to analyse.

Organising focus groups can be complicated. Who and how many to take part in a focus group, the time and the place of the interview are conditions that should be considered and arranged well before the interview (see *Chapter 7*, pp. 224-226).

4.6 Reflecting on the methodology and methods in my study

While designing the construction and collection of data complex structures started surfacing. They were intertwined together as different fibers weaving a material of a certain style. Notions, concepts and keywords emerged during the process supplying the framework for the research.

To study my students' perceptions and behaviour I collected data via different methods. The methods were my tools to define and interpret the social phenomena in my class. I used multiple data collection methods because evidence became more comprehensive when it was collected from different methods. As Sieber (1973) argues, issues that one method exposes can be answered by another method. In short, I did not decide the design of this research from a quantitative, qualitative or mixed methods paradigm, an either-or approach, but rather a continual of options (Tashakkori and Teddie, 2010). It was research with an 'evolutionary process' (Gorand, 2004:12) trying 'to identify the most productive areas of inquiry and to determine the most effective means for investigating them' (Hammersley, 2005:144).

In essence, I chose a method according to its suitability to the research demands at a given point. Choosing a method was dictated by 'the naturalistic conditions and multiple layers of classroom life' (Klehr, 2012:123). In fact, the ongoing process of action-and-reflection genuinely directed the decision of which method was most appropriate to use at a given time. And, it also pointed at which method was most suitable to follow after that.

Being able to reach the level of themes conceptually after the analysis of the evidence (see p. 230, 233, 238, 242) I expected to have a clearer perspective of my research

questions (Table 2). Stating an overarching research question at the beginning of the study was like setting the goals for the study (Agee, 2009). As the data analysis developed, however, the research question seemed to take form and narrowed to specific concepts that were connected to it.

Table 2 Themes and concepts relating to the Research Questions

Themes	Research Question	Relevant conceptual constructs
<i>Theme 1:</i> Technology in relation to learning <i>Theme 2:</i> Potential of educational online use	‘How can I modify my teaching practice to become personalised in a well-designed way? What do I need to transform?’	Personalised learning, ICT in education, Personalised learning and ICT
<i>Theme 3:</i> Collaboration and Communication skills in the online intervention <i>Theme 4:</i> Access and accessibility in the online intervention <i>Theme 5:</i> Constraints and enablers in the online intervention	‘How can I use ICT practices to sustain a well-formed personalisation scheme in learning? How much and how well can ICT practices do it?’	Personalised learning and ICT Collaboration and Communication, ICT and the social capital, ICT constraints, ICT and play, ICT and age, Diffusion of change

More specifically, I understood personalising learning with the use of ICT to relate to the initial theoretical framework (see p. 52-54) suggesting techniques in practice (see p. 60). However, my aims (see p. 62) helped to define the concept more clearly since they clarified the nucleus elements (see also p.62-64) and explained how they functioned in a model of personalised learning. In this sense, I can not say that my final theoretical understanding converged or diverged from the initial theory but rather that the final version evolved from and elaborated on the initial. The core elements I saw were the following:

- *Personal:* the approach focused on every student so that all students could be included in the process of learning. It also included every individual involved in the

education of a student, e.g. teacher, parents, school teacher community, heads and leaders, and in this sense, it engaged every individual *personally*,

- *Learning*: the 'learning of the student' regarded the student to be at the centre of the process of knowledge; the students were empowered to make choices concerning process of learning, and to voice their views and feelings. This did not mean that power was divided between the teacher and the student with each side taking a part, but rather empowered the teacher and the student *to be partners in learning*: each side being helpful to the other when in need.
- *Teaching*: the teacher controlled the content and the aims of learning, provided a clear and consistent structure in every classroom or online session, offered learning tasks with explicit goals, and opportunities for formative assessment and students' self-assessment. His/her pedagogy demonstrated that he/she assumed knowledge to be 'tentative, contestable and revisable' (Campbell et al., 2007:150); to do so, he/she supported the active engagement of students in the co-production of learning either in the classroom or online.
- *Collaborative*: activity was collective; knowledge was co-produced socially among students and teacher through reasoning and argumentation. The sharing of knowledge was the ethos that all sides coming into a learning circumstance were to be committed to.
- *Network-connection*: social activity in learning became effective when participants connected and formed networks (in the classroom and online) in order to build, spread and communicate knowledge. As it appears that there is not a 'best' model for personalised learning but rather flexible alternatives, access to various learning spaces suggested a continuous ICT use.

Being able to understand better the conceptual constructs of personalisation and ICT use helped me to shape my theory, and inspired me to explore certain topics even further as the inquiry process unfolded. That seemed to raise more questions setting the ground for an ongoing research process, especially around the relation of learning with technology. Particularly about (see also pp. 267-271, 286-289):

Curriculum and pedagogy (in terms of learning opportunities; flexibility in learning; classroom versus online learning; formal and informal learning with ICT; training about why-to-use next to how-to-use ICT),

Information and communication processes (in terms of a seamless connection of school with home; new communication channels and their enablers and constraints; enhancement of the social capital; the diminishment of time and space limitations in online use; online intention and its determinants),

The student and his/her online learning (in terms of collaborative work and learning preferences; alternative forms and spaces for learning that young people use but school may partially explore; young age in technology).

By exploring the above areas I was able to answer to my research questions in a more complete and holistic way. Thus, I concluded that (see p.297-298) for a leaning experience such as online learning, there should be a learning methodology that prepares for it; ICT should be used as a pedagogic instrument; and personalised learning necessarily involved ICT use to enable a continuous flow of learning from class to home and backwards.

4.7 The narration structure of this Action research study

The research was designed in three cycles with each cycle taking one school academic year; in this thesis each cycle is referred as Year 1 (Y1), Year 2 (Y2), and Year 3 (Y3). Chapters 5, 6, 7 refer to the Research Years 1, 2, 3 respectively (for a condensed form of the stories, see *Chapter 8*, p. 259). I tell the story of each research year, firstly by describing what I considered important in relevance to theoretical concepts, in a sense, what I *knew* and what I *believed*. This led me to design an action plan based on theory and reflection on previous action. Thus, the first part in each History Year starts with '*Designing*'.

Afterwards, the narration continues with what I *did*: the action. I describe how the action plan was implemented and what the reactions to it were. This is the second part in a History Year named '*Taking Action*'.

Finally, judgments on the action taken and resolutions made for the beginning of a new cycle are described on the third part in each History Year, the '*Reflecting*'.

In the following chapters (*Chapter 5, 6, 7*) the story of this research project is narrated.

5 History of Year 1

5.1 Designing

I believed that the students should play a part in their education since they were the users of it. My intention was to treat my students' views with respect and consideration and give opportunities to them to choose what and how to learn. With this thought I approached design in research Year 1.

I planned Year 1 to have two phases: Period 1 (P1), and Period 2 (P2). P1 became the initiation period for my students, the time to explain personalisation as a concept and my pedagogic plan about personalised learning. It was imperative for me to help my students understand the principles of personalisation first and then to tailor those principles with them to suit their needs. P2 was a challenging period for me and my students. It was the time for the assessment changes to take place. As a more demanding area, it was designed later in the year. Namely, the two periods occurred in different times in Year 1.

5.1.1 Designing Period 1

The changes in Year 1 were dual in nature; they were intellectual and practical. This meant that firstly the students had to understand cognitively the change and then practically, almost in a physical sense. It was an ambitious task.

In my preliminary research questions (see *Chapter 2*, p. 32), I mentioned my contemplation about collaborative work, argumentative processes and learning tasks. I wished to investigate those areas in depth.

Acknowledging the concept of collaboration together with my students

But, if defining collaboration to nine year olds was difficult, helping them to comprehend it was even more difficult. Yet, it was crucial that they understood the advantages of working together from the start since personalised learning was totally based on the concept of collaboration. There was one way. If they could experience it, it would be meaningful to them. I decided to do an activity at the beginning of the year to raise their awareness on the matter of collaboration. The activity and the students' responses are described in *Taking Action* (p.157) below.

Collaboration in the classroom

In regard to group work I decided to develop a pedagogic plan about how to organise groups taking into consideration group size and number, group composition, type of task and group dynamics (see *Chapter 3*, p. 69-80). In addition to that, I decided to take time to train my students in relational and group working skills. I believed in what Baines, Rubie-Davies and Blatchford (2009:95) argue that 'group work can be successfully implemented into everyday school classrooms, and it can improve pupil interactions and high level discussion'. However, I felt that in order to promote group work I had to overcome a difficulty: the problematic seating arrangement of the classroom. In my school all classrooms were furnished in the old-fashioned way (with two-seated desks arranged in three rows, one row running parallel to the next, and the teacher's desk in front of the desks next to the board (see *Appendix, Various 2*, p.347).

Argumentative processes in the classroom

One of my preliminary research questions was to find ways to let my students express themselves about learning. Dialogue in the classroom was promoted and along with it

the strategy of negotiation. Because a lot of issues were raised each time a negotiation developed (like the issue of 'cheating', p.163, *Diary Notes Y1/Nov, no.5c*), I took notes and reconstructed the conversation from memory as quickly as possible. Thus, the conversations that come from diary notes are not verbatim but resemble closely to what happened in class. The conversations were also in Greek so they come as translations here. An example of argumentative techniques and negotiation could be the change of my ineffective reward system and it is described below (see p.163, *Diary Notes Y1/Nov, no.5c*).

Learning tasks

In regard to learning tasks, they were reorganised to be challenging in order to sharpen students' curiosity and inventiveness, to sustain resilience to difficulty and to promote decision-making. Moreover, learning tasks were planned to have explicit objectives. It was important to provide clear information about what success was regarded from the start.

5.1.2 Designing Period 2

As was previously mentioned (see *Chapter 1*, p.13; *Chapter 2*, p. 22), summative assessment is almost the only way a Greek student is evaluated. In my preliminary research questions I described a wish to provide a well-structured assessment scheme in which *formative had its place next to summative assessment*. In my case, neither my students, nor their parents were familiar with what formative assessment was. I perceived that a developmental change such as that needed some scaffolding first. Thus, I decided to leave it for later in the year until after my students had an understanding of what personalised learning was. I assumed that when the students had grasped the meaning of personalisation as a concept a development in assessment would come as natural. Hence, Period 2 did not coincide with Period 1 chronologically.

5.2 Taking Action

5.2.1 Taking Action in Period 1

Throughout time of Period 1, I looked at three particular areas: collaboration, argumentative strategies, and learning tasks. What follows are the steps taken in Period 1 in a chronological order accompanied by the relevant extracts from the *Diary Notes-Year1* (longer parts appear in *Appendix, Various1*, p. 346).

Promoting collaboration

At the beginning of Y1 the children started a new year of foreign language learning. Since learning a foreign language collaboratively was my aim, I chose a communicative activity about feelings from the book *Caring and Sharing in the Foreign Language Class* (Moskowitz, 1978) to help them become aware of what collaboration *felt*:

Activity Description: ‘Think of a day you worked in a group, imagine you could take your ‘Feeling-temperature’ (delighted - happy - neutral - unhappy - disappointed) of that day, when you’re ready come on board and put your temperature sign in the Feeling-meter [there was the picture of a huge thermometer on board]. Then, tell us why you felt that way’.

Reactions: Most of them moved in the positive part of the ‘Feeling-meter’ [I was expecting it]; suggested that their good feelings were due to ‘*being with someone*’, ‘*enjoying the help coming from my mates*’, ‘*don’t like being alone*’, ‘*like hearing what others have to say and see if I’m on the right side*’, ‘*don’t like doing some things alone, others may like them and we can share what we’ve got to do*’. Taking from there, I asked them if they thought it was a good idea to work in groups *all the time* and not just when I asked them to. They accepted the idea of belonging to a group [much cheering!]. I explained that first I had to talk to the school heads and their regular teacher because the desks had to be rearranged. They offered to talk to their teacher! (*Diary Notes Y1/October, no 1*)

With the help of the activity my students arrived at a theoretical understanding of the concept of collaboration (declarative knowledge). Next, they needed some practical knowledge of how theory applied in their learning (procedural knowledge) (see *Chapter 3*, p.76-77). They had to see how collaborative work was structured. Two things had to be considered: the seating arrangement and the students' grouping formation.

Various practical difficulties needed to be addressed and a strategic plan was devised in relation to a change in seating arrangement (see *Appendix, Various1, Diary Notes Year 1, Strategic Plan*, p.344). My intentions about new seating arrangements needed the support of the school and of other teachers. I explained my objectives for a developmental change to the Primary Headteacher. He agreed to help me and he got an informed consent from all teachers (the Greek, the French, and the Music teacher) who were responsible for the particular class. Basically, I needed the support of the Greek teacher, who spent most of the day with this class. Luckily she was in favor and together we rearranged the desks as comfortable as possible for the students (see *Appendix, Various 2*, p.347).

My students and I worked together to find an acceptable scheme of how to form groups (see *Appendix, Various1, Diary Notes Year 1, Forming Groups*, p. 344). My diary notes had the following entry about group formation:

Ss accepted to work in groups of 3-5. I suggested 4 as the best number for me but some insisted on 5. I explained that 5 would make a large group and therefore it would be difficult to manage but they said they could handle the difficulties since it was their choice who was in the group [what an argument!]. It was amazing how quickly they formed groups! They did it in 3! They formed: 1group x 5, 4groups x 4, 2groups x3. Even the group names were interesting (The English Wizards, Let's Get Crazy, The Playmakers, The School Incredibles, The School Talents, Quick Pencils, Perfect Brains). Note: I had asked them their group name not to be an offensive adj, a football team/rock band name [extract] (*Diary Notes Y1/October, no2*)

Students were empowered with the task of forming groups but had to follow some ground rules I had set for them:

(*Rule 1*) the students had a free choice who to join with but there were restrictions about the group size (3-5 members), and

(*Rule 2*) the students were free to belong to any group they liked but once they joined a group they stayed with the group (they could not leave the group and they could not cast out another member of the group).

I anticipated *problems* since the social skill of seek-and-take help and power sharing (see *Chapter 3*, p. 74-76) were new issues to my students. Indeed quite a few problems happened. They were of two kinds.

The first problem was about the '*unwanted students*'. Giving students the choice to join in partnership with others was a democratic act but a threatening case for the ones with a low social profile. Actually it was not the '*naughty*' or the '*geek*' student who was left unwanted but the shy or the less able academically student. The following extract describes it:

Student A (a dyslexic, shy and silent boy) was left 'unwanted'. Student B (a naughty and low achiever boy) was asked to join in many groups! Students chose their mates or the most famous classmates to be together with. I didn't intervene in the Student B case but I did in the Student A case. I asked the group with the most socially 'sensitive' members to take Student A in their group for that day. They accepted (not very warmly, though). (*Diary Notes Y1/October, no 3a*)

Focusing on personalised learning which gives *all* students a chance and on the school culture which insists on educating all children *equally the same*, my students and I finally came up with solutions:

During break I asked these group members [the 'sensitive'] to stay, Student A included. I explained the merits of collaboration again, and asked Student A to give a good reason he thought about working in a group. He just said: '*I don't have many friends at school and in a group I'm with 4 already*'. They told him that he can stay in the group and that they were going to help him. They left all together to catch their break. During the following two weeks I noticed him seating next to a different person in the group each time. Intrigued I asked the students and they said: '*We've adopted Student A, and every time one of us takes care of him*' (they were taking care of him on a rotation basis! those kids never cease to amaze me!) [extract from the above story]
(*Diary Notes Y1/October, no 3b*)

Those solutions were not effective all the time but they were lessons for all of us in democracy, equality and solidarity.

The second problem was about '*irreconcilable differences*' among group members. Those problems partly had to do with the students' help-related behaviour (see *Chapter 3*, p.70-74) and partly with their power status (see 'basic assumptions' in *Chapter 3*, p. 70) inside the group. The skill of 'asking / giving help with explanations' (see *Chapter 3*, p.71) was rarely seen exercised by the students (see p.165, *Diary Notes Y1/November, no.6*). In addition, although the students appeared to appreciate distributed leadership as a concept, they misapplied it. They soon affixed to Bion's basic assumptions, especially to the 'flight and fight' and the 'pairing'. Their help-related behaviour and their emotional assumptions brought friction in their group relationships. The first reaction of the students was to turn to me. Until then, I was the gravity centre in the classroom because I concentrated all the power and responsibility. Then, the power was divided by giving choice to them but also a share of the responsibility. They were unfamiliar with the deal. They needed instructional and emotional scaffolding to understand the complexity of the matter and find a solution. A good example is the following:

When the first incident of behavioural disturbance in a group happened [see p.17, Diary Notes 4b], the students came to me. Not for help but to sort out the problem for them. A difficult moment for me. I was tempted to take a side and slip back into the previous model where I was at the centre and had all the power. I held my ground. Under no circumstances a member of a group could go away. I reminded Rule 2 to the students according to which *they* chose who to be with so *they* had the responsibility of solving their differences. I suggested getting together and listening to each other. I advised the Manager [=group role] to use his/her role. Negotiations between themselves were not quick and solutions were not stable at the beginning. I helped them monitor their dialogic discussions but tried not to take the decision for them. [Throughout the year, a few such incidents happened. I insisted on my views. Towards the end of the year the incidents started fading out in number but, unfortunately, not in fortitude].

(Diary Notes Y1/November, no. 4a)

Argumentative processes in the classroom

An example of how argumentative processes developed can be the way my students and I dealt with an appraisal system. A successful reward system I had previously used with other classes proved a confusing and frustrating experience for this class.

Discussing it with my students I realised that there were two problems in the objectives of the reward system.

First, my reward system praised achievement and behaviour together. From the moment I differentiated performance from behaviour (i.e. by asking them to form two rules in their groups, one about homework and another one about behaviour), I needed to have a different way to praise each (*Appendix, Various1, Diary Notes Year 1, Norms/Rules to follow, p.346*). This is an extract from the conversation we had in class:

Student A: ‘Mrs., I’m well-mannered in my group but you don’t see it. You give stars only to people who give good answers.

Teacher: ‘Really? I haven’t noticed it, I’m sorry. What, do you think, is the problem?’

Student B: ‘I think, you like us to be quiet to do the work... and then you forget... and you only see who’s done well in a task...’ (*Diary Notes Y1/November, no. 5a*)

Finally we decided to have two reward systems: an ‘Achievement Reward System’ and an ‘Exceptional Manners and Behaviour Reward System’ (see *Appendix, Various1*, *Diary Notes Year 1, Reward Systems, p.346*).

Second, I had praised my students *individually* and not collectively. So I restructured the reward system to praise them *collectively*. This is an extract from the original conversations we had:

Teacher: ‘So, what shall we do? Any ideas?’

Student : ‘Maybe if instead of our names you put our group names in your list ...’

Teacher: ‘OK, so I should give then a star to a group and not to sb in particular...’

.....
[Some days later, there was more complaining about the Star System:]

Student A: ‘I liked it as it was at the beginning, when you gave a star to each one of us....’

Student B: ‘Yes, but now we are in groups, so the group should get the star...’

[Student A turning to Student B:] ‘Don’t you like to have your stars?’

Student B: ‘Yes, but I also like it when I’m with others and we get a star as a group...’

[extract] (*Diary Notes Y1/November, no. 5b*)

My students were not happy with ‘a group star’ either. Working in a group seemed as important to them as working individually. The way I was appraising them was not clear and that frustrated them (see *Diary Notes 5a*). After much debate we designed a reward system together which pleased the students and me. We decided to have individual and

group stars. The following extract describes how we negotiated the issue of the 'group star' in the reward system:

Student C: 'how about if we decided about our group star?'

Student A: 'What do you mean? We, as a group, could tell the teacher that we deserve a star, are you nuts? What about cheating?' [Interesting point]

Teacher: 'Maybe I can help. How about each day, as a group, you decide about 3 things: if you collaborated well, if you managed all the tasks well and if you had brought the homework of the day...'

Student A: 'Hey, Ms! This is not 1 but 3 stars for a group!'

Teacher: 'Actually it is between 1 to 3 stars'

Student B: 'So? What does it matter? If you get your star individually what does it matter how many stars a group gets?'

Student C: 'OK, let's see. You, Ms, will give stars to us individually and we'd tell you at the end of the class how many stars our group should get, correct?'

Student A: 'Maybe some groups cheat and say they want more stars than they deserve, who's to say if they are right?' ['cheating' again!]

Student B: 'We do! Nobody in a group will cheat ... because the groups won't get presents ... only the person with most stars will get a present'

Teacher: 'I'm not sure I like this idea. I mean, why should we get into so much trouble if we don't finally reward a group? How about deciding to give something different to the winning group?'

Student C: 'You could give us something to show that we're the best group...'

Teacher: 'Something like a badge, maybe?'

Student C: 'Yes!' [extract]

(Diary Notes Y1/November, no. 5c)

The 'Exceptional Manners and Behaviour Reward System' was a new and different appraisal system that we designed together. The extract below describes the children's contribution to the reward design:

Student C: ‘...those tickets...we write our names on...maybe we could put them in a hat... like in the Harry Potter film... and we could draw a winner...’

Teacher: ‘You mean a lottery! What an excellent idea! Can you describe it a little bit so we all understand?’

Student C: ‘OK. We try to behave during a lesson. You choose the best 3 of us. You give 1 ticket to each of the 3. They write their name and the date. They roll the ticket and drop it in a hat. At the end of the week, we choose a ticket which has the name of the winner. The winner has the right of a treat for a week’ [Instead of the hat we had a box which I kept in the classroom locker and took it out when we had a class]

(*Diary Notes Y1/November, no. 5d*)

Learning tasks

One of my first moves was to offer explicit information to the students about the learning tasks. For instance, until then I put on board the homework tasks *at the end of a session*. Now for the first time, not only did I give the homework duties *at the beginning* of a session but I also put down *the class work* areas and tasks of the day. I intended to give specific guidelines of the learning goals to my students every time. I explained it to them and for some time I made sure that they copied this information in their school diary. Next to my students, their parents gained useful information as they had at home a means to retrace what had been done in class and to confirm what was asked as homework for next time.

Maybe the students did not choose what to study since I set the learning goals and the learning plan in a firm manner. Indeed, each session followed a strict lesson structure but the students had the *flexibility* to go about the work in class as they pleased, which supported their choice of how to learn. Firstly, we checked homework. Groups took over the task of giving the answers on board (see *Appendix 5, Various 3, p.347*) and I asked for *explanations* when the material was perplexing.

Then, I presented new knowledge to them and, finally at the consolidation phase, my students worked on the learning tasks I had defined as class work within a timed period. During that time they went over the work as they liked. They chose their work strategies:

Ss distributed leadership in their groups in many different ways, I never involved in it. Group working arrangements: (i) Ss in 2s in their group were involved in different learning problems and then swapped info , (ii) every S was involved with 1 learning problem and then shared the info with the rest of the group members and received his/her share from others; the skill of answering with explanations occurred but not much, (iii) (the socially sensitive group) all Ss worked together on all learning problems with the strongest S working with the weakest S in private!; the skill of answering with explanations occurred much. (*Diary Notes Y1/November, no. 6*)

I had the freedom to circulate and facilitate. Mainly, however, I watched how group processes like seek-and-give help, decision-making and argumentation were developing. I mostly tried to help them reflect when they faced a difficulty rather than offering a ready-made solution. When time was over, we got together as a class to supply answers *with explanations* to all class work tasks.

I used a combination of teaching methodologies, methods and modes of instruction. My aim was to scaffold their higher order knowledge skills, thinking skills, group processes and their strategic awareness about learning in an effort to strengthen their self-regulation skills, self-efficacy and collaborative work.

5.2.2 Taking Action in Period 2

During Stage 2 of Year 1 (January – May) students were trained in order to practise how to assess themselves summatively and formatively during a learning unit in the foreign language. First, because ‘assessment for learning’ was a new issue to my students, I involved them into an activity adapted from the book *Challenge to Think* (Frank, Rinvolucris and Bere, 1982) a ‘what if’ scenario in the context of a classroom. Discussing during the activity, I helped them become aware not just what ‘assessment for learning’ but also what ‘assessment as learning’ was. Then, they compared and contrasted it to what assessment they knew so far, that is, ‘assessment of learning’. The following comments come from Diary Notes after the activity was over:

I asked them if they had noticed where and how they were learning better (some of their answers were ‘on my bed/floor/armchair’, ‘wearing headphones, listening to music’, ‘in my room, in quiet’, ‘with sb’s help’, ‘highlighting special words/parts’, ‘bouncing my ball as I recite’, ‘with short breaks’)

.....

I explained that having an idea of what and where was best for them to learn was ‘learning awareness’. If they could practise using it they could ‘assess themselves **as** they were learning’ [.....] I asked them ‘what do you think a teacher should assess?’ They said ‘our efforts’, ‘our persistence’, ‘if we can manage our homework alone’, ‘our good manners’, ‘how we do at tests’. I explained that a good teacher should know how a student learns best and give students an assessment **of** learning (test scores, grades etc.) as well as an assessment **for** learning (explanations and feedback). [extract]

(*Appendix, Various1, Diary Notes Year 1, Assessment for Learning, p.297*)

Next, I showed them a self-evaluation plan to use for every learning unit of their text book. We named it ‘Self-Assessment Chart’ and soon it became part of their learning (*Appendix, Various 5, p.349*). It proved a very convenient and useful tool before a unit

test for my students as they were able to evaluate how close or how far they were from their learning targets. Parents also learnt to consult it in their efforts to help their children to revise before a test. Parents signed the chart and returned it to me when test grades were out; it was usual for parents to send me short memos at the back of the completed self-assessment charts showing their appreciation.

I also showed them a monthly self-evaluation plan which was both summative and formative (see *Appendix, Various 4*, p 348). Unlike the self-assessment chart, this monthly assessment stayed at school inside each student's portfolio. According to the students' opinion, this information was to be private and it could be released to their parents at the end of the year. I was the only person allowed to see it as my duty was to give feedback to the students.

In order to provide feedback and at the same time provide help, I devised an '*Improvement Bank of Materials*'. It was a collection of grammar notes, and self-study grammar and vocabulary exercises in the foreign language. Every page was coded with a number. When it was time for students to do the Monthly Self-Evaluation, I carried the Bank with me. At the end of the lesson and during breaks (when I was in my office), my students leafed through the Bank and gave me a note with the codes of the material they needed. A very tedious process for me as I had to take those notes, find the relevant material from the pool and copy it for every student. I endured because for the first time students were asking me for extra material to study.

5.3 Reflecting

It was extraordinarily pleasant to listen to eight-year-olds speak their minds. It was the first time they talked about their EFL learning, about classroom management, group work or assessment. Above all, it was the first time they did it *collectively*. But, although the students showed that they understood and appreciated personalisation, they could not articulate it, that is, they did not know how to put it into practice. It was not that they were oblivious; they were just ignorant of the matter. That generated an ethical concern for me throughout the research: most of the time my students seemed to need an initiator and not a consultant. I needed to be careful with initiation because it could easily lead me in pre-determined learning again.

To take some decisions of how to proceed and what to do next, I started reflecting on my actions. I thought that by retracing my moves, I could identify the ineffective areas and take decisions about new plans.

5.3.1 Reflecting on Period 1

Looking back at Year 1 I noticed that in relation to personalised learning there were some questionable areas. The collaboration of the students, the ways to maintain motivation in the learning tasks, and economising teaching time had problems.

Reflecting on collaboration in the classroom

I believed that collaborative work was the core of personalised learning but I could see trouble in the collaboration design and dynamics. I wished to help my students to clarify the group role they had grown into. I felt it was important to help them to become more

adaptable in the roles they took on (see *Chapter 3*, p.72). I had to find ways to turn the ambiguity and complexity of collaboration structures to my students' advantage.

I could say that a group was able to find purpose in responding to complexity due to new information, multiple goals and changing circumstances. But when this kind of purpose was not sustainable, livable and endurable, not only did the group fail to learn but it failed to exist.

In fact, the case of the 'naughty-but-much-wanted student' can be explained according to the above:

A 'naughty boy' (mischievous, a bit unruly and academically a low achiever) was asked to join in many groups. At that point, most probably, the collaboration purpose of the group was '*let us be mates*'. However later on, as the group had to accomplish a work task, their collaboration purpose changed into '*let's share the work now since we're mates*'; yet, as the 'naughty boy' was not willing to do his share of work, things changed. At the beginning [early November] the group members tried to help him understand what he had to do and, although initially he showed that he responded, soon he lost interest and started being playful. They mostly left him uninvolved. In the end [late December], very annoyed they insisted on him leaving the group for good. Having limited resources to overcome the problem, the group resolved to member exclusion although it was against my group norms.

(*Diary Notes Y1/December, no. 4c*)

The students' collaboration was regarded a matter of critical importance. In practice, however, it proved an ambiguous and complex issue mostly because the students held different views about their status in the group. Perhaps their views were guided by the structures and dynamics in their group, and as those were ambiguous, the students showed collaboration inertia. The example of the '*irreconcilable differences*' (p.160) among group members suggested that my students probably had unclear perceptions

of each other's status. That may have led them to adopt one of Bion's (1961) three basic assumptions in their group, in here, that of 'dependency' (See *Chapter 3*, p.74):

In a four-member group (three girls, one boy), there were complains about one of the girls who was 'acting as if she knew everything and as if the rest [of them] wanted her to take over'. Possibly the girl (a high achiever with a domineering nature) believed she should take up a leading role in her group as she felt strong and capable. The others assumed she wanted them to depend on her ('dependency assumption') and revolted. (*Diary Notes Y1/November, no. 4b*)

Reflecting on argumentative processes in the classroom

Abiding by the new duties and rights in the role of the student and teacher, when my students spoke their minds, I listened and together we came to an agreement.

Negotiating with students and practising argumentative processes was the essence of democracy in the classroom. However, negotiating was time consuming and, at times, a frustrating experience for me:

Negotiations, negotiations, negotiations! Ss + I negotiate practically about everything on a daily basis: learning targets of the day, where Ss need to be facilitated first and where next, my ratio of talk, teaching/learning techniques, the list is endless! (*Diary Notes Y1/December, no. 7*)

Nevertheless, I believed it had a central place in personalised learning and decided to encourage and not lull the negotiation processes. I also considered the participatory mode in the research I was developing with my students helpful in knowledge building. Negotiations soon became a usual employment of my students and me; it was a commendable but, still, an exhausting task.

Another problem relating to the argumentative processes was *noise*. Students understood it positively:

'We talk, we don't make noise! It's different...noise is when we work and hullabaloo when... we fuss and when we're naughty'.
(*Diary Notes Y1/December, no. 6*)

I received it as a sign of children's active engagement but I had to be very careful not to lose balance in my teaching (see *Appendix, Various1, Diary Notes Year 1, Frustrating Practicalities (b), p.344*). It worried me for one more reason. Noise was an outcome of a number of developmental changes which I knew that the teacher and school community were not ready to comprehend, lest to accept. But it could turn to an advantage under certain circumstances. I felt that if I was asked about the noise in my class it could be an opportunity to share my experience with other practitioners.

Argumentative and collaboration processes help to bring the students at the centre and shift the teacher from being an instructor to facilitator. Theoretically this gives more time to the hands of the teacher to move around and help. Yet, teaching time was not endless and it was surely valuable. At times, I felt that I had to manage it in better ways and to find better solutions. For instance, I understood that the use of the '*Improvement Bank of Materials*' was important, but it was time consuming. In essence, I was not just in need of better forms of saving time in the classroom but I was in need of being effective within my teaching time limits.

Reflecting on learning tasks

Explicitness and clarity of learning goals helped my students not only to define success and failure for themselves but also to understand the route towards successful or unsuccessful achievement. Thus, every time they were successful, they knew which steps took them towards top achievement, whereas when fallen behind in an area they could redirect their efforts. They felt proud of their work and their self-confidence was boosted. The following is an example:

[My students completed a Self-Assessment Chart before a test. What follows are the notes I kept after the first time they completed the chart and had a test].

They asked me if those areas in the chart would be the only ones to see in the test. Fascinated I replied that in every test only things done in a unit appear. They said that it was the first time they knew *exactly* what they were to be tested on. (*Amazing! I always believed – I know a lot of teachers who believe the same – that it is easy for students to know what a unit test will include!*) After the test was over, the majority of the students said that ‘the chart was very helpful at home to revise’, ‘something like a list to go along and check things out’. With the exception of two students, the rest of them (24/26 Ss) did well at the test. They were really happy (the dyslexic student’s mum called me to say that ‘at last, there is someone else except me [the child’s mum] to give some structured guidance to my son for homework or for a test’).

(*Diary Notes Y1/January, no. 8*)

Having explicit learning goals helped my students to engage in tasks. However, I held the view that the nature of the learning tasks was equally important (*Appendix, Various1, Diary Notes Year 1, Frustrating Practicalities (c), p.346*). I could say that the students were interested in learning. But I could not claim that the students *enjoyed* learning as well. Could interest correlate with enjoyment or were the two concepts distinct entities? Fredrickson (2001) uses the term *joy* rather than *enjoyment* and considers *interest* and *joy* as two complementary positive emotion constructs: an

individual seeks information out of interest; if he/she finds a note of playfulness in it, seeking becomes a joyful experience. Dewey (1933) called the linking of joy and interest 'serious play'. According to him, when an activity is joyful and serious, conditions for learning increase. Izard (2007) adds to that saying that interest can derive from tasks that bear a certain amount of novelty, ambiguity or uncertainty. In that sense, creative activities relate with feelings of joy, interest and contentment.

Having the above in my mind, I thought that it was likely that my students experienced feelings of joy when they were interested. However, they had not claimed joy overtly. They had said that processes in personalised learning were 'strange' and 'new' suggesting issues of novelty and uncertainty but they had not said that they were 'fun'. For instance when we discussed their part in designing the rules in class, a student had said:

'It's weird that we write rules, our rules, together with partners' and when I asked the student: "Does 'weird' feel good or bad?" the student hesitated and replied: "Weird, Mrs., doesn't feel good or bad, it feels strange!"
(*Diary Notes Y1/October, no. 9*)

Especially in early discussions with them about assessment and learning there had been an interesting observation from a student:

'whatever is fun is play, it is not learning' (*Diary Notes Y1/January, no. 10*)

It was a remarkable comment made by the children. It pointed to a view that suggested that although universally playing and learning characterise the everyday life of a child, soon when the children start their education, school becomes 'a place of learning and not of play'. Yet, when children are asked what they enjoy doing the most, the answer is unanimous: to play (Samuelsson and Carlsson, 2008:623).

I contemplated further on the area of playfulness as I felt that it related to interest and intentionality in learning. Play, as a concept, is difficult to define (Johnson, Christie and Yawkey, 2005). Study results affirm, however, that play helps knowledge-building because it gives the children the chance to realise what they know and what new things happen around them (Levin, 1996), whereas acts and objects of play become meaningful and challenging (Docket, 1999). Among the many things that play may do for children, it is claimed that play helps children to develop knowledge, to learn to take turns, to cooperate, to become social (Glover, 1999), and to become aware of other people's idiosyncrasies (Astington, 2000).

As a teacher I have always acknowledged the importance of play in learning especially when young students are concerned. Yet, my students seemed to have already determined that learning was separate from play. It would have been unreasonable of me to want to change that belief because behind the children a whole educational system and a set of school structures were hidden. What I resolved to do, however, was to bring playfulness into learning. Having 'playful' learning tasks to accomplish, my students might feel interested as well as joyful. Thus, I had to find ways that could make the learning tasks 'playful'.

5.3.2 Reflecting on Period 2

Reflecting on period 2, two themes seemed to be important: the children's misconceptions of what assessment was, and their ignorance of self-assessment. Taking action about assessment occurred later in the Year 1 as I considered self-assessment the phase that involved self-judgment, a process that follows performance. I sensed that self-assessment would be a difficult phase as self-judgments are complex processes. Indeed it was. The children had a vague idea of what assessment entailed.

The following is an example from the awareness activity they had at the beginning of period 2:

[The activity task was for *students to look at the academic profile of Student A and Student B and decide about a course grade for each student*]

I asked them '*which student of the two was learning*' and '*what success and failure in learning means to you*'. They noticed that Student B was weaker but also more willing and eager to learn than Student A. They told me that success was 'to do well in a test', 'to be proud when giving the right answer' or 'just know sth very well' whereas failure carried feelings of resentment and embarrassment 'bad test scores, how shall I tell my parents?', 'I'm left behind and can't cope with sth new'. I asked them next to tell me, as teachers, what they had ignored as they gave grades. They said 'students' feelings'. I insisted on my question and probed again. Then they hit it: 'maybe we forgot that a student may be learning more slowly than another student', 'a student may like to learn in a different way than another student', 'a student may not like English and he is not interested in learning'. Then I told them that Student B was dyslexic. They nodded understanding! A student said, 'At last, I understand what's on a teacher's mind when s/he gives grades!'

(Appendix, Various1, Diary Notes Year 1, Assessment for Learning, p.324)

They did not have any previous experience of how to assess themselves, either. I noticed that they did not have, what Biggs (1985) calls a 'learning awareness'. I believed that 'awareness' was the first step if I wanted my students to take control of their learning. As according to Flavell (1979), I considered it useful to help my students to connect thinking about their own learning (metacognition) with effective behaviours that they used in learning. Jackson (2004:391) calls it 'metalearning' and argues that people who practise it are people who self-regulate learning. Highly self-regulated students are known to think strategically, perform in the most optimum way, and evaluate their learning.

The self-assessment chart and the monthly self-evaluation (*Appendix, Various 4, p. 348; and Various 5, p. 349*) were two guided tasks aiming at assessment *for* learning. They guided students to get involved with their own learning, to find out what the learning objectives are, how many needed improvement, how many were satisfactorily learnt. They needed information about how well they did work and guidance how to improve. This information could come from me as feedback but most of it had to come from the students' involvement in assessing their work. To be able to assess themselves, my students needed an awareness of their own learning and self-regulation skills in learning.

5.3.3 Lessons for Year 2

Looking back I could say that in my attempt to implement personalised learning with collaborative work I became aware that:

Concerning collaboration design, challenging learning tasks required the efforts and resources of a group. When a group had a narrowly defined purpose, the collaborative processes were not well formulated. Instead, when the group had a broadly defined purpose, group members had a discretion right and used effective collaborative processes. I perceived that *team role* knowledge and adaptability lay at the heart of an effective group, particularly when the group faced complex and complicated situations.

Concerning motivation in learning tasks, a certain degree of 'playfulness' could be fruitful if applied on learning tasks. Students got interested in personalised learning when learning goals were explicit. I assumed that if the students noticed similarities of play into the learning tasks, they would experience feelings of joy next to their feelings of interest.

Concerning economising teaching time, I felt that time had to be managed well, any unproductive demands would have to be eliminated and time had to be devoted to the most important work unit. Effectiveness in the process required that first it had to be estimated how much time was needed for a piece of work and this estimation had to be reassessed if activities proved to be unproductive again.

Concerning assessment, I realised that if my students understood how they learned, they were likely to find ways to regulate their learning behaviours. For me the self-regulated student would take up a task with self-efficacy beliefs, create conditions or seek help to do the task, and reflect on his/her performance to evaluate it across criteria. In other words, if I wished my students to reach self-assessment, they had to be aware of their learning and become self-regulated students.

5.4 Summarising

Personalised learning brought new insights into my class, for example, collaborative work, more meaningful learning tasks and argumentative processes. It also raised difficulties. There were no inventories or practical guides how to utilise the conceptual theory into practice. I was determined, however, to do something to sustain personalisation in my teaching and in the learning of my students because I felt committed to personalisation as an approach. At that critical point I turned to the theoretical work discussed in *Chapter 3*, p.52, and this suggested I may have neglected one element that was regarded an essential part in personalised learning: ICT use.

I decided to investigate how ICT practices could be helpful and useful and started designing the second cycle of this action research. As mentioned in the Personalised Learning Literature (*Chapter 3*, pp.40-66), it seemed possible that ICT use, if integrated into learning, might enhance creativity, extend learning opportunities and sustain collaborative learning. At that point I rephrased my research question. Initially I wished to modify my teaching to be personalised in a well-defined way. From that point on, I expanded it and wished to explore if and how ICT use could help to sustain the personalised learning of my young students while continuing with what I had previously set in motion.

6 History of Year 2

6.1 Designing

In order to bring developmental change to the learning of my students, I had set up an action research plan in Y1. I used the label of personalised learning to encapsulate the procedures I had been using with my students so far: namely, I focused on students' collaboration processes, supported students' engagement with more meaningful and challenging learning tasks, and introduced self-assessment to students and formative assessment to students and parents. Trusting the value of the parental capital in the course of the students' progress, I thought it would be best to reshape old and open new communication channels between me and the parents. Above all, however, my aim was to negotiate an education plan with my students by offering ways to them to choose how to learn in a more autonomous way.

Of course, there were limitations to what I was planning. For one thing, I could not change the curriculum aims - the 'what to learn' - as this was prearranged for me by the Greek official bodies (see *Chapter 1*, p.9-11). I could possibly decide with my students on the pedagogic aims - the 'how to learn'. Even that, however, was not a decision to be taken purely between me and my students, but was rather a concession to be made among the students, myself and the school headship, the students' parents and the school teachers' community.

The students' *participation* in educational decisions suggested further limitations. Negotiating means that the sides that come into it, in this case, me and the students, should be at an equal level as far as possible, in respect to what power and knowledge is concerned. Yet, even if I believed and intended to distribute power to my students, I was coming into the circumstance with more knowledge and power

than my students, an issue that immediately created an imbalance in the power equality. As I concluded that this was unavoidable, I decided to concentrate on my power. There was one thing I could control, my power as a teacher, researcher and innovator. If I could take a more facilitating and guiding role, my students could be encouraged to think critically of the opportunities I offered to them. Gradually they would need me more as a consultant than as an initiator. My intention was to help them to build a how-to-learn experience because I believed that this experience could encourage them to become eventually more autonomous thinkers.

Although the concept of personalised learning fitted well within my research aims, I soon recognised that all the principal constituents of personalised learning I was focusing on lacked in sustainability. By sustainability I mean that the learning processes my students used remained steady and productive over time enabling my students to persist and endure in difficulties.

I also noticed that the collaboration in the groups was troubled partly because of the newness of the learning approach, and partly because of the students' social and communication inexperience. Moreover, I had developed tasks with clear learning objectives but I felt that interest was not enough to engage students. I believed that the learning tasks needed a degree of playfulness as well as challenge. I had realised that playfulness in learning was associated with active engagement. Furthermore, the self-assessment and the formative assessment structures, although thorough, were time-consuming actions. In short, I needed a particular feature which would sustain and reinforce the personalised learning processes on which my students and I were constructing.

I consulted the theoretical framework (DfES, 2004; Pollard and James, 2004) of personalised learning again. I noticed that I had disregarded the value of ICT use. In the model presented by DfES, ICT was not regarded just another useful tool but

rather the fabric of personalised learning, providing support for autonomy as well as socialisation. As outlined in Chapter 3, online technologies can support a learner-centered pedagogy because they can be interactive and communicative (Weiss, 2000), can offer control of the learning process to students (Palloff and Pratt, 2001) and they can cater for individual diversities with the help of multi-media (Burgess, 2001).

I began to see pedagogy and technology as fused together. Technology use was a way to upgrade tool integration to curriculum integration in learning, as ISTE (2000:6) puts it:

"Curriculum integration with the use of technology involves the infusion of technology as a tool to enhance the learning in a content area or multidisciplinary setting. Technology enables students to learn in ways not previously possible. Effective integration of technology is achieved when students are able to select technology tools to help them obtain information in a timely manner, analyse and synthesise the information, and present it professionally. The technology should become an integral part of how the classroom functions - as accessible as all other classroom tools."

I believed, as Hoven (1992) argues, that technology should be integrated holistically in a curriculum. Technology advances all the time. If technology in the classroom is nothing but an integration of tools, then one technological tool would have to be replaced by a newer tool each time. Therefore, for me, a technological tool did not prove powerful in the classroom unless it was curriculum-embedded, that is, unless it served certain pedagogic goals and it was routinely reshaped according to the needs of the students. Moreover, because of the various conditions that could intervene and the multiple decisions that had to be made about the ICT use in my school (pp.183-187), ICT use was conceived 'fitting in as best as it gets' (Cartwright and Hammond, 2007:397). Under no circumstances did I intend to *transform* the learning of my students as I knew that it was not a realistic plan. I rather considered

the possibility of *developing* certain learning processes in a new pedagogic framework.

Thus, I had included computer activities in the language curriculum but in no way had I integrated ICT practice into it. Remembering how most of my students were overjoyed at the prospect of having an online learning task, I decided to direct action towards ICT learning.

At that point I made some resolutions. If I had to prepare an ICT- curriculum, it would have to focus on exploration rather than on transmission of knowledge, would have to offer possibilities to my students to experiment on their abilities, personal interests and talents, and would contribute to my facilitator-role in teaching. Actually what I was aiming at was not just ICT practice as 'best practice', but also as 'next practice' (O'Leary and Parker, 2004), that is, to find ways for my students not only to learn as best as possible but to experience learning *beyond the school classroom* as well.

'Best ICT practice' for me meant that ICT practice had to be reliable enough to bring a desired result and practical enough to ensure success. 'Best practice' also meant that quality was to be warranted throughout the course of ICT practice. Quality was understood as a complex net of educational and ethical concerns which were hard to separate. Educationally, ICT practices had to be angled to encompass and enhance the students' EFL learning. Ethically, ICT practices had to be steered to be sensitive to the students' individuality, free-will, personal differences, and to the socio-economic constraints the students might be facing. In this sense, 'best ICT practices' meant that they had to be reliable, practical and ethical at the same time. Since I aimed not just for 'best ICT practice' but for 'next ICT practice' as well, ICT use had to afford opportunities for learning beyond the classroom. 'Next ICT practices' had to foster commitment to autonomy, novelty and creativity in learning.

ICT learning resources and materials had to support students who learnt as they shared their work and communicated it with others online. Above all, 'next ICT practices' would have to be playfully engaging for young students to wish to work outside the classroom *and* be guiding and supportive enough for them to manage independently.

Description of the action plan

At the beginning of the school year (Y2) I applied to Google Apps to access the platform 'Education Edition' to use in my school. I decided to offer language consolidation materials outside the classroom to any of my students who wished to take advantage of them. Access would be free of charge and work done online would not interfere with the students' grades at school. Parents would also be able to engage in chat sessions if they wished to communicate with me.

When I decided to plan an ICT-curriculum, I had resolved that it would be educationally *and* ethically appropriate for the learning of my students. Educators and online material developers usually highlight the educational side of an online curriculum and neglect or partially neglect its ethical side. For me, ethics in the online application meant that the online learning objectives would respect the participants' individuality, differences, and free-will; actually, it meant that my students could have a voice *and* choice over their learning. And it also meant that under no circumstances was I devising an intervention that could exclude a student who wished to participate.

I explained my plans to the students and asked for their opinion; they were quite enthusiastic. Next, I presented my idea to the school principal and primary head teacher. Both encouraged me to proceed. Finally, I sent a letter to the parents

explaining the online intervention with a join-in application form to return should they agree to give their consent to their child's participation.

There were three problems that I had to respond to immediately. First, the young age of the students (nine to ten year olds at the time) and the scarcity of prior online experience suggested that they probably had rudimentary computer competency skills. Second, parents were much concerned about online e-safety. And finally, students had to own a computer with preferably a fast internet connection at home.

To solve the above problems I put in place a plan of action. Starting from the third problem, I explained to my students that it was important but not necessary to have a computer with an internet connection at home; students who wished to join the online application but did not have either a computer or a connection (or both) at home would be helped to use the school library computers. Apprehending the parents' concerns, I favoured online services which reflected high e-safety policies. From the many available, I selected only the docs (documents) and the chat service. I customised them to suit the students' computing capabilities. I opened an account with a secure username and password for every student who joined in the online intervention. I texted instead of emailed these sensitive data to their parent's mobile phone as an extra precaution against spyware harm.

From informal discussions with students, I knew that all students had played a game online, at least, once, some of them used the word processing functions of their computer to prepare their homework assignments, some of them browsed on the internet to find information for school projects, but hardly any had sent emails or had used social networks like Facebook or MSN. Only one male student in the whole class was found to have ever chatted online. Later on, I realised that he was the most technologically advanced student not just in his class but of all students of his year at school. At a PT meeting, his mother told me that he had his first encounter

with a PC when he was three and had customised the security settings of her Facebook page when he was just six. Because his parents objected to his buying the latest most advanced laptop model he wished, he saved his pocket money for two years and he finally bought it with his own money.

Understanding that there was a range of computing skills among the future users of the online intervention, assistance for them was planned. A step-by-step manual was prepared and given to every student in a CD form as reference at home. A file with practical advice about how to secure the computer and a FAQ file about the online application were included in the CD as supportive information to the parents. I trained the future users on the application (on a demo version) at the school computer lab both in groups and individually for three weeks. Apart from the manual and the how-to information in the CD, I did not offer a training session to parents.

Preparing the material to go online was difficult. For one thing, I had decided that online tasks would consolidate learnt material in class, and secondly, they would be challenging and playful. My intention was to provide online tasks which could be useful for FL learning, and at the same time, encouraging new modes of learning that my students may be favouring. With time ticking away, I turned to free online teaching resources. There were plenty to choose from. However, all chosen online materials were tailored to my students' needs.

Thus, for every text book unit I provided the students with three online choices: grammar-vocabulary activities, fun activities (on grammar or vocabulary) and a self-assessment chart. Before the end of a trimester, a summative-formative overview self-assessment chart was provided as well (the online form of the Monthly Self-Evaluation Chart). The grammar-vocabulary activities were self-study (provided with key) so students could work on them and self-assess themselves in the end without the help of a teacher/parent. All fun activities were pdf files of word/grammar games,

crosswords and/or crafts to print and play with. The self-assessment chart was the online version of the chart the students were using in Y1 (the online form of the Self-Assessment Chart). Assessment was organisationally-friendly as its online nature gave access both to students to evaluate themselves and to parents for information about important class work and child's performance. Parents could also electronically sign back acknowledging the child's test grades after the unit test. Additionally, all online tasks were more environmentally-friendly as photocopying was reduced.

In all online tasks (except for the fun activities) students 'worked in the cloud'. The cloud, as previously mentioned in the ICT Literature (see *Chapter 3*, p.90), gave the students the flexibility to share their work with me. They could do the task, write comments and post anything to me through the online intervention. Cloud computing also allowed the students to work together on the same document at the same time from anywhere (group doc). The students (and the parents through their child's account) could post memos to me asking for assistance if/when needed. Sharing docs with students was managerial-friendly. I could save teaching time by saving and distributing material to my students. Additionally, I did not need to correct their work since the docs to individual students were all self-study. I could, however, give feedback to them about their mistakes when they asked me. I could also save time as my students and I discussed their best/least successful performance areas (by looking at the online assessment charts) as many times as we wished without the paper bureaucracy. Above all, however, I felt I maintained a facilitating tone in teaching in guiding the students into more autonomous learning.

Chat sessions were prescheduled, one every two weeks and students were given a planner with those dates for the whole period of the programme running. All sessions were one-to-one (i.e. one child conversing with teacher). All sessions were non-structured and children could discuss any matter with the teacher freely. Texting

messages were the only mode used as the learning objective was ‘to express oneself in a written form of the foreign language’; so, the video/audio mode was turned off. Children were encouraged to write in L2 (all children’s chat logs appear unabridged) and only in face of difficulty to turn to their L1, whereas I was using only L2 with them.

The material design stage demanded careful moves and as such it was a time-consuming period. Yet, what was really laborious work was the planning of the stages prior to the online intervention ignition along with the structural design of the online intervention. I found the necessary how-to advice in the Google Apps Education Training Centre (<http://edutraining.googleapps.com/>).

My online intervention ran for six months, from November to April. During that time I kept a diary, taking notes on the logistics of the programme (see *Appendix, Various 7*, p. 329). One week after the end of the online intervention two questionnaires were given out, one to students and one to parents, to complete and return (see *Appendix, Various 8*, p.352, and *Various 9*, p.353). One month later, students were asked to complete a second questionnaire, which resembled the first but this time they had to prioritise their opinions (see *Appendix, Various 8*, p.352). The students could complete their questionnaires online or in a pen-and-paper form, whereas the parents were asked to do it in a pen-and-paper form only.

6.2 Taking Action

6.2.1 Taking action: What I did in relation to personalised learning inside the classroom

In the second year of the research study (Y2) I chose to focus on students' socialisation and communication skills by continuously praising their collaboration skills. I maintained my efforts in providing every learning task with clear-cut learning objectives. I tried to stretch their capabilities with challenging learning activities. And I endured with the classroom bureaucracy.

The first day of term was rewarding. I walked into the class to see that my students had already arranged their desks and had formed groups according to the rules I had introduced in the previous year. I had come to class ready to talk again about a class rearrangement, and with permission from the primary head teacher and the school principal to do so. It was not needed. My students had taken for granted that they would continue from where they had stopped.

During the first week we made some plans. The students agreed to form and be in groups and assess themselves as previously. Working collaboratively in groups needed further exploration. In Year 1, the students usually disregarded their own group rules, and misbehaved and experienced tension in keeping their power balance within their group. Yet, although the students realised this difficulty, they acknowledged the importance of working collaboratively in groups. For instance, they highly regarded *'good manners when working in a group'* and asked me to include it as a criterion in both of the appraisal systems we had assembled in the previous year.

One of my aims in Y2 was to promote the self-regulation methods that they exercised in their learning. Although self-regulation was not a new issue for them, it

was not a topic we had pursued in depth in Y1. Consequently, from time to time I brought self-awareness activities in class and tried not to miss an opportunity to pinpoint how each one of them was learning best.

For example, in order to remind them and make them fully grasp that best performance had an individual pattern for each of them, I devised an icebreaker activity 'What I want very much and what I can do very well in English' the first day we were together in class. Again as in Y1, it was a self-awareness humanistic activity based on two activities, *Self-Collage* and *My Self-Image*, from the book *Sharing and Caring in the Foreign Language Class* (Moskowitz, 1978). Students were given the shape of a five-petal daisy with a stem and one leaf (see *Appendix, Various 6*, p.328). In each petal they had to write one wish (starting with the phrase 'I want very much to ... in English') and in the stem, leaf and centre of the flower they had to describe one of their abilities (starting with the phrase 'I can very well ... in English'). In the end of the activity the students reported in class their five wishes and three strengths and then we discussed about individuality in learning together. We agreed that differences were to be celebrated and not mocked or feel ashamed of. We pinned twenty-six daisies on a poster by the board to look at and remember. At the end of the year, they took their daisy back and checked how many of their five wishes had come true that year.

Two of my concerns for Y1, in particular, the issue of noise and the matter of school change had been two vexing areas to which I had decided to give my attention in Year 2.

Noise produced during team work was understood differently by my students, me, other teachers or heads in the primary school, as I have previously described in Y1 diary notes (see *Chapter 5*, p.171).

It made sense how my students were describing noise but, as far as I was concerned, I felt I was on slippery ground. If balance in power was lost between me and the students, if a learning task was not well planned, or if collaboration routines were not followed and norms were violated, noise turned to hassle. When I discussed it with other primary teachers and school heads, most of them said that noise was not welcome in the classroom and for this reason tasks that generated noise had to be avoided in a curriculum. I felt that the students inclined to the opposite direction from the teachers. I also noticed that, assuming that I accepted my students' perception about noise, I would hardly find a teacher-ally.

In situations like these I usually take the middle course. I believed that the noise that my students were making resulted from productivity and not from inactivity. Yet, noise needed a frame. I discussed my worry with my students asking them to think of ways in which could gain a positive aspect *and* be less conspicuous. The discussion developed into a heated debate. Most of the students became animated saying things like

'we're not allowed to have fun in the classroom', 'grownups forget how it feels like to be in a classroom, sit still, make no noise and do exercises', 'how can we be with partners and not talk?' (*Diary Notes Y2/December, no. 1a*)

At the same time, however, there were some students who answered back saying:

'I can't think with noise', 'I forget what I have to do when there's noise', 'I, sort of, get confused' (*Diary Notes Y2/December, no. 1b*).

It was difficult but in the end we came up with some solutions. The students assigned the role of the Silence-Keeper to a member in each group whose task was to tag the noisy person so to remind him/her to be quiet. They asked me to include '*am quiet*' as good manners in the Reward-Appraising System. I offered the idea of having soft music at the background when engaging in a group task. They were all

interesting classroom management ideas but none turned out to be effective enough or the solution to the matter of noise.

6.2.2 Taking action: What I did in relation to personalised learning outside the classroom

My second area of concern was how to disseminate the new idea to parents.

Through my years of teaching experience I have learnt to value parental capital and not to ignore its power and influence in learning. I felt it was critical to reach out to them as quickly as possible; after all, personalised learning was used with their children for a second year. Unfortunately, it is difficult to reach all parents at the same time as their work duties, time constraints and home-school distance hinder the communication with them. To solve the problem I used my position at school (I was the Head of the English Department). At an Open Day of a new school year, it was usual for me to give a speech to parents about learning. I chose to present the basic principles of personalised learning and to ask for their cooperation and support. Also, throughout the year I gave mini informal talks on personalised learning in Parent-Teacher Day meetings as the English teacher of the class. In general, parents responded positively but not as eagerly as I had wished for.

Believing in the merits of personalised learning, I felt eager to communicate my findings to other teachers as well. Nonetheless, I knew I could not persuade a teacher who was not motivated or was unfamiliar with the new idea. I was certain that if teachers were well informed, they would more likely re-examine their biases and accept the new idea. The theory of attitude change (Wood, Rhodes and Biek, 1995), however, suggests that if a new idea is highly innovative it could make the teachers defensive and their previously established attitudes threatened. As argued by Snoeyink and Ertmer (2001), older teachers with a long experience in the classroom would have the knowledge but perhaps not the motivation to try

something new. I sensed that personalised learning would sound innovative to most of the experienced teachers at school, and, as such, they would rather object applying it. Whereas, according to research (Bobrowsky, Marx and Fishman, 2001; Supovitz and Zief, 2000), the novice teachers, as they are less knowledgeable, they might volunteer in experimenting with a change. I speculated that the novice teachers at school would be more willing to take risks. Therefore, I decided to instigate attention hoping to motivate novice and any interested experienced teachers. My next priority was to supply all information about personalised learning they might be interested in.

I turned for support to the Methodology Group to which I belonged. I explained my aims for professional developmental change in regard to personalised learning. I offered observation visits to the primary teachers in the Methodology Group who wished to be in my class to see our activities up close. I informed the English Teachers at school and invited any primary English teacher who was interested to observe my class. I also contacted other-subject primary teachers who were using collaborative techniques in their classroom and offered to exchange visits and experiences. Additionally, I discussed my plan with the primary head teacher, who promised to accelerate procedures to spread the innovation. Progress was slow and sometimes not according to hope. Although it was a steady process it was not a quick one.

6.2.3 Taking Action: ICT use for students

During Y2 personalised learning, in respect to my foreign language teaching, included an integration of ICT use in the curriculum. Although classroom practices continued as before, attention was given to a consolidation of ICT use with personalisation. The online intervention was used as a way to observe the potential of ICT in sustaining personalised procedures in learning. Should sustenance be

noticed, the mechanisms behind it would need to be analysed in order to be comprehended and evaluated.

Sixteen students from my class participated in the online intervention, nine boys and seven girls, nine to ten years old (Figure 4). They became the focus of the research in Y2 and the research findings in Y2 refer only to those sixteen students. Data were collected through diary notes and questionnaires.

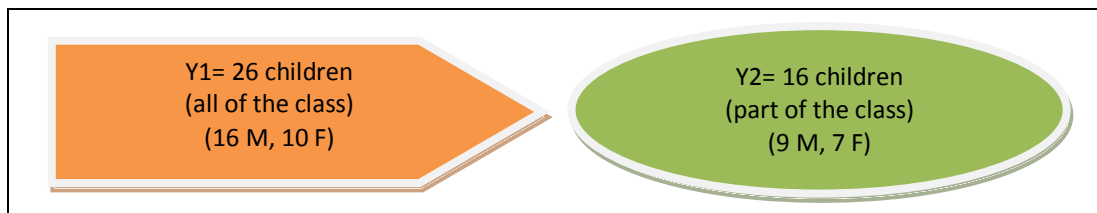


Figure 4 The participants in Y2

In Y2 the diary keeping was different from that in Y1. It was a personal record of the scheduled operations and events that took place during the use of the online intervention. Generally speaking, the Y2 diary notes were more managerial than intimate-personal in nature. For instance, there were entries like:

School starts; invitation to primary parents [i.e. to all parents of 10 year-old children] to attend my presentation on e-STUDY pages [uploaded in the school site]

(Diary Notes Y2/Sept 11, no. 2a)

Open up accounts for the new participants; upload new material in the application; prepare a chat planner for students/parents

(Diary Notes Y2/September 28, no.2b)

10/16 Ss have logged in so far; 6/10 have shared docs with me

(Diary Notes Y2/Nov12, no.2c)

Observations were also noted; their purpose was to remind me of actions to be taken in a subsequent phase of the intervention. A good example could be the following incident. Because of parents' feelings concerning e-safety, chat sessions had always been prescheduled. In that way, parents were informed when chatting was taking place. As an extra precaution I always logged in with the children so as

to warrant for their safety. At the end of the online intervention the most technologically competent user was found to have tried to invite other students in group chat without my permission. The entry of that day was:

[Referring to Chatlog10] MS01 tried to invite FS05 and MS14 to group chat without my permission: I was so scared! (MS01 a brilliant PC user, a Facebook / MSN user for 3 years working out the settings on his own); I sent all users a message in the online intervention making clear that group chat is not allowed at the moment; I should check users' doc and chat history more frequently)
(*Diary Notes Y2/March, no.3*)

Being the domain administrator I had permission to access the history records of the online intervention, a duty which after that incident I never neglected.

The online intervention ran for six months in Y2. During that time I observed not only how often users logged in (i.e., the number of times they went online) but also how diligently they worked (i.e., how much of the work was done in docs). Accordingly, three kinds of users were seen: the *active user* (the persistent user who always completed his/her online tasks), the *frequent user* (the challenged user who most of the times completed his/her online tasks) and the *on-and-off user* (the user who sometimes logged in and sometimes completed his/her online tasks). The history records of the docs offered a log-in frequency account for every user and I kept a record of their completed performance.

Thus, of the 16 users, I was able to categorise the users as follows: nine active users (56.2%) who completed almost every task, four frequent users (25%) who completed most of the tasks and three on-and-off users (18.8%) who sometimes completed the tasks (Table 3). The nine active users were observed to complete almost all online tasks (100% Gr-Voc tasks, 100% Fun activities, 89% Self-assessment tasks). The four frequent users completed most of the work (50% Gr-

Voc tasks, 100% Fun activities, 75% Self-assessment tasks). The on-and-off users chose what to do (100% Fun activities) and occasionally dealt with the rest of the online tasks (34% Gr-Voc tasks, 34% Self-assessment tasks). It was interesting to observe that Fun activities were the online activities no student - active, frequent or on-and-off user - ever missed to do.

Table 3 Users in the online intervention (Y2)

9 active users (56.2%)		4 frequent users (25%)		3 on-and-off users (18.8%)	
9 Gr-Voc files	100%	2 Gr-Voc files	50%	1 Gr-Voc file	34%
9 Fun Activities	100%	4 Fun Activities	100%	3 Fun Activities	100%
8 Self-Assessment files	89%	3 Self-Assessment files	75%	1 Self-Assessment file	34%
26/27 activities	96.2%	9/12 activities	75%	5/9 activities	55.5%

Chatting with students was limited. With the exception of one female student who was a regular chatter, there had been three rather frequent student-chatters in Y2, in total four users seen often in chat (see *Appendix*, Table 17, p.356). In some of those sessions, the children had complained that the chatting time was wrong and that other users could not participate because of school obligations. Generally speaking, chatting was considered 'having fun' (see *Chapter 7, MS50/focus group 2*, p. 237). Because the chat logs were few, they were saved and added to those of Y3 to be analysed.

At the end of that period, a questionnaire (Q1a) (see *Appendix*, Various 8, p.352) was given to students. It aimed at exploring the students' perceptions of online activities. In the questionnaire there were two questions with five and four sub-questions respectively, a total of nine questions in a Likert scale from one to five. The first question attempted to measure the students' self-regulation mechanisms when online (e.g. 'The online intervention helped me because I could on my own...') and the second question attempted to appraise the students' areas of best performance when online (e.g. 'In the online intervention...'). The third question was open-ended and it was meant for children to give their suggestions for improvement

(‘it would be nice if the online intervention....’). The questionnaire could be completed online or in pen-and-pencil. A second version of the same questionnaire (Q1b) (see Appendix, Various 8, p.352) was delivered to the students in an effort to identify what the students most valued.

The results (see *Appendix, Various 8, p.352*) present a picture of the students’ perceptions when online. The areas that received the attention of most students were the spatial (Q1a/q1f) and temporal (Q1a/q1e) significance of online learning; the playfulness of the system (Q1a/q2b); the difference of an online in comparison to a real learning environment (Q1a/q2a); and the chance of expressing oneself online (in chat) (Q1a/q2d). By looking more closely at the first choices of the students, the playfulness of the system (81%) was evaluated very positively. After that, opportunities for collaboration opportunities (75%), support for greater self-confidence (12.5%) and persistence (12.5%) followed. Students also appeared to pay attention to the difference of learning online (18.8%) from the learning in the classroom, and suggested a number of points for improvement (Table 4).

Table 4 Students’ suggestions for improvement in the online intervention

Users		Suggestion
4 boys + 6 girls	(10/16 users = 62.5%)	More colour, more graphics in docs
7 boys + 6 girls	(13/16 users = 81.2%)	More shared docs
2 girls + 2 boys	(the 4 students who often chatted in Y2)	More group chat sessions
7 boys + 5 girls	(12/16 users = 75%; the students who did not chat much in Y2)	More convenient chat hours
1 boy	(the most technologically advanced user)	Chat with video/audio

6.2.4 Taking Action: ICT use for parents

In Y2 there were twelve mothers and four fathers involved; to find more mothers than fathers as a support force in a Greek primary school was anticipated. From informal discussions, it was found that most mothers were higher educated women working in senior managerial posts. There were only two mothers who did not work,

one mother who was not working and a second mother who was unemployed. Two fathers were higher educated men who ran their own business. Some of the parents had an education that at some point involved the use of technology (e.g. computer science studies, postgraduate e-learning modules) or used technology at work (e.g. working in commercial / industrial / technological companies). To my knowledge, eight mothers and two fathers had to use technology at home (i.e. mostly to check and send e-mails) in order to continue work done in their office during the day.

It was speculated that those sixteen parents, because they favoured technology use in general, would find the online intervention appealing. As Greek parents of primary students usually are, they were also eager to help in their child's learning. However, because of parents' excessive eagerness to help or because of lack of specific guidelines of how to help, parents' mediations are sometimes not appropriate.

Sensing the parents' willingness to help but also wanting to maintain the course of the intervention, I decided to provide the sixteen parents with support.

At the start of the programme the level of the parents' computing competency was unknown. It seemed reasonable to think that all sixteen parents were familiar with basic computer word processing functions and e-mail services but it felt unreasonable to believe that they all had efficient technical knowledge in computer problems. Anticipating a difficulty like that, I compiled some user-friendly notes in a file about computer safety and operating system (Windows) updates providing links to Greek sites for further information.

Next to a technical support the parents probably needed a clear description of the objectives of the online intervention and a good navigation advisory in it. I designed a step-by-step manual and a FAQ file about the use and usefulness of the online intervention. I put the files and the manual in a CD which I copied and gave it to all participating children to take home for reference use. Thinking that the parents'

needs were covered with informational assistance, it did not occur to me to plan a training scheme for them.

The online intervention had a different purpose for parents. By using their child's account details, the parents could log in on certain scheduled dates and chat with the teacher. Those dates were arranged approximately once every three weeks on late Sunday mornings and were different chat dates from those of the children.

Thus, from their home, it was assumed that parents would have a convenient and comfortable way of communicating with the teacher. In essence, it was thought that parents and teacher could have a possible communication channel open at any time and from any place they chose to; they could communicate in real time but in unreal (online) space, that is, the physical appearance of the communicator would not be needed.

Few parents participated in chat, however. With the exception of one mother, who turned out to be a regular chatter (FP05), there were three more parents - two mothers and one father - who occasionally responded (see *Appendix*, Table 15, p. 354). Most of the information that FP05 offered influenced the course of evidence collection. For one thing, it helped to the choice of the questionnaire as a way to collect parents' perceptions about online learning (see *Appendix*, Various 9, p. 353). For instance, in a chat session toward the end of the online intervention we discussed the reasons that made the parents reluctant to engage in chatting:

'I think the whole thing is a bit difficult for some parents...I mean some parents are afraid of it...because they don't know much about computers [...]if you don't mind I'd like to recommend something....you gave us a CD, a manual...maybe if you printed it and you gave it to the most 'difficult' parents....maybe it could work as an advertisement...you know, these things need time to be known, don't forget parents don't easily give their consent to their kids to go online alone....how many 9 year-olds have a PC in their room?...I don't know many....at least not in Greece...what I'm saying is you've got to reach to the parents! [....]I don't dare to suggest a meeting!...but maybe a leaflet with some advice, recommendations of other parents who've tried the online intervention...maybe it would attract attention' (FP05/*chat log 8, extract*)

This mother often asked if there had been any progress with other parents in chat:

'Any news? Did you have any new 'log-ins'?' (FP05/*chat log 4, extract*)

Gradually a bond was built between her and me; familiarising other parents with the online intervention became a shared vision:

'....I feel I've known you for ages...but we just met the other day [we met at a PT meeting at school]...I mean we've talked a lot in chat...I've asked you so many questions about FS05 [her daughter] so there's hardly anything to ask about FS05's progress...tell me about the online intervention then...did you notice any progress?...can I help in any way?' (FP05/*chat log 6, extract*)

The chat discussions with her helped me to reflect on the practical side of the online intervention, on parents' perceptions of online activities and on possible constraints when online. Not only did it help me to design the questionnaire to the parents but also helped me to make some new action plans for Y3. However, no matter how important those chat logs were turning out to be, they were few in number. That is why, all chat logs of Y2 were saved to be analysed together with the chat logs of Y3.

A questionnaire was delivered to the parents at the end of the online intervention (i) to survey the parents' perceptions of the accessibility and usefulness of the online

intervention, and (ii) to overview the parents' computer use competence. The questionnaire was delivered in a pen-and-paper form.

There were three questions with three sub-questions each, in total nine questions in a Likert-scale of one to five. The first question asked the parents' opinion about the online intervention, the second question was estimating the parents' opinion about external facilitating conditions in the online intervention and the third question attempted to rate the parents' computer competency.

When I looked at the results (see *Appendix, Various 9*, p. 353), it appeared that the majority of the parents assented to the usefulness of the online intervention (qA1) and had a high estimation of training (qB1) as a moderator of accessibility in online tasks. More than half of the parents believed that the docs were easily accessible (qA2) especially when parental help and support was offered (qB3) to the children. Few of the parents believed that they were computer competent (qC3). Playfulness in an online task hardly had any significance (qC2) for most parents.

6.3 Reflecting

What follows are my reflections when the research year ended.

6.3.1 How ICT integrated in personalised learning

The integration of ICT into the personalised learning of the young learners appeared to be more satisfactory in some areas and less in others. In particular,

- *Collaboration* processes online appeared to be powerful (e.g. in group docs) offering opportunities for more contribution. Yet, online collaborative processes were at a primary level and I felt that area needed more support. Evidence from the two group docs hinted at the use of different mechanisms of group dynamics. However, data from group docs were limited (only two group docs occurred in Y2).
- *Playfulness* online was appreciated by the students. It appeared to be an attribute of online tasks that could promise successful learning and as such, playfulness in online tasks had to be maintained at all costs.

What is noticeable is the fact that the fun activities were the tasks which were preferred and completed by all children no matter what kind of users they were (Table 3, p.195). This could signify that children realised an online task as useful if it was also pleasurable. From the questionnaire findings (Q1a/q2 c, d), it also appeared that a lot of students admitted the usefulness of the system, whereas all of the students appreciated its playfulness (Q1a/q2b) when found online.

Students suggested (Table 4, p. 196) that the online tasks would become more engaging if some of their technical characteristics were changed or reformed. They asked for more colour, video/audio incorporation and generally a less static mode in tasks; namely, they were asking for multimedia formats (text, graphics, sound, music, videos and animations all web-integrated and embedded) in the online intervention. As a solution, in Y3 I decided to use more colour in docs, videos,

interactive games and activities, after checking their e-safety first. Google Apps supported multimedia applications (e.g. Google Calendar, Google Sites) but I had chosen not to include them. Had I included them, the e-safety of the students would not have been safeguarded as I intended to.

- *Challenge* online was experienced through the language tasks but also through the computing tasks. However, the more technologically competent the users became, the more advanced technological challenges they asked for. There appeared to be a need for gradual increase in technological difficulty for users to remain engaged.

From students' suggestions (Table 4, p.196), a desire to have more group docs and group chat sessions was building up. Until then, I had promoted ways to help them to develop and expand their computing skills. After using the online intervention for six months the students assumed headway and asked for social interaction in online tasks. Actually, they were asking for advanced collaborative online tasks at a higher communication level.

Online interaction in the tasks was, indeed, at an initial developmental stage and needed a boost. Group docs would have to be planned better and tasks might need to change from individual to group work-related. Group docs would have to be more than individual docs. Acting in favour of the e-safety of the students, I decided that group chat sessions would be piloted first with users who could be trusted to do so, under the conditions I had previously set (i.e. on prescheduled sessions only and never on their own). Then, one group chat session could be scheduled with a specific student group each time -at least at the beginning, until all students had experienced a group chat (see *Chapter 7*, p.214).

- *Autonomy* online occurred mainly when there was a supportive environment for the young learners. Parental help was assumed to be an influential facilitating

condition to the children's intention of online use. Therefore, computer knowledgeable parents could be more effective in helping their children. Hence, training schemes for both children *and parents* seemed important.

According to parents' opinions (see *Appendix, Various 9*, p.353), their children found it quite easy to access the docs and relatively easy to chat. Nonetheless, most of the parents stressed the importance of training in the online intervention and more than half of them admitted that when their support was available it was a facilitating external condition that made the online intervention more accessible. In short, practical, hands-on experience was essential in order to offer a guiding and supportive environment to students -and probably, to parents, as well. Thus, training prior/during the intervention use was significant to the online accessibility and eventually to the intentional use of the online intervention.

Until then, the training scheme for the students had proved helpful. The fact that most of the students engaged easily in docs and chat (see *Appendix, Various 8*, p. 352), and their asking to be involved in the future in online tasks which were more interactive, suggested that training had helped their computing skills to progress. There was, however, the case of the on-and-off users who asked to be reminded of logging-in instructions during the running of the online intervention. I had advised them to look at the CD files, or had asked more regular users to help them in the library computer during a break period. My rationale was that those students had to be persuaded to be autonomous learners but that was a point to ponder further.

Training *during* the course of the online intervention was important. I decided to offer two training hands-on workshops in the following year, one after two weeks from the ignition of the online intervention and a second in mid-running period of the online intervention. This time I would be facilitating only while regular users would coach the groups in the school computer lab.

From discussions with a mother (FP05, a regular-chatter) I had realised that parents would also benefit from a training session. Children relied on the computer knowledge and skills of their parents. If I could train parents on the online intervention, it would be a facilitating factor for children's online accessibility. Additionally, the parents themselves would become more familiar with the online intervention and some stressors or constraints to its use could be minimised. The time constraint appeared to be the main obstacle for parents to use the online intervention but it was intriguing to find out what else could possibly stress or hinder the parents' online use. Last but not least, a training session for parents would probably be a way to advertise the online intervention, as FP05 had suggested (p.199).

- *Communication* online was enacted in social interaction (i.e. chat sessions). The more technologically competent the children became, the more complex socially interactive they asked to be online (i.e. group chat). On the other hand, the parents appeared to be hindered by stressors and constraints towards the use of social online communication. It was an area that needed a different approach for each of the two age groups.
- *Time management for the teacher* could be planned on a different basis. Online tasks could be preplanned and predesigned and students alone or with partners could work on the tasks at the same time from anywhere. Besides, the teacher could facilitate many students or many groups of students at the same time from anywhere. Saving and retrieving online material was easy. It could be accessed anytime, it could be altered quickly in simple ways and it could be multiplied effortlessly and economically. It appeared that ICT practices could manage time effectively. There was even reason to believe that ICT practices had an aptitude for time management that could be explored even further.

6.3.2 Lessons for Year Y3

When the time of the online intervention ended and all questionnaires were returned, a reflection process started. In general, it could be said that both students and parents were positive about the new possibilities in learning that the online intervention was offering. There were some areas, however, which required attention.

According to the research evidence of Y2, it was noticed that:

Integrating ICT practices into the foreign language learning curriculum had to be of 'best practice' first (p.182). For students it suggested that learning was developing a new character. By looking at the results of Q1a/q2a 'I was learning English in a different way than being in class', it was clear that a lot of students considered 'the difference' in learning an important gain. The results of Q1a/q2c, 'I practised English in docs' showed that many students admitted to have profited in practising FL grammar and vocabulary, and the results of Q1a/q2d 'I practised English in chat' claimed that more than half of the students admitted to have benefited in FL learning.

Personally, 'best ICT practice' meant that the online intervention should be able to offer opportunities to students to collaborate, to have a playful aspect in it, to give room to students' differentiated learning and to economise teaching time for me. I believed that if the online intervention complied with all the above, it could help me to surmount my instructional role and move to a more facilitating teaching role. Even more, if my ICT intervention was innovative, creative and supportive enough, it could promote the self-regulation mechanisms of my students and guide them to autonomy in learning. With students choosing when, where, how much or how often to study *outside* the school gates it meant that a 'best ICT practice' could also be a 'next ICT practice'.

Towards the end of the school year the intervention as an idea had started to spread among students. Children enjoyed play; children appeared to find technology interesting because it could be playful. Such perceptions about technology apparently circulated among students. The result was that some students approached me while others approached their friends asking to intervene for their sake in order to participate in the online intervention in the following year:

'Ms, do I have to be your student to get into the programme? I'm good at computers, I help my mum with emails and everything, can I take part, too?'
(*Diary Notes Y2/April, no.4a*)

'Ms, my friend X wants to be a user, too. He's quite good, we do Skype and MSN together. Can he join us? What can I tell him?' [*one of my students intervening for his friend*] (*Diary Notes Y2/April, no.4b*)

According to my resolutions (p.183), the online intervention should not exclude a willing student who wished to participate. Since there was a new group of students who showed an interest to participate, it would be right to include them in the online intervention. Yet, although it was pleasing to hear that new students were interested in the online intervention, it implied some serious practical difficulties for me. For instance, the fact that I was dealing with my students so far indicated considerable flexibility in time and management. For one thing, it was reasonably easy to remind them - when I met them in class - of important dates and duties if they happened to be forgetful. I also worried how I could manage a lot of users on my own since I was the only teacher in the online intervention.

As usual, I decided to take the middle course again. I could offer the online intervention to any user who was *at the same age with my students but not necessarily in my class*. In that way, management in relation to online material design would not be an issue since I would prepare material relevant to all users (i.e. students of the same year used the same text book). It would be difficult at the

beginning because all new users would have to be trained. But I could restructure the training scheme I had thought for the following year and ask regular users to coach non-regular *and* novice users. Also, if I mixed older-experienced with new-novice users in doc groups, this might enhance their social and communication skills online.

6.4 Summarising

This chapter has investigated how I sought to address areas of personalised learning procedures which seemed to cause me trouble. At the end of Y1 I became aware that in order to sustain my students' active engagement in learning, the students' collaboration processes needed further development, the leaning tasks needed to be playful as well as challenging, teaching time needed to be managed more economically, and students needed to be shown how to become more autonomous in learning. Studying the theory of personalised learning, I believed that technology lends itself well to a learner-centered pedagogy because it can be interactive and communicative. In fact, I was curious whether I could embed technology holistically into the learning curriculum.

Moreover, I committed myself into an ICT-curriculum that would be of 'best practice' and of 'next practice'. That is, ICT use was not seen as another tool but as a practice which would have to be reliable to bring a desired result, practical to ensure success and ethical to respect the students' various diversities. At the same time, ICT use would have to offer opportunities for learning beyond the classroom and prepare students with skills for future workplaces.

7 History of Year 3

7.1 Designing

In Year 2 my thoughts coalesced in the idea of personalised learning. I became aware that it was important to sustain my students' active engagement in learning, to further develop their collaboration processes, to provide playful and challenging learning tasks, and to manage my teaching time more economically. In essence, I wanted and intended to find ways to show my students how to become more autonomous in learning.

As seen in the previous chapter I became interested in the use of ICT. I became interested in ICT use mainly because it might help a student build his/her autonomy and socialisation, as suggested in the literature of personalised learning. I also welcomed the idea of exploring ICT use in the curriculum as a personal preference.

I decided to embed technology into the learning curriculum into what Hoven (1992) describes as a holistic fashion, that is, to use technology in such a way that it could help me address a combination of goals. I saw ICT use as a practice which would be 'best practice' *and* 'next practice' in the sense of providing opportunities for learning beyond the classroom and prepare students with skills for what lay ahead in the future.

Indeed, ICT practices I had already introduced in Year 2 appeared to offer the opportunity to learning to go beyond the classroom. Online tasks seemed to be perceived as playful, and to enable the sharing of online material at anytime from anywhere with everyone. I felt that through certain ICT tools I could find a way to set a social and communicative tone in learning and, at the same time, to manage teaching time.

Towards the end of Y2, there were a growing number of students who wished to participate in the online intervention. Thus in Y3, I took the decision to accept any new student who was willing to take part as long as he/she was in the same school year as the existing participants (Figure 3, p. 133). The fact that all participants would be of the same age was significant to me as I could economise my efforts and time: although new online materials would have to be designed, they would address the same age and class level of students.

At this point I would like to put down some thoughts which, in a way, directed my research procedures in Y3. Although I continued exploring personalisation and issues such as collaboration, in Y3 I focused my research investigation only on one area: I wished to examine in depth the students' and their parents' perceptions of technology in relation to learning. I focused even further: I became interested in finding out if and how technology offered collaboration and communication opportunities for learning. I also wished to explore if and how their parents valued the potential of technology to open communication channels with school. In other words, I realised that in order to improve the collaborative and communicative skills of my students in a personalised environment with ICT use embedded in it, I ought to listen carefully to what my students had to say about it. That is why in Y3 I chose to investigate the students' and their parents' chat sessions in depth.

The objectives of the action plan in Y3

In Y3, I became interested in investigating the students' perceptions about ICT and how these perceptions related to their learning in the broad sense of the word. In particular, I wanted to find out

- how the students thought that technology could support their learning,
- whether these were particular issues regarding *access* (the opportunities a product, service or environment offered to an individual to acquire, store, manipulate and transmit information in technology) and *accessibility* (the availability of a product, service, environment to as many individuals as possible to use and benefit from technology),
- what opportunities the students saw in technology, and
- the constraints they acknowledged in technology.

Using this information I could

- design the online material more appropriately to fit the students' individual differences and strengths,
- make customisation changes in the online services I offered to the students,
- establish the kind of support the students needed and provide it, and
- comprehend the constraints that intervened and disturbed the students' motivation and intention to use the system, and possibly find ways to overcome them.

Students and parents were regarded a reciprocal source of information. In this way, data relevance, accuracy and transparency were achievable. What children expressed, perhaps their parents could possibly verify and vice versa.

First, however, there was one priority. In Y2 I perceived that a training period before the running of the online application was critical (*Chapter 6*, pp. 203, 206-207).

Consequently, I thought it was wise to offer a training scheme to all new, as well as to previous, participants in the online intervention in Y3. Furthermore, noticing how important parental support was for the students but also how diverse in computer knowledge the parents were (*Chapter 6*, p. 200), a hands-on training session for the parents seemed necessary at the beginning of the application.

7.2 Taking Action

I describe below the actions I took to involve my students and their parents in personalising learning with technology.

7.2.1 Taking action: What I did for the students

The actions I took in order to enhance the children's ICT use follow below.

Training children

After the meeting with parents at the Orientation Day I had a list of fifty-four potential children-users, and finally ended up with fifty-one users, twelve existing users from Y2 and thirty-nine new users (Figure 3, page 133). This time there were many children to manage, most of whom were new potential participants; therefore, it was important to design a different training model from Y2. Believing in what personalised learning advocates about students owning their learning, I decided to distribute the leadership of the training to the active and frequent users of Y2 since they had some experience.

I mixed older with new users in training groups and, thus, ten five to six member-groups developed. I asked an active/frequent user each time to be the 'coach' of a group. He/she had a practical task to accomplish, that is, to explain the main operations of the online intervention to the other group members and help with hands-on activities on the demo version of the online intervention. I participated in every training session explaining about the use of ICT, pointing at online dangers and web safety precautions, and facilitating the child-trainer when necessary. Each training session lasted for one academic hour. All sessions occurred within three weeks prior to the ignition of the online intervention and took place in the computer lab of the primary school.

At the beginning, the children-trainers were enthusiastic about leading but soon discovered the difficulty in teaching:

'...I thought it was easy to tell people what to do...now I understand what it is like to be a teacher...' (a child-trainer, MS01/focus group 1, translated)

Yet, distributing leadership to students showed its value later on. It was one of my intentions to offer mini training sessions *during* Y3 to any user(s) who may have needed some support (see *Chapter 6*, p.203); yet, no such sessions ever occurred. In fact, there were users that needed assistance all through Y3 but each time they seemed to need help they turned to the 'coach' of their training group instead of me.

Online chatting with children

Y2 evidence pointed to the fact that children-users preferred group chat (many-to-many students + teacher) to individual chat sessions (one student + teacher) (see *Chapter 6*, p. 202). However, there was an incident that persuaded me it was time to launch group chat and tutor the students how to go about it.

Toward the end of Y2, my most computer competent student, on his own accord, invited two other users in group chat without letting me know. It was a frightening experience for me because, the student, unintentionally, increased the possibility of online danger in the system: as a participant in a group chat he could invite an unlimited number of others to join, not necessarily users in the particular online intervention. Should such a thing happen, I would be asked by the school headship to terminate the online intervention for reasons of online safety. Besides, so far I had been attentive to issues of web safety and had made the parents aware of that as well. The last thing I wanted was to be inconsistent with my actions.

Yet, it was at the same time an insightful experience for me. The fact that the most computer competent student upgraded the chat activity could suggest that he had found signs of stagnation and boredom in it and, thus, he made me think that it was time to increase the level of complexity in chat.

However, due to the context in which chatting was taking place, I was cautious. I decided to pilot group chat sessions at the beginning of Y3. Initially two pilot chat sessions with two different users each time and me took place at the beginning of Y3 (see *Appendix*, Table 18, p. 357). During those two sessions, feedback was put forward about the strengths and weaknesses of group chat. Following, individual chat sessions were reduced to four in Y3, whereas ten prescheduled group chat sessions were planned between me and five different users each time. I controlled who and how many of the participants were in each chat group both during the piloting period and afterwards. Apart from monitoring the synthesis of their participation pattern and the timing of the group chat sessions, I did not intervene any further. The students were free to express themselves in chat using the written form of English (texting). Indeed, it was usual for them to talk as much about their school life as about their personal life (i.e., in *Nodes\\Tree Nodes\\ Students, Small Talk and Pleasantries*):

Girl: Mr, I'll make cookies with my mum later on! I wish I could send you some
(*FS05/chat 7, extract*)

T: how was it today with Mrs. X? [due to my illness a sub-teacher had replaced me that day]

Boy: at the beginning, we kind but later we bad! She was mad!
(*MS15/chat 9, extract*)

I presumed that, although I withheld their choice of who to join with in a group chat session, by giving all children-users the chance to experience at least one group chat, rules in group chat would be easier to follow (i.e., who we invite in chat and why so).

Thus, I could be in a better position to guard the students' safety in the web. However, the incident taught me a valuable lesson: children's actions can be unpredictable. Hence, monitoring the users' log-in history became one of my habits as the administrator of the system.

Interviewing children

The seventeen children formed four focus group interviews, three groups of four and one group of five children (Table 5). I took care to include at least one active, one frequent and one on-and-off child-user in each group I got permission from the head teacher to use a spare primary classroom and got the children's informed consent to audio and video record the sessions. I explained to the students that the audio recording was to be transcribed and analysed for research purposes whereas the video recording was to be an extra precaution in case of data loss or voice/articulation miscomprehension in the audio recordings.

Table 5 Children arranged in focus group interviews

CHILDREN focus group interviews		
FOCUS GROUP 1	MS01 + FS17 + FS54 + MS14	4 children (2 boys + 2 girls)
FOCUS GROUP 2	FS05 + FS44 + MS50 + MS22	4 children (2 boys + 2 girls)
FOCUS GROUP 3	FS09 + MS10 + MS45 + FS39	4 children (2 boys + 2 girls)
FOCUS GROUP 4	MS24 + MS03 + MS26 + MS48 + MS23	5 children (5 boys)

As with the parents, the focus interviews followed a similar list of general and specific issues. I decided to have focus group discussions instead of individual interviews with the children because I wished to get reflective feedback and a retrospective evaluation from them while they discussed with their partners. I perceived that children in conversation could be influenced by other children's opinion but they could also defend their views with certainty. Hence, it could be a helpful means to confirm or not the

information previously gained from the chat logs. Children spoke in Greek and the complete interview conversations were transcribed in Greek and translated in English whenever an example was needed for this piece of work.

The interviews with children aimed at investigating two research areas:

general: their perceptions of the relation of technology to learning, and about the opportunities they saw in educational online use, and

specific: their perceptions of collaborative and communicative skills, about access and accessibility, and about the constraints that disturbed their ICT use in the online intervention.

The interview questions were accompanied with prompt questions and in the interview sheet there was space for field notes, which were mainly notes of interest / surprise / attention at what the students discussed (see *Appendix*, Table 22, p. 362). I spent one month after the end of the online intervention conducting focus group interviews with children at school.

7.2.2 Taking action: What I did for the parents

I describe below the actions I took to enhance the parents' ICT use.

Training parents

Before the beginning of the school year (Y3) I got permission from the school principal and the primary head teacher to offer a training session during Orientation Day for any parent interested in ICT with a ten-year old child at school. The first day of the school year I handed an invitation-letter to every ten-year-old student to give to his/her parent. I uploaded the invitation-letter to the school site (in the calendar section) as well. I explained both to the children (orally in class) and to their parents (in the letter) that it

was not a compulsory meeting but rather a meeting for interested people. It was mainly for parents but any child wishing to attend the meeting was welcome.

I offered a two-hour seminar to all parents who attended. The session took place in the Main Computer Suite Room at school. During the first hour, I gave a mini presentation about technology in education. I explained the importance of bringing technology inside and beyond the classroom, presented the basic advantages and disadvantages of using ICT from home, cautioned about safety online, and made clear that parental support in online tasks was vital in young ages.

Next, I showed the main operations of the online intervention. At the end of it, following the advice of a mother user of the online intervention in Y2, I 'marketed' my project to the parents at the time of the training session. A few days before, knowing that the parents of three 'frequent student-users' would attend, I asked the children to escort their parents to the meeting.

After presenting the children to the audience, I asked them to answer to questions that parents may have had about educational online use (I had deliberately asked frequent-users and not active-users for the possibility of less biased views). The children had not prepared or preplanned any answers. I had only asked them to talk about their last year experience as truthfully as possible.

The parents at the meeting became intrigued and were interested in hearing the children's opinion. The parents mostly asked about the reasons that the children wanted to use ICT and about the difficulty or ease that the children encountered in using the online intervention from home. The discussion took more time than planned as, unexpectedly, the parents of those three children wanted to offer their point of view to the audience as well. They highlighted how differently the children behaved in online

learning from traditional (textbook) learning. They noted how interested the children were to log in and do the online tasks but also how inexperienced the children were in organising their work in files and folders. The parents expressed the opinion that the online intervention was friendly to use and children could manage with a little parental help and only at the beginning. The main difficulty, according to the parents, was the technical problems that required either technical help or knowledge to solve them.

At the final part of that session, I invited the parents to have a hands-on training experience. I guided them to log in the demo version of the online intervention and to do an online language task (doc / asynchronous learning). They were also helped to experience the chat service (synchronous learning). The parents exchanged messages with a dummy-teacher in real time (i.e. I had asked my husband to stay at home and pretend to be 'the teacher'). During that time, the three children-users and I circulated in the room facilitating the less computer competent parents.

Being fortunate to have half of the parents' population of ten-year-old students with me at that day, I took the opportunity to ask about their personal reactions to using technology in that way. Some of them explained that the training of that day cleared the fuzzy picture of what ICT was about. Most of them 'confessed' that they were incompetent computer users compared to their own children. It appeared that their remark did not suggest that they were embarrassed or felt defensive; instead, I felt that by acknowledging their incompetence they offered to do something about it. A lot of them affirmed that they were unfamiliar with web safety precautions and, since they did not know how or where to find this information, they usually restricted their child's online use. Almost all parents, however, expressed the feeling that ICT could be helpful and they were eager to support any technology initiatives which they saw as useful and e-safe.

As the training session was coming to an end, I asked any parent who thought that the online intervention would be of some value and interest to his/her child to sign up giving his/her consent for his/her child to participate. The parent who signed up got a CD (an updated version of the CD in Y2) with log-in instructions and guidance on how to secure a computer. Of a total school population of one hundred-and-two ten-year-old children, parents of fifty-four children were present that day and all of them gave their consent. Fifty-one children (N=51, 38 boys and 13 girls, 10 years old) and fifty-one parents (N=51, 43 mothers and 8 fathers, in their 40s-50s) finally participated in the online intervention in Y3 (Table 1, p.134). More than three quarters of the participant parents were mothers. Of those fifty-one participants (children/parents), twelve were existing (older) participants from Y2 and thirty-nine were new participants.

Online chatting with parents

During the training session in the Orientation Day, I explained to parents that every third Sunday morning (11:00-12:00) they could have the opportunity to talk with me from home about the progress of their child or about any other subject-related issue that concerned them. Our exchange of written messages would be in the parents' native language (Greek) as the purpose of using the online intervention was different from that of the children's. For their convenience, I handed them a scheduled planner of the available days/times during the running of the online intervention.

Online chatting with the parents rarely occurred in Y2. In Y3 there were more parents-users but still they were reluctant to go online (see *Appendix*, Table 16, p. 357). In chatting with parents I noticed (i.e., from entries in *Nodes\Tree Nodes\Parents, Perceived Usefulness\Learning Goal Orientation\talking about their child's progress*) that they were interested mostly in the behaviour rather than in the linguistic progress of

their children. They wanted to learn if and how their child participated in class, and if and how the child communicated with others:

‘...it’s far more important to know about my daughter’s behaviour than about her academic progress...’, (*FS05/chat 15, translated extract*)

‘...I’d like to know how he works with other students in class, and if he comes with his homework done...’ (*MP27/chat 10, translated extract*)

It was true that the number of the parents who chatted online more than tripled from Y2 to Y3 (see *Appendix*, Table 15 pp. 354; Table 16, p. 355) yet, some interesting issues were also emerging. First, the parental capital was mostly made of mothers (forty-three mothers and eight fathers) (Table 1, p.134). Second, the number of the parents that logged in was not stable; it was higher at the beginning of the online intervention than at any other time point in Y3 (see *Appendix*, Table 16, p. 353). It meant that, even though some parents were frequent users, they were not regular users. Or, to put it differently, mostly the same parents were observed to log in on a regular basis.

I concluded that parents were presumably positive towards technology since the number of parents who engaged online in Y3 grew. However, their reluctance to go online, in all probability, suggested that the parents’ technology perceptions were not consistent and that the parents might have experienced certain constraints in using technology. I speculated that training was not a ‘cure’ but just one of the measures to decrease the parents’ reluctance to go online. To identify the parents’ perceptions of use and possible constraints in technology use I interviewed seventeen parents by telephone at the end of the online intervention.

Interviewing parents

The interview questions aimed at eliciting parents' answers about their own online use as well as about their child's. I chose to follow certain steps how to collect and analyse the interview data for reasons I explain below.

I felt that the parents' critical evaluation could allow for transparency and reflexivity to a certain degree. One of my aims was to see with clarity the choices, the decisions and the perceptions of the seventeen children. If next to the children's perceptions I had the parents' opinion about their own children's online use, the interpretation of the data could be richer and could gain in transparency. I believed it was also a way to compare the parents' data to the data I gained from the children to decide if each side told me similar truths, or to cover each other's informational gaps. In short, it could be a way to test the data for relevancy. That is why it was important to have *the same number of* parents and children as well as *a strict analogy* between child-parent who took part in the interviews.

Additionally, my intention was to explore why the parents had been enthusiastic to go online at the beginning but were reluctant later on (see *Appendix*, Table 16, p.355). That is why I decided to explore the parents' perceptions of technology in *post-study terms*, that is, after the parents themselves had some experience online.

In particular, the interviews with parents were designed around two broad research areas:

general: their beliefs and attitudes about the relation of technology to learning, and to the learning of their child, and

specific: their perceptions about the potential of the online intervention as a communication channel between them and the teacher, and about their mediation techniques in their child's online use.

The interview questions were accompanied with prompt questions to be used in case of discussion sluggishness. In the interview sheet there was space for field notes, which were mainly notes of interest / surprise / attention on what the parents discussed (see *Appendix*, Table 21, p. 361).

I devoted one month after the end of the online intervention to the telephone interviews (Table 6). It was a time-consuming task as each telephone interview needed approximately twelve minutes and most days I interviewed two parents. It was also a fatiguing task as I called a parent from my home in the afternoon after a tiring day for me and presumably for the parent. Needless to say, however tired I was, I felt obliged to engage in a pleasant discussion with the parent. I had also to follow my semi-structured interview script according to the flow of the conversation, which in most times developed in different ways.

Table 6 telephone interview schedule

Week	Number of telephone interviews / week	Time allotted (approx.) / interview
1	5 (1-2 interviews/ day, spent 3 days in interviews)	10-14 min / interview
2	5 (1-2 interviews/ day, spent 3 days in interviews)	12-13min / interview
3	4 (2 interviews/ day, spent 2 days in interviews)	9-13min / interview
4	3 (1 interview/ day, spent 3 days in interviews)	11-15 min / interview
TOTAL	17 interviews	12 min (approx.) / interview

I must confess however, that although keeping the balance in power between the parents and me in the telephone interviews was stressful, engaging in discussion with them was a relatively comfortable experience since I had been acquainted with most of the parents from previous years. Additionally, since I was a person parents recognised, there was not an awkward period in the telephone interviews. Parents, although they were a little formal at the beginning, they seemed to warm up along the interview process and even, in some cases, they stayed longer in the interview than expected (there were two interview cases of fifteen minutes each).

7.2.3 Management of the analysis

The results of my actions, in relation to children and then in relation to parents, are analysed below. First, however, I describe the procedures I took from the data collection to the analysis of the evidence.

The management of the data collection

The types of data I intended to gather were in: (i) *the students' case*: chat logs and focus group interviews, and (ii) *the parents' case*: chat logs and telephone interviews.

The management of the data collection was as follows:

Chat logs

The students' and parents' chat logs included logs from Y2 and of Y3. I examined children's and parents' computer use in relation to the frequency (the number of times) they went online (from my records and from the log history records of the system) (see *Appendix*, Tables 15-18, pp. 354-357). For that purpose, only the total sums of the individual chat sessions were compared. Both parents and children-users were categorised as *active* users (persistent users who always went online to chat), as *frequent* users (challenged users who most of the times went online to chat), *on-and-off* users (users who sometimes logged in to chat), or *inactive* users (users who agreed to go online but never did) (Table 7). Generally speaking, the online patterns in both Y2 and Y3 suggested that the children used chatting widely, whereas the parents showed reluctance to go online.

Table 7 The participation pattern of online children-users in Y2 and Y3

	Students	Parents
Year 2	Active (7-12 times) = 9 users (56%) Frequent (5-6 times) = 4 users (25%) On-and-off (1-4 times) = 3 users (19%) Inactive (no times) = 0 user (0%)	Active (6-9 times) = 1 user (6%) Frequent (4-5 times) = 2 users (13%) On-and-off (1-3 times) = 1 user (6%) Inactive (no times) = 12 users (75%)
TOTAL	16 students	16 parents
Year 3	Active (3-4 times) = 13 users (26%) Frequent (2 twice) = 16 users (31%) On-and-off (1once) = 21 users (41%) Inactive (no times) = 1 user (2%)	Active (7-13 times) = 3 users (6%) Frequent (5-6 times) = 7 users (14%) On-and-off (1-4 times) = 10 users (19%) Inactive (no times) = 31 users (61%)
TOTAL	51 students	51 parents

The online intervention ran for eight months (October to May) in Y3. During that time the parents' *regularity* in chatting was of particular interest to me (see *Appendix*, Table 16, p. 355). It appeared that their interest in chatting faded with time and few parents persisted, the regular ones. I describe and explain more about this later (see *Parents' interviews*, p. 225).

Children's interviews

Who, why and how many would participate in the children's interviews was a big concern. Although all fifty-one children were willing to participate in the interviews, I planned to organise them in *focus groups* without disrupting their school lives or other people's lives. Those children came from different classes, with various timetables and, thus, different teachers from whom to get consent. It proved impossible to have all children for an interview but I got permission for twenty-four students for one academic hour. As my ambition was to get a range of views and, since I could not have all the children for an interview, I decided that the twenty-four students should at least comprise of eight active, eight frequent and eight on-and-off users. The synthesis of the focus groups was a logistically difficult but finally a manageable task.

I had a list of questions and prompts to follow relevant to general and specific research themes (see p. 234); apart from that, the interview was planned to be informal. The informality of the interview presumed that the students' voice could be powerful. I have to confess, I welcomed it in the case of the children. I was intrigued to hear what they had to say after being online for some time.

Parents' interviews

I applied a filter in choosing which parents to interview: I sought to interview only the parents of the children who took part in the focus interviews for reasons I have previously explained (see *Interviewing parents*, p. 221).

The task was interesting but difficult at the same time. Interviewing the parents was intriguing to me. As a teacher when I discussed with parents they relied on *my* point of view; now I needed to rely on *their* point of view. However, I anticipated the parents' interviews to be difficult. From informal conversations with many parents in the past, I sensed that although they would be probably willing to take part in an interview it would be impossible to get them physically at school due to their many work commitments and home duties, and the distance of their home from school. Lack of time, especially for full-time working mothers, was an additional constraint. I persevered in my decision to interview the parents but I resolved to the telephone as the *mode* of the interview.

I knew that I ought to respect the parents' time and at the same time make them feel comfortable in conversation so that they would disclose the 'whys' and 'hows' of the chat experience. To do both, I designed the interviews to be *semi-structured*: I had a list of questions and prompts to follow relevant to general and specific research themes (see p. 243), but otherwise, I was left with some freedom to the management of the interview.

In short, it was important to me to adhere to the research aims but not to a normative interview protocol; so, I decided to ask every parent-interviewee all the questions but not necessarily in the same order or manner.

Relaxing the interview style, I expected to experience less formality in talking with the parents. Basically I saw it as a negotiation of power between them and me. However, I estimated that, to some extent, a degree of informality in the interview could raise the interviewee's degree of control over the discussion. In other words, a parent's personality or mood at the day of the interview would influence the direction of discussion. It could possibly direct it to paths that I could be allowed –or not allowed – to pursue any further. It was a risk I was prepared to take anyway.

Organising the interviews

I started the process of the focus group interviews with the children. I explained to them that due to organisational difficulties it was only possible to interview twenty-four of them. I explained that next to their consent for an interview I had to get the consent of their parents, so who would take part in an interview was to be announced later on. Next, I called their parents, first to get the parental consent for the child's participation in an interview, and second to invite and set an interview date with the parent. I made clear to all parents that both telephone and focus group interview recordings were meant for research purposes and all data would be treated anonymously (see *Appendix, Various 11, Ethical Approval, p. 365*).

From the twenty-four potential parent interviewees, seventeen volunteered to participate in an interview, five could not find the time, and two were unreachable despite my best efforts. Thus, I ended with seventeen parents willing to be interviewed and consenting to their child's interview. That also meant that I would have seventeen

children (the children of the seventeen parents) for interviews. The children and parents' interviews lasted for one month and occurred exactly after the end of the online intervention, the children interviews conducted at school in the morning and the parents' interviews from my home in the afternoon.

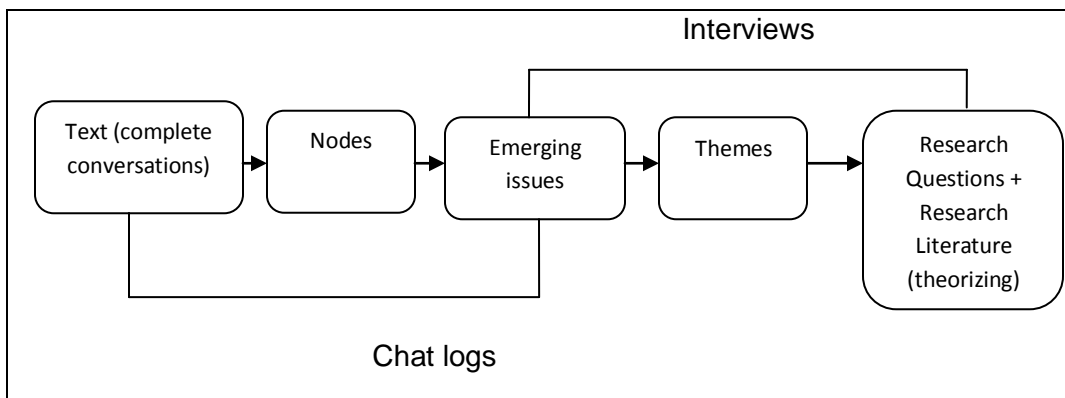
The analysis procedure of the data

In order to help the reader understand the picture that the findings suggest, it is useful at this point to explain the process of the data analysis. The analysis route described below applied both to the children's and to the parents' data alike. Where an example is given, it usually comes from the children's data. The chat log and interview data gathered were coded using the qualitative research software QSR NVivo10. The data analysis took the following steps:

I collected chat logs during the running of the online intervention aiming at understanding, identifying and reflecting on participants' perceptions of the relation of ICT to learning.

Graphically the analysis route of the chat logs and interview data can be summarized as:

Table 8 The analysis route in Y3



The chat logs were the complete conversations between a user (users) and me. I saved every user's chat log in a Word document and arranged the documents in chronological order. Then, I imported every word document into the NVivo software and saved the documents in cases, that is, I grouped the documents by user.

Example: Every case had the user's name under *Name*, the user's number of chat sessions under *Sources* and the number of references the user made to key topics under *References*).

Name	Sources	References
student FS05	16	84
parent FP20	3	11

I arrived at the analysis of the data with a conceptual framework in my mind and with a personal urge to reflect on it. I had developed a system of key topics, a tree *node* system, wishing to see how the sources supported it or pointed to different directions. I examined each data record in two ways simultaneously: (1) to see broadly what topics emerged and (2) to find where an appropriate node for this topic appeared in my tree node system and 'hang' the phrase/word to that node [*semantic coding at a tree node system*].

Example: The shaded lines 11, 13-14, 27-28 in the transcription of a chat log (see *Appendix*, Figure 5, p. 358) related broadly to what I had in mind as 'a user's perceptions of online enjoyment' and they were 'hanged' under the NVivo node *PC playfulness* (Node Structure Report: Nodes\\Tree Nodes\\ Students, Anchors\\PC playfulness).

By fracturing the data I started noticing patterns, relations among the nodes. That helped me to amend my predesigned tree node system along the analysis of the data by adding, deleting, merging or expanding the nodes until I finally ended with the *Node*

Structure (see *Appendix*, Table 23, p. 361). Then, it was easy for me to count the number of references users made in every node. This is how I developed the lists of the *Highly Referenced Nodes* (see Table 9, p. 230 and Table 11, p. 238).

Next, by doing the opposite, that is, by combining the data, I associated the highly referenced nodes together aiming more at a conceptual analysis. This led the analysis to the next level: from description and labeling to interpretation of findings. This is how the *emerging issues* appeared (see Table 10, p. 233 and Table 12, p. 242). At that point the chat log analysis led to the interview data analysis since the emerging issues became the basis for the production of the interview questions.

The emerging issues seemed to revolve around *general and specific theoretical themes* (see pp. 234, 243). The interview text was coded and explored across the general/specific themes and emerging issues only. It was important for me to see how the users perceived the emerging issues, as I wished to verify if the users held the same opinion about ICT or had changed it during the running of the online intervention. In general, the interview data served as a confirmatory source to the previously analysed data.

Finally, the direction that the data pointed at was examined. The overarching research question usually guides the study design and the collection of data but sometimes during the data collection and data analysis new sub-questions emerge. Consequently, the links of conceptual constructs with theory were checked and possible connections of new discoveries with theory were considered.

7.2.4. Analysis of the findings: outcomes concerning the children (*Analysis level 1: nodes*)

Reviewing the analysis of the children’s chat log history I noticed that certain nodes were highly referenced. Table 9 provides a list of those nodes, which have been ordered according to the frequency of coding. That is, the children referred to particular issues in the chat sessions quite frequently. These are the following:

Table 9 Highly referenced nodes (children's chat logs)

Node	Number of references	Number of sources (out of 50)
computer playfulness	81	48
perceptions of learning goals/learn-how-to-learn skills/ inventiveness	78	41
perceptions of usefulness/ intrinsic motivation	74	43
perceptions of easiness/relative ease because of parental help	70	47
perceptions of Learning Goals/learn-how-to-learn skills/ feeling secure, not threatened	68	49
perceptions of Learning Goals/learn-how-to-learn skills/ building self-confidence	65	43
perceptions of easiness/relative ease because of practice	61	40
willing to continue ICT use in the future	60	46
willing to influence other users or peers	60	41
preferences in the app/ prefer the chat	57	48
preferences in the app/ choice of a learning time	56	44
urging T to continue efforts	55	46
computer anxiety (feeling of freedom)	51	45
perceptions of Learning Goals/learn-how-to-learn skills/ persistence in difficulty	50	47
computer anxiety (feeling of peacefulness)	48	48
perceptions of Learning Goals/learn-how-to-learn skills/ self-management skills	44	41
computer self-efficacy/ due to family familiarity with ICT	37	37
perceptions of external control	26	22
computer self-efficacy/ unfamiliarity with ICT	26	7
perceptions of usefulness/ extrinsic motivation	25	13
perceptions of Learning Goals/learn-how-to-learn skills/ organisational skills	11	8

More specifically, the chat log evidence suggested that the students engaged online for a number of reasons. (The children chatted in English and the logs appear unabridged).

Specifically,

They perceived the tasks to have a *gaming aspect* and holistically the online experience to be *playful*. Most probably that signaled feelings of enjoyment in their learning. The following example shows how a parent describes his child’s feelings online:

[a parent describing 'something interesting' in her daughter's ICT use]

PARENT:she liked docs a lot...she would log in and want to do everything at once...she followed the rules, however...she wouldn't cheat ...I mean....she looked at the key after she finished...she, sort of, became surer of herself...I mean there was not anyone there to check her out...she was alone where she wanted to be, she was free...she felt nice...enjoying herself...

(FP22/parent telephone interview, extract; translation)

It was likely that these perceptions were mediated by particular students' technology attitudes and by facilitating conditions available, e.g. parental help. The fact that they had parental help and prior training in the online intervention in all likelihood boosted their *computer self-efficacy beliefs*. For instance,

[during a chat session in Y3, the child's connection had problems; a computer competent mother assisted the child]

T: Hello, is everything OK?

BOY: sorry, there was a problem, something happened, it seems it is OK now...

[offline again]

BOY: OK, I'm back, Mum helps me....

T: Is she with you now?

BOY: Yes, we're together [mother continues] Hello, I'm X, how are you? It must be the rain, when it rains the connection is so bad! he [her son]won't give up, you know, he tries again and again and if he can't, then he asks me for help, he's become so persistent...

(MS22/chat16, extract; mother's part is a translation)

Yet, it would be wrong to suggest that the children came with anxiety-free feelings in using ICT. However, their fear was mostly concerned with incompetent computer skills (e.g., doing something wrong and lose/delete a file) or with a need for parental support (e.g., parental availability was more important than parental ICT knowledge) and less with a fear of 'how to deal with a new situation'. Here is an example,

Boy: I did the exercises and send them you
T: well done! Did you find it easy?
Boy: yes, I like computers, not scared
T: I can see that! Is it the first time you chat?
Boy: yes
T: very good! Was it hard for you?
Boy: no, I do what you say yesterday [*he refers to the training session he had*] I am happy! (MS06/chat1, extract)

Hence, the more computer competent the students became, the more complex online tasks they asked for. The following is an example:

Girl: I liked everything in the online intervention
T: Mmm... why?
Girl: it was exciting, it had games, crosswords, learning English wasn't boring
T: Mmm... and what was the thing you didn't like?
Girl: I like everything!
T: OK, if you could change something what would it be?
Girl: chat together with my friends and with you of course
(FS05/chat 11, extract)

In addition, the students *circulated their perceptions* among their classmates and, as a consequence, students from other classes turned up with an *eagerness to participate*:

[a user talking about a friend]
Boy: X [MS12's friend] told me that the online intervention sounds good and X would like to try...I told him it's great!!!!
(MS12/chat 10, extract)

7.2.5. Analysis of the findings: outcomes concerning the children (*Analysis level 2: emerging issues and themes*)

I identified overlapping ideas, entities in themselves, among nodes; I called those entities *emerging issues* (Table 10). The emerging issues nested in *themes* in the sense that Richards and Morse (2007) describe them, that is, as prevalent topics that run through the data and invoke abstract thinking.

Table 10 Nodes and emerging issues in children's chat logs

Highly referenced nodes in CHILDREN's chat logs	Emerging issues in CHILDREN's chat logs
<i>Theme 1: Technology in relation to learning</i>	
willing to influence other users or peers; computer self-efficacy/ due to family familiarity with ICT	Social influence (parents, peers, environment)
<i>Theme 2: Potential of educational online use</i>	
perceptions of Learning Goals/learn-how-to-learn skills/ building self-confidence; perceptions of accessibility/relative ease because of practice; perceptions of Learning Goals/learn-how-to-learn skills/ persistence in difficulty; computer self-efficacy/ unfamiliarity with ICT	Self-efficacy, persistence, confidence, self-esteem
preferences in the app/ prefer the chat; preferences in the app/ choice of a learning time; urging T to continue efforts	Different approaches to learning
<i>Theme 3: Collaboration and Communication skills in the online intervention</i>	
perceptions of Learning Goals/learn-how-to-learn skills/ organisational skills; perceptions of Learning Goals/learn-how-to-learn skills/ self-management skills	Group docs and group chat, group roles and group dynamics when online
<i>Theme 4: Access and accessibility in the online intervention</i>	
perceptions of easiness/relative ease because of parental help; perceptions of external control	Parental help
perceptions of usefulness/ intrinsic motivation; willing to continue ICT use in the future; perceptions of usefulness/ extrinsic motivation	Intentionality
<i>Theme 5: Constraints and enablers in the online intervention</i>	
computer playfulness; perceptions of Learning Goals/learn-how-to-learn skills/ inventiveness	Gaming aspect, inventiveness, enjoyment
perceptions of Learning Goals/learn-how-to-learn skills/ feeling secure, not threatened; computer anxiety (feeling of freedom); computer anxiety (feeling of peacefulness)	Anxiety, stress

The emerging issues and the conceptual themes established the areas around which the interview questions revolved. The focus group interview questions rested, in particular, in general and specific themes:

General themes:

(*Theme 1*) children's perceptions about the relation of technology to learning,
(*Theme 2*) children's perceptions about the potential of educational online use,

Specific themes:

(*Theme 3*) children's perceptions about collaborative and communicative skills in relation to the online intervention,

(*Theme 4*) children's perceptions about the access and accessibility in the online intervention,

(*Theme 5*) children's views about constraints and enablers in ICT as they experienced them in the online intervention.

Continuing the analysis of the children's answers, the following areas were highlighted from the focus group interviews (see *Appendix*, Table 19, p. 358). (Throughout the focus group interviews, the children conversed in Greek and the extracts below are translations)

The children *preferred to be socially connected online*. They wished for group rather than individual chat sessions showing a tendency to share and communicate in a network society. The potential of being online and staying connected was not central in their daily lives but appeared to have affected their vision of *a different approach in learning*. 'Communicating while learning' was important to them. This is how a student described it:

Girl:...it was a way to learn *and* communicate with my friends...well...even with children I didn't know so well...we live so far away from each other...sometimes at school we don't have the time to talk...I mean...I want to know the person I'm to work with.. I want to know what he likes and talk more...and it's such fun to be in a group and do work as in class when I'm actually...in the kitchen! [laugh]

(*FS44/focus group 2, extract, translation*)

The children circulated those beliefs among their peers and *influenced each other*. An example follows:

Boy: it was...mmm, the whole thing was fun....to learn but not being bored....talk with your friends while you were doing an exerciseI talked with my friends and cousins about it and...you know...they were interested... and I showed them my files (=docs) (*MS22/focus group2, extract, translation*)

The children's self-efficacy system seemed to strengthen. Enjoying parental help their intrinsic motivation increased and their actions became better regulated and targeted. That is, the children aimed at a learning objective and persisted in the face of difficulty. A student describes below his techniques to attain accessibility in the online intervention:

Boy: well, I liked docs and chat...chat more...in docs sometimes I needed my mum but she came home tired and doesn't know much about computers...my dad knows more and helped me but only at weekends...I try but I don't like to go to the CD (=the manual) to find help...I call FS17...she's my friend...when I'm in trouble...
(*FS54/focus group1, extract, translation*)

The children reported that they used *collaboration norms* and *negotiation techniques* when online much resembling the way they treated a learning task in class: they asked the other group members for clarification, sought balance in power, tried to share talk time, to show respect to their classmates' opinions and to come to decision-making with a degree of compromise. The following is an example,

MS01: I think, we should do more group chat and shared docs...

FS17: yes, but some children still don't know how *to share*...

MS14: she's right...last time I worked with X in a shared doc I was annoyed...he was so quick ... he wanted to do everything!

FS17: yes! That's exactly what I mean....

FS54: do you know what we usually do in a shared doc? We divide the exercise and each one of us takes a piece...we ask for help if we need something...

FS17: yes ... like in a group chat...we've got to wait for someone to finish texting...it's so rude to interrupt...but a person shouldn't write endless texts, you know! [laugh] (*focus group 1, extract, translation*)

Parental help was significant in gaining a sense of self-efficacy and such help could influence the children's personal beliefs about their capability. Children commended on their parents' availability and not on their parents' technical expertise as help. For instance,

Boy: my mum doesn't know much but she helps me....we look at the CD (=manual) ... it's nice to do things together with your parents...I mean as a family... like when we all go to the cinema to watch a film...
(*MS10/ focus group3, extract, translation*)

In other words, children welcomed co-use with a parent, that is, children liked a parent to be present while they were online, and children felt that they could confront technical difficulties if together with a parent.

It seems that the children were *intentionally-related* and not necessarily age-related to online use. The children enjoyed being online because they were mostly curious. This is an example:

Girl: ...I wanted to *discover* what my mum finds so interesting in a computer...
(*FS05/focus group2, extract, translation*)

The children perceived a *game-element in the online use*. It was the most frequent reference in their chat logs and the intensity of this view was confirmed in the focus interviews. The children were likely to activate their knowledge of online gaming as they worked on educational online activities. The following extract presents how a student described online use:

[a child describing what a group doc meant to him]
'...it is like... when I play Mario online in my Nintendo DS...I usually play with some guys online...sometimes I find them at a particular time...I hate it when my score is low and try to be better...I ask my mates for tactics...cheats [laugh]...don't we do the same in group docs?...we get together at a time we all like, we share the work...we do it...but we hate it when we make mistakes and like it when you're there [he refers to me]...hmmm...I mean you aren't the teacher there...we can't see you...well...you are...hmmm...yes, more like an experienced player! [laugh]...'
(MS48/focus group interview 4, extract; translation)

The children *experienced computer anxiety* in terms of organisational incompetence or as a need to have parental support and rather than a fear of 'how to deal with a new situation'. On the contrary, 'dealing with a new situation' seemed to stimulate their creative thinking processes. For instance, this is what a student said:

Boy: ...scared?...no, I wasn't scared to try a doc or participate in a chat session...chatting was fun...I was worried...yes, worried...when at the beginning I didn't know how to log in...or how to drop the docs into a file...and my mum doesn't know much about computers...I usually asked X [his elder brother]...but in the end you learn not to worry and try things on your own...make mistakes...it's no big deal after all... (MS50/ focus group2, extract, translation)

7.2.6. Analysis of the findings: outcomes concerning the parents (Analysis level 1: nodes)

Reviewing the parents' chat history was clear that certain nodes were highly referenced. Table 11 provides a list of the nodes ordered according to the frequency they were noted. (Parents chatted in Greek, and the examples that follow are translations).

Table 11 Highly referenced nodes (parents' chat logs)

Node	Number of references	Number of sources (out of 20)
computer anxiety	38	18
perceptions of external control/ technical help and support	37	15
perceptions of Learning Goals (building trust between Parent + Teacher)	32	17
computer self-efficacy/ unfamiliarity with ICT	30	15
Computer anxiety / talk about mediation techniques	29	17
perceptions of access and accessibility (resources: CD manual, training)	28	18
perceptions of access and accessibility (willingness to help child online)	26	16
parents' attitudes (parental satisfaction towards the app)	25	17
urging T to continue efforts	24	16
Perceptions of access and accessibility(similar work routines)	21	18
willing to influence other users or peers	20	14
perceptions of access and accessibility (level of parental vs. child advancement)	19	12
perceptions of usefulness (extrinsic motivation)	18	13
perceptions of access and accessibility (practice)	15	9
willing to continue ICT use in the future	11	10
perceptions of Learning Goals (persistence in difficulty)	7	6
computer playfulness	15	1
perceptions of usefulness (intrinsic motivation)	3	1
perceptions of Learning Goals (inventiveness)	1	1

However, the evidence from parents showed a different picture from that of the children. The most striking difference was that the parents saw no gaming aspect in online use; though, in fact, there was one mother who referred to computer playfulness. Later in the interviews she 'confessed' that she enjoyed computing a lot. Parents suggested that they went online with work-related goals. They thought computing was 'work'; work was a serious business which belonged to the adult world. They considered play as fun, and

as such, it was appropriate mostly for children, not for adults. The following extract is an example:

'...I use a computer at work to email and to find information...I'm in sales, but I rarely use it at home, I mean, as my son does, to communicate with his friends...how does he do it?...for me it takes ages to log in...even if I did I doubt I would find anyone online...kids are always connected...my son loves being online all the time...when I'm at home I prefer the telephone to talk, it's so more simple...'
(MP15/chat 14, translated extract)

In addition the fact that online use was a usual aspect of work, and work was generally understood as a stressful experience, might have been the sense that parents understood online use as work-related and, thus, as stressful. That could explain the reluctance of the parents to go online, something I could investigate in the interviews.

The second noteworthy point in the data was that parents expressed a high level of anxiety when online since they had no other means of external support to rely on but themselves. As most of them confirmed computer incompetence (they had reported it in the training session earlier in the year), the fear of technical problems and their inability to solve them was the main cause of their computer anxiety. For example,

'...I don't know much about technology and worry if something happens...I have a friend that helps but you can't bother someone all the time to solve your problems...I try the manuals but it is so hard...I know it would be best if I took some lessons but with work duties I can't go to a school or something...my son says to try the You-Tube, he says that I could find anything there...I don't know what could help me..'
(FP47/chat 11, translated extract)

It was not clear how they would have liked to have been helped in this area. Some of the parents suggested training, built-in help, or more explicit manual instructions including practical experience. However, I presumed that computer experience or practice was partially the answer to the parents' reluctance to go online. This was another area set to investigate in the interviews.

However, although most of the parents affirmed that they worried about technical problems, they did not perceive the online intervention to be difficult to use. On the contrary, regardless of their lack of competence or the unavailability of technical support, they seemed willing to help their child online. Perhaps the fact that some resources were available (i.e., a CD with operational information) lessened their anxiety towards the operation of the online intervention. The following is an example,

T: did you find it hard to log in?
FP: not really, but we had a connection problem.
T: how did you solve it?
FP: we called Technical Support.
.....
T: do you help X (her daughter) in the computer?
FP: I don't know much, but if she needs me I try to help...she likes it so much, how can I say 'no'?'
(FP43/ chat 11, translated extract)

Most parents were anxious about online dangers and commented a lot on their fears. Although it was a commonality in most parents' chat, the way parents felt about it differed. Due to a fear of online danger, the parents exercised mediation techniques which ranged from blocking the child's online use to online co-using with the child. The following examples show this disparity,

FP1 [a computer incompetent mother]:well, I trust my son online, I don't trust others!

T: so, what do you do?

FP1: I have the computer in my bedroom which I keep locked until I come back from work and be there with him...

(FP37/ chat12, translated extract)

FP2 [a computer competent mother]: I've explained to her [to her daughter] that there is danger in the internet.

T: what did you tell her?

FP2: ...she likes Facebook but she's very young to have one...so I allowed her to use my Facebook page and invite her friend to talk...I was with her that day...I told her never to talk with people she doesn't recognise, never to upload personal information or photos.

T: anything else?

FP2: what do you mean? Parental control filters?

T: yes...

FP2: no, I don't agree with that...I prefer to talk with her and explain.

(FP05/ chat17, translated extract)

I was intrigued. How could I explain the reasons behind the computer incompetent parent blocking her child's online use but giving her consent so that her child could go online in the online intervention? It could be a matter of the parent's trust in the online intervention or in me, as the teacher. I suspected, however, that there were more reasons that lay underneath. It being an interesting issue to investigate, I decided to explore it further in the interviews.

Parents generally seemed to be confident about the safety and the educational usefulness of the online intervention and also expressed feelings of trust towards me. Such feelings were likely to have raised their satisfaction rate towards the online intervention and their willingness to share their views with other parents.

[FP1 + FP2 were two mothers-sisters whose children took part in the online intervention]

FP1: I'm with my sister at the moment and we'd like to congratulate you on your idea...our children learn and enjoy while learning...where can you find that?...we know that there are also other parents who are very pleased

.....

FP2: there's a party next weekend and we'll see many parents, we'll tell people who haven't chatted with you so far what it is like...they should try it....

(FP17 + FP36/chat 15, translated extracts)

7.2.7. Analysis of the findings: outcomes concerning the parents (Analysis level 2: emerging issues and themes)

The chat log nodes seemed to aggregate, forming patterns which I called emerging issues. The emerging issues appeared to live in theoretical concepts which I called themes (Table 12).

Table 12 Nodes and emerging issues in parents' chat logs

Highly referenced nodes in PARENTS' chat logs	Emerging issues in PARENTS' chat logs
<i>THEME 1: Technology in relation to learning</i>	
Computer anxiety; perceptions of access and accessibility (resources: CD manual, training / similar work routines / practice); willingness to influence other users or peers; perceptions of usefulness (extrinsic/intrinsic motivation); willingness to continue ICT use in the future; perceptions of Learning Goals (persistence in difficulty / inventiveness); computer playfulness	work-related attitudes in ICT, access and accessibility influences anxiety, training, practice, experience and familiarity in ICT use, age influences ICT use
<i>THEME 2: Technology in relation to the learning of their child</i>	
Perceptions of Learning Goals (building trust between P+T / persistence in difficulty / inventiveness); perceptions of access and accessibility (willingness to help child online / level of parental vs. child advancement / practice); parents' attitudes (parental satisfaction towards the app); urging T to continue efforts; willingness to influence other users or peers; perceptions of usefulness (extrinsic/intrinsic motivation);	ICT influences child's self-efficacy mechanisms, parental support influences child's ICT use, different approaches to learning
<i>THEME 3: Online systems, communication channels between the parents and the teacher</i>	
Computer self-efficacy (unfamiliarity with ICT); urging T to continue efforts; willingness to continue ICT use in the future; perceptions of Learning Goals (building trust between P +T)	resistance to change, ICT constraints, ICT enablers and ICT intentionality, technologically privileged homes
<i>THEME 4: Parents' mediation techniques in the child's online use</i>	
Computer anxiety(talk about mediation techniques); computer self-efficacy(unfamiliarity with ICT)	risk in the web, mediation techniques <i>except</i> co-use

Again, as with the children's data, the themes were the prevalent topics upon which the parents' interviews were built. The interview questions rested on two general and two specific themes:

General themes:

(*Theme 1*) parents' beliefs and attitudes about the relation of technology to learning,
(*Theme 2*) parents' beliefs and attitudes about the relation of technology to the learning of their child

Specific themes:

(*Theme 3*) parents' perceptions of the online intervention as a communication channel between them and the teacher,
(*Theme 4*) parents' mediation techniques on their child's online use.

When the telephone interviews were analysed, the following areas were underlined (see *Appendix*, Table 20, p. 359):

Parents commented that being online brought them feelings associated with work. The following is an example,

'...I don't know...I was doing on Sunday what I did every day in the office...'
(*FP23/interview extract, translation*)

Most of them were of the opinion that online use was meaningful if it was of some use.

For instance, this is what a parent said about chatting:

'...chatting as an idea was nice...I didn't try it but...just to talk about my child...OK it's good....but...what can I do with this info?'
(*FP01/interview extract, translation*)

Few parents acknowledged that the social status of the web could help to open communication channels with the school and only one mother 'confessed' that computing was enjoyable (see below, *FP05/interview extract*). As many parents

reported a lack of confidence in their computing abilities, it presumably explained why the parents were reluctant to move away from a traditional to a new environment of communication (see above, *FP23/interview extract*).

Lack of facilitating conditions had an impact on parents' computer anxiety. The more technical support, knowledge, resources, experience or familiarity parents perceived to have, the less anxious they felt, and vice versa. This is how a parent described her feelings in relation to accessibility:

'sometimes I called the Help Desk...or a friend...you see, my computer knowledge is limited...and I can't help as much as I want to...and I get so annoyed...I feel so useless with machines...' (*FP23/interview extract, translation*)

Apart from experience, practice and familiarity with technology, emotions, feelings, motivation and facilitating conditions were important factors that influenced parents' intention to use ICT. Determinants of ICT use like *computer playfulness* and *resilience to change* were enablers, whereas factors like *computer anxiety*, *resistance to change*, *time restrictions* and *misunderstandings* were constraints of the parents' ICT use. The following are examples:

'...it's fun! I so much like computers....actually I'm a person who likes changes...' (*FP05/interview extract, translation*)

'...chatting was always on a Sunday...and, kind of...was worried...maybe I was taking your time...but mostly it was difficult...very little time available...being a working mother, I mean...' (*FP44/interview extract, translation*)

'...to tell you the truth, sometimes, eh...I completely forgot there was a chat session...' (*MP15/interview extract, translation*)

Access to a computer mattered to me and I had taken certain measures to deal with that but it was an unclear issue in the sense that I did not know what the *students'*

home provided in terms of ICT. Getting some information on that, I could design customisation changes in online services, and probably supply the kind of support my students required.

Evidence showed that there was no child-participant without a connection at home, which inherently made them 'technologically privileged' (Stevenson, 2011). In general, it was the computer competent parents who attempted to offer the latest products and services in technology to their children because they perceived it would help their children's technological advancement. This is what a computer competent parent said about computer access:

'...I'm of the opinion we should follow technology... I think there are useful tools in the market...I often buy something new for my son...'

(FP09/interview extract, translation)

Almost every parent interviewed reported worries about danger on the web. However, the techniques they employed to mediate their child's online use varied (e.g., banning activity, rule-making, discussing-and-restricting, co-use). The least common strategy was the installation of control filters most probably suggesting unfamiliarity or not skill with monitoring software. The following is an example:

'...leaving my daughter unattended on the computer? No way! It's absurd! Just for a little while to find the information she needs and off she goes...'

(FP54/interview extract, translation)

Generally talking, the parents - regardless of their computer incompetence - wished to be near the child when he/she went online. The less computer competent parents chose to mediate the quantity of the computer use (how much time the child spent online) preferring to be present at the time that the child went online but not really restricting the online activity per se. The most computer competent parents chose to be

in partnership with the child and employed co-use mediation strategies that is, talking about web risks, sitting together with child at his/her first attempts, being nearby when the child went online. The rest of the parents fell somewhere in-between employing rule-making, or discussing-and-restricting strategies.

7.3 Reflecting

When Y3 finished, I stopped the research project. I had pursued its development for three years with an understanding that the project could continue with a new action cycle. However, a new research cycle after Year 3 was beyond the scope of this project.

Concerning findings of Y3

By looking closely at the findings of Y3 I noticed some issues on ICT use in relation to learning. At that moment they were just reflection points. Later on I started exploring their implications as I began to consider new areas of research. This deeper examination of the reflections appears in the next chapter, *Discussing Implications*. What follows is a list of the issues that I noticed at the end of Y3:

- There were *social undertones in online use*. The personal relationships of the users in this project may have been affected because (i) it was relatively easier to express oneself when not present in public, (ii) online the children tended to bond when they shared common values, beliefs and ideas, and (iii) the safe online environment provided privacy which appeared to contribute to feelings of trust and intimacy – as suggested by Bargh and McKenna (2004).
- Being connected in a social network meant that the *users* in this project *relied on their particular goals*. They made use of the unique qualities of the Internet: of interactivity, communication, and social pervasiveness. Thus, how and why children or parents went online was quite different. It can be argued that it was not the sociality but the degree of social connection that differed in the children and parents' case.

- *The gaming element in online use.* The children mostly perceived playfulness online. The children seemed to bring the social context of online gaming over to the educational online use, and find the ground for, as Williamson and Facer describe (2004:263). In addition, the multifaceted system of online gaming seemed to channel into the educational online use: as Gee (2003) argues, children's game literacy of comprehending content, mechanics, processes and creation of meanings may appear in similar ways in their educational online activities.
- *Children perceived online games and educational online use to resemble each other.* The gaming aspect seemed to influence the children's beliefs about the accessibility of the online intervention: the more fun they acknowledged to the system, the easier they perceived the online tasks to be and, thus, the readier they felt to try them.
- *Computer anxiety had an influence on computer playfulness.* Even though computer playfulness was mainly experienced by the children, both children and parents expressed feelings of computer anxiety. In general terms computer playfulness influenced the children's intention to use ICT positively, whereas computer anxiety influenced the parents' intention to use ICT negatively.
- *Willingness and ability to engage with ICT was not the preserve of the young.* In this project, most parents were reluctant to use the online application; yet, there were some parents that experimented with it and one that persisted. The children came willingly in a relaxed and uncritical online environment with a mild anxiety which, as Howard-Jones (2008) argues, may have excited their creativity. Aspiration and challenge are known to influence motivation in general (Bandura, 1986) but are not necessarily properties of a particular age period. That is, the fact that few parents and many children perceived ICT

use to be playful or were flexible with the idea of change does not necessarily signify that a willingness to use ICT is age-related.

- *The issue of training needed attention.* Although it was important to adopt and adapt in technology for an individual to be a competent computer user, it seemed that, as Compeau and Higgins (1995) argue, it was one thing to be competent in using computers and another thing to be competent in learning to use computers.

- *The school-home online connection was inspiring but needed some consideration.* For children, it may signify that a connection is made between their out-of-school and inside-school lives (Grant, 2011; Maddock, 2006); for parents, it may signify that by having the timely support and advice of the teacher they are likely to improve their engagement with their child's learning at home (Harris and Goodall, 2008); for the teacher, it possibly means that he/she has a way to help the children grow academically, socially and culturally, and has an effective communication means to reach the parents. Yet, the fact that parents were reluctant to use ICT probably meant that some families' culture and practice were different from the pedagogic agenda that the ICT use suggested. Most probably 'a negotiation practice' was desirable between the home regulations and technology potentialities first, as Stevenson (2011:344) suggests.

- *Parental help in the children's attempts to go online was important.* Young children did not enter online use without anxiety; on the contrary, they expressed skepticism and concern. However, they showed a bravery and inventiveness towards the unknown when they were supported by their parents, not necessarily by their parents' technical expertise but rather by their parents' support and care. On the condition that parents were willing or had the time to share online use with their children, they could apply

active co-use and benefit from this mediation technique; practically, the parent could gain knowledge of the type of the child's online use *and* could guide the child by conversing about the online activity and by giving interpretive and evaluative comments (Livingstone and Helsper, 2008:587). Parental partnership with children seems an investment for the web safety of the children, as Davies (2011) points, since as the children grow up they wish to be more independent while connected.

Concerning the pattern of change from Y1 to Y2

Table 13 (p. 256) shows the pattern of the research over the three years.

Reading each column *vertically* one may notice the evolution of each element and agent. Four columns describe the agents in this study:

I-the teacher: I was the EFL teacher to the students of this study in all three years. What changed was my role as a researcher. In Y1 I was mostly the *initiator* of the innovations (e.g. 'assessment' in Y1, p.166) and gradually in the following two years (Y2 and Y3) I became the *consultant* (see p. 273). For instance, in Y2 I offered support to the students how to use the online intervention but in Y3 this was less needed as students felt more confident (see p.212).

The students: During Y1 all the students of my class were engaged when personalised learning was introduced in class. When the online intervention was offered in Y2 this work focused on sixteen students from my class who were willing to participate. In Y3, however, when the online intervention was made known among the school students the number of participants increased to fifty-one (see p.210).

The parents of the students: The parents who participated in this project were only the parents of the students. Having the same number of parents with students, and pairing

student-parent at times, was an act of theoretical sampling decision (e.g. '*parents' interviews*', p. 225).

The school community: In Y1, the primary head teacher was supportive but detached, and the class teacher was helpful but the teacher community was unfamiliar with my innovations. In Y2, the head teacher and class teacher were in favour and, as I started spreading information about my developmental changes, the teacher community became intrigued but, otherwise, reluctant to follow. Continuing spreading information and with the support of the Developmental Group I belonged, the teacher community started showing signs of interest in Y3 (see p.191-192).

The next columns deal with the elements of change:

Personalisation: In Y1 with the help of my students I found practical ways to establish the principles of personalised learning in class (see '*taking action in Y1*', p.157-167). In Y2 we continued practising them in class (see '*taking action inside the classroom*', p. 188-191) and endorsed them in online forms to use them from home as well (see '*taking action, ICT use for students & parents*', p.192-198). In Y3 we continued practising them both in classroom and online forms and I tried to explore students' and their parents' perceptions of technology in relation to personalised learning (see '*analysis of the findings, concerning the children and their parents*', p. 230-237, 238-246).

Collaboration: In Y1 I trained the students in class in group techniques, group roles and in balancing power in their group (see p. 157-161). In Y2 I nurtured collaborative practices in class and introduced collaborative work online to the students (see p.201). In Y3 the classroom and online collaborative work continued to be encouraged and

emphasis turned on the potential of technology to connect and communicate socially when collaborating online (see p.210).

ICT practices: Cloud computing was offered in Y2 for the first time mostly as individual docs and chat sessions and less as shared docs and group chat sessions to students (see p. 192-196); individual chat sessions were offered to parents to encourage communication with the teacher (see p. 196-198). In Y3 the potential of technology to offer choice of space, time and quantity of learning changed focus and turned towards social connectivity and communication online (see p. 210).

Learning goals: I wished to revise my teaching methods in order to accommodate the learning goals of personalised learning: be in partnership with my students and educate each student so as to include all students in education; support assessment for learning; offer opportunities to the students to voice their choices in the learning process; accommodate the students' needs, capacities and pace of learning (see p. 153-155). Then, I added my intention to share this knowledge with others (e.g. with the school community, p. 191-192), and, next, to open communication channels between school and home (e.g. p.210), and promote autonomy in learning (e.g. p.210-211).

Learning techniques: To realise the above goals, I modified older or used newer techniques. I rendered clearer learning objectives in learning tasks, offered choices with responsibilities to my students, supplied opportunities for self-assessment with continuous feedback in the classroom in the beginning (see p. 166-167) and online later on (see p. 201-204). My aim was to promote their learning-to-learn strategies and their self-efficacy beliefs (see '*nodes and emerging issues in children's chat logs*', p. 233).

Voice and choice of the students: My objective behind establishing a partnership with the students was to offer the students opportunities to voice their choices. For this

reason, I promoted argumentative processes in class, in the beginning, by supporting negotiating strategies and critical thinking (see '*argumentative processes in Y1*', p. 161). Later on, online argumentative processes took the form of making autonomous choices about space, time and quantity in learning (see '*results from the questionnaires given to children*', p.195-196). My intention was to encourage self-regulation and higher order knowledge skills.

Reading each row *horizontally* one may observe a string of relationships among the elements and agents of change and also notice the development of those relationships from Year 1 to Year 3. More specifically,

In Year 1: I was the teacher and the researcher (almost exclusively the 'initiator' in research) and engaged all the students of my class (twenty-six of them) in the pursuit of personalised learning in the classroom. My students and I contemplated on the theoretical constructs of personalisation and applied them practically at the level of the classroom. In particular, aiming at inclusion of all students with a voice and choice in education we focused on collaborative work and formative and self-assessment. To accomplish those goals, I decided that it was important to be in partnership with my students and to offer to them clearer learning objectives, explicit learning tasks, continuous assessment feedback, and opportunities to explore argumentative processes. The parents of the students were gradually initiated in personalised learning by taking part in the assessment process; the school heads were aware and in favour but the school teacher community was unfamiliar with personalised learning. Evidence was collected in diary form.

In Year 2: I was the teacher and the researcher (mostly the 'initiator' and less the 'consultant' in research) and engaged sixteen students of my class in a query of

sustaining all constructs of personalised learning successfully at the level of the classroom and home. That year, I aimed at maintaining all the goals of Year 1 and pursued learning autonomy by offering my students choice of material, of space and of time in learning. To do so, I introduced ICT practices in terms of social network technology to use mainly from home. To accomplish the goals, I persisted in previous year's strategies, explored learning-to-learn strategies, added challenge and enjoyment in the learning tasks and nurtured collaborative and negotiating skills online. The parents of the students were offered ICT to use as a means to communicate with the teacher from their home, something that few parents did, however. The school heads were favorable to the intervention whereas the teacher community was intrigued but skeptical to follow. Evidence was collected through diaries and questionnaires.

In Year 3: I was the teacher and the researcher (mostly the 'consultant' and less the 'initiator' in research) and engaged twelve previous and thirty-nine new students in an investigation of how 'to learn through sharing and communicating online'. In the third research year, I aimed at autonomy in learning using the social and communicative capacity of network technology. To achieve my goals, I kept all previous years' strategies and invested more in social connection to practise self-regulation, collaboration and communication skills online. Although reluctantly, parents participated online but did not show a consistent pattern of frequency online. The school heads were aware and helpful and the teacher community started showing signs of interest. Evidence was collected through chat logs and (telephone and focus group) interviews.

Altogether, focusing on personalised learning meant that I had to deal with the complicated system of my class, with 'a network of dots'. I needed a way to connect all 'the dots' and keep them in place. I chose ICT use to do that for two reasons: (i) it was

of prime importance in the theory of personalised learning, and (ii) because I was intrigued to explore its potential in a pedagogic way.

Soon I understood the importance of the diversity of elements and agents and the significance of a conscious intervention. I realised why after the first year of implementation I needed a new variable to embed: there were relationships among the elements and agents but they were *not fully connected*. For instance, the students were aware of the significance of personalisation in their learning but their parents and the school had a vague idea. By introducing a new variable (i.e., ICT use) in the formula of change I raised the complexity in the system far more but I was able to involve the parents and intrigue the school-teacher community about my innovation. Perhaps it was not the best developmental change to have but I argue that it was successful because it included multiple elements and agents, and a net of relationships among them which seemed to join and expand in different levels at school. It is exactly this potential of the change to hold the net of elements, agents and relationships in an evolving but interclasped way and following an orderly course of development through action and reflection that I call *sustained change* in this piece of work (see also '*sustainability and success*', p. 290).

Table 13 The pattern of the developmental change

AGENTS					ELEMENTS					
The participants					The focal innovation and the embedded interventions			The employed strategies in support of the interventions		
	<i>I, the teacher (T)</i>	<i>The students (Ss)</i>	<i>The parents of the students (Ps)</i>	<i>The school community</i>	<i>Personalisation the theoretical framework</i>	<i>Collaboration</i>	<i>ICT practices</i>	<i>Learning goals</i>	<i>Learning techniques</i>	<i>Voice and choice of the students</i>
Year 1	Practitioner-researcher – mostly an initiator	26, all of my class	26,involved through the self-assessment strategy (offline)	Helpful headship, the class teacher in favour, teacher community unfamiliar with the innovation	Establishing the principles of the focal innovation in class	Training of : Group techniques, Group roles, balancing group power in class	n/a	Education for all students, assessment for learning, flexible curriculum, accommodate Ss different styles + paces of learning, T + Ss partners in the quest of knowledge	Clearer learning objectives, S at the centre, explicit learning tasks, self-assessment, continuous feedback, Offline	Argumentative processes (critical thinking, negotiation strategies)
Year 2	Practitioner-researcher – more an initiator + less an consultant	16, part of my class	16, involved through the chat service of the online intervention	Helpful headship, the class teacher in favour, teacher community intrigued but reluctant to follow	Persisting with the establishment of the principles of the focal innovation in class + endorse them with online use at home	Nurturing of the collaborative practice : Group techniques, Group roles, balancing group power In class + from home	Cloud computing offered to Ss + Ps (docs + chat service)	Education for all students, assessment for learning, flexible curriculum, accommodate Ss different styles + paces of learning, T + Ss partners in the quest of knowledge sharing info about personalised learning with others, autonomy in learning	Clearer learning objectives, explicit + enjoyable learning tasks, self-assessment, learning-to-learn strategies Offline + online	Argumentative processes (critical thinking, negotiation strategies); choice of space, time, quantity in online learning (self-regulation + higher order knowledge skills)
Year 3	Practitioner-researcher – more a consultant + less an initiator	51 (12, part of my class, 39 students of other classes)	52, involved through the chat service of the online intervention	Helpful headship, teacher community starting showing signs of interest	Validating the principles of the focal innovation in class + out of class (online use at home)	Nurturing of the collaborative practice : Group techniques, Group roles, balancing group power In class + from home Emphasis on the social capital + communication potential of the online use	Cloud computing offered to Ss + Ps (shared docs + group chat sessions); choice of space, time, quantity of learning; focusing on parents' online communication	Education for all students, assessment for learning, flexible curriculum, accommodate Ss different styles + paces of learning, T + Ss partners in the quest of knowledge, sharing info about personalised learning with others, open communication channels between school and home, autonomy in learning	Clearer learning objectives, explicit + enjoyable + challenging learning tasks, self-assessment, learning-to-learn strategies, self-efficacy beliefs Offline + online	Argumentative processes (critical thinking, negotiation strategies); choice of space, time, quantity in online learning (self-regulation + higher order knowledge skills)

7.4 Summarising

This chapter has looked at the action, the data collection and the analysis of research in Year 3. In summary,

In Y3, the research turned to the students' perceptions about ICT in relation to their learning. By exploring these perceptions, it was possible to determine if and how well ICT practices could sustain a well-formed personalisation scheme in their learning.

During research in Y3, a number of students and their parents were engaged. The data were collected (i) in the case of the students' case: from chat logs and focus group interviews, and (ii) in the case of the parents' case: from chat logs and telephone interviews.

The data analysis suggested that the *children* (i) needed parental support to overcome their computer anxiety and increase their computer self-efficacy, (ii) used collaboration norms and negotiation techniques online, (iii) perceived a game-element in the online use, (iv) seemed to like the different learning environment that social network connection offered to their learning, (v) circulated their computing beliefs among their peers, and (iv) their computer competency led them to ask for more complexity in online activities.

The data analysis suggested that the *parents* (i) went online with work-related attitudes rather than enjoyment, (ii) due to the lack of external support the parents' computer anxiety increased and had a negative influence on their computer self-efficacy, (iii) they worried a lot about web risks and employed a variety of mediating strategies to their child's online use, but, nonetheless, they (iv) expressed feelings of trust to the teacher,

and their satisfaction on online activity was raised once they were persuaded of the safety of the online intervention.

Reflecting on the findings, I became aware of the following research areas:

- The social dimension of online use,
- The game-element in online use,
- Computer anxiety vs. Computer playfulness,
- Computer playfulness and Age,
- Training for computer use,
- Parental help to children's ICT use
- Parental beliefs for web risks and mediating strategies for the children online use.

Looking back and observing the shape of change in the three research years, I became aware of the many agents, elements and the many interrelations that were welded into them. I also noticed that ICT practices -although raising the complexity of the intervention- seemed to help the change be operational and sustainable in a complicated situation such as the school class. My reflections are further discussed in the following chapter where the implications of the findings are explored. Moreover, the research limitations and my contribution to knowledge are presented.

8 Discussing: Trying to pull all the strands together

I started this research with a wish to change my teaching in order to foster personalised approaches in the learning of my students. Triggered by an academic stimulus and helped by a cultural stimulus I persisted in looking for new approaches in my practice (see *Chapter 2*, p.28). Reflecting on my action research over three years, I could see a shape of implementation from one year to the next. In a summary form, I could say that,

In Year 1, I was the teacher and the researcher-‘initiator’ and engaged all the students of my class in the pursuit of personalised learning in the classroom. My students and I contemplated on the theory of personalisation and attempted ways to apply the theory in practice in the classroom. I focused more on learning objectives, learning tasks, assessment feedback, argumentative processes in class, and student centeredness. The parents of the students, the school heads and leaders were gradually informed about personalised learning. However, as the school teacher community had not been involved in my planning, they were largely unfamiliar with personalised learning.

In Year 2, I maintained my last year’s goals. However, my focus moved towards ways to pursue learning autonomy for my students. I was the teacher and the researcher-‘initiator’-and-‘consultant’. I offered my students choice of material, space and time in learning, with the help of network technology. The parents of the students were offered ICT to use as a means to communicate with the teacher from their home; the school heads and school leaders were favorable towards the intervention, whereas the teacher community was intrigued but skeptical to follow.

In Year 3, I continued pursuing last year’s aims. I was the teacher and the researcher-‘consultant’-‘initiator’ and engaged twelve existing and thirty-nine new

students in an investigation of how 'to learn through sharing and communicating online'. I aimed at partnerships beyond the classroom, and at autonomy in learning using the social and communicative capacity of network technology. Parents participated online, albeit rarely. The school heads and school leaders were aware and helpful, and the teacher community started showing signs of interest.

A map that shows these agents and their relationships is provided in Table 13 (p.256). I observed that there were three agent types: the students, their parents and the school community (the teachers and the heads/leaders). I believed that the parental sub-system was significant in the process of change in terms of resource and external control in all years and especially in Year 3 (see p. 249). I considered the heads/leaders and school teacher community to be another important sub-system in terms of feedback processes and of dissemination of change (e.g., the school principal agreed to make provisions in our timetables so we could become members in Developmental Groups, *Chapter 2*, p.28; the teachers in the Developmental Group I belonged to were eager to share their findings and get feedback from other group members, *Chapter 2*, p. 28; the primary head teacher consented to and aided my project in all three Years, and the primary Greek teacher agreed to a new seating arrangement in Year 1, p. 158).

I valued my students to be 'the agents of scaling' (Lemke and Sabelli, 2008:126) primarily helping changes to transport (see Table 13, p.256) horizontally among their classmates, then vertically among their peers, and finally upwards as they moved a class in the educational system (e.g., towards the end of Year 2 my students were observed to circulate their views about ICT use with their peers from other classes).

Once I developed a strategic plan to integrate all agents and elements, a change in learning was mobilised. However, it was a change that was happening at the level of

the classroom. I discovered that children when they returned home, liked to continue their study work in the way they experienced it in class (see Y3, p.234, FS44/focus group 2). With the use of ICT this was possible. ICT use could support the pedagogic claims of personalised learning and take them home as well. Additionally, ICT had the capability to connect home with school. The collaborative nature of network technology, which inclined mostly to the home learning, could be transported in the school learning, on the condition that the school learning had made provisions to allow it. In this sense, ICT could work both as a tool and pedagogy.

In essence, I followed an action research spiral of planning-acting-observing-reflecting which is described in detail in every History Year of research (see *Chapters 5, 6, 7*). In Year 1, by acknowledging the shortcomings in my practice, I resided in personalised learning as the 'focal pedagogic innovation' (see *Chapter 5*). In Years 2 and 3 I regarded ICT use to be the 'embedded intervention' at the level of the classroom and home, and I designed an online intervention to be the 'vehicle of the intervention'. More specifically, I understood ICT practice to be integrated in personalised learning and collaboration to be an essential constituent in both personalised learning and ICT practices.

There was a certain degree of complexity in my research. For one thing, my class was a link in the formal organisational hierarchy of the educational system in Greece. There seemed to be a system formed in levels scaled upwards, from the individual student in my class and me-the teacher, to the groups of my students, to the whole of my class, to the other classes in my school, to other private and public schools in Athens, out of Athens, to the total educational population of Greece. There also appeared to be different layers of authority around my class: the student, the teacher, the heads, the school leaders, the state authority. Even at the micro

level of my class, there were environmental and social dynamics, the parents, the school teacher community and the students' peers, whose behaviour seemed to be interdependent with the behaviour of my students. It was clear that whatever developmental changes I pursued, they would pose a variety of challenges.

My class was a complicated and unpredictable system. Interventions in complicated systems do not usually follow a linear cause and effect behaviour. Instead, change in a social system is likely to involve mutually interacting factors, each of which may follow a different pattern, join with other lines, loop back and build a web of relations and interrelations (Mason, 2009). To build an effective model of learning for my class, then, I felt that it was not enough to know what my students did, but also why they did it, what different views they may have had and what they would have liked to do in learning. This led me towards an interpretive and reflective mode of research.

As Lemke and Sabelli (2008:122) argue, 'any focal pedagogic 'innovation' introduced into a tightly constrained school system is, in fact, a series of embedded interventions at levels above and below the focal innovation, and strategies for all levels have to be considered coherently'. Understanding that I was dealing with a complicated situation, I realised that I needed a coherent developmental plan that could take into consideration as many levels, authorities and social dynamics as possible. My plan involved three phases inextricably connected together. For reasons of clarity, I separate them in order to present them here. Directed by practical experience and then by theoretical principles, I began with the identification of the problems, I continued with the designing of interventions to the problems and developed strategies to mobilise the interventions, and finally I tried to link the interventions to as many different agents of change as possible (Table 13, p.256).

The idea of Lewis' 'inner ring' (1944), to a certain extent, could describe my class. Lewis, looking at people's need to belong, argued about the existence of two different systems or hierarchies, the inside system, 'the inner ring', and the outside system, 'the outer ring'. This idea had a different background from this study, but it was a simple and visional idea. According to it, I mainly understood my class as 'a system' (i.e., the inner circle) and my school as 'an environment' (i.e., the periphery of the inner circle), the association of the two forming a system which was a part of the Greek education super-system.

The chapter continues looking at the quality and ethics of this research, how success was regarded in this case, and how this work could contribute to knowledge. Afterwards, the limitations and suggestions of different procedures in the study are presented. Lastly, recommendations for further research are offered.

8.1. Observing quality in the research project

Defining quality in this study was a complicated matter as there are many assumptions about what quality criteria can be considered for interpretive research, and for action research in particular. However, the position in this study is that there should be a reliable list of features to use in order to assess a work of interpretive research, a list ‘that can be challenged, added to, subtracted from, modified, and so on, as it is applied in actual practice – in its actual application to actual inquiries’ (Smith and Deemer, 2000:894). Hammersley (2007:288) adds to that saying that such a list ‘can serve as no more than a reminder which is always open to revision in the process of being used’.

The quality criteria of this study

The challenge was to present quality criteria for this study. After much deliberation, I created my own rubric dimensions (Table 14) drawing on Groundwater-Smith and Mockler’s categorization of quality criteria (2007) and concepts of McTaggard (1998), Anderson and Herr (1999), Mishler (1990), Furlong and Oancea (2006), Winter (2002) and Altrichter, Posch and Somekh (1993).

Table 14 The Quality Criteria of this Action Research study

<i>Quality of purpose</i>	<i>Issues relating to the ‘praxis’ of the research</i> Theoretical understanding was tested through practical action, The action clearly defined who the audience of the research was, The prudence of action was tested.
<i>Quality of outcome</i>	<i>Issues relating to the ethics of the research</i> Ethics in research: All participants were to be allowed to have a voice in the research and all voices were to be taken into consideration, Evidence collected and reflected upon were to be outlined in detail so as to open to productive critique and lead to change, or to guide to further research investigation.
<i>Quality of theoretical understanding</i>	<i>Issues relating to theoretical substance and argumentation</i> Review of theories, conceptual resources or knowledge of other relevant cases, Knowledge claims and conceptual maps of knowledge relevant to the case were examined, Multiple perspectives on a theoretical concept were presented and debated.

This study had many purposes and, therefore, many types of quality criteria were required. Firstly, it had an educative purpose, to see if ICT practices could sustain personalisation in the learning of young students. Secondly, young students worked together with the teacher-researcher and shared knowledge; building their knowledge together with a teacher brought implications of different power relationships in the classroom, which suggested a political purpose as well. And thirdly, the reflexivity of voices and participation of the students' - and of their parents' - revealed a moral dimension, next to the political. That is, I believed in doing something to promote the good life of the many and had faith in the value of 'freedom with equality' (Schostak, 2010). The educative, political and ethical claims were thought hard to separate.

8.2. Quality of purpose

Quality in research is not only a matter of content but also a matter of practice. Research is not only questioned about its theoretical efficacy but also about its practical enhancement on people's lives. Quality action works as 'a catalyst for social practice' (McTaggard, 1998:221) but it is important that quality action contributes to change in well-planned ways. And, quality action should make clear claims about who the research would be relevant for.

The research I conducted attended to questions of practical action in an effort to bring change to the learning of the children, to the communication of their parents with school, and to my teaching practice. Personalised learning and ICT practices were tested not only for their practical use but for their prudent use as well. It was not enough to test whether the action had a practical application but also to test whether action was undertaken thoughtfully. For me, 'a practical and thoughtful application' in the case of personalised learning and ICT use meant that all my actions were planned to bring about a desirable change to the learning of the children, and an effective development in the communication of their parents with school. For this reason, I critically considered a number of statements about the potential of ICT use before designing my actions.

8.2.1. Quality of purpose in relation to personalised learning

I invested in strategies to successfully apply personalised learning. Specifically,

- I supported my students' collaborative techniques and promoted communication among them (see *Taking Action in Y1*, pp. 157-167). I then highlighted collaboration and communication with ICT use (see *Description of the Action Plan in Y2*, p.183),
- I provided learning tasks which were more challenging and enjoyable in nature (see *Description of the Action Plan in Y2*, p. 183) and had clearer objectives (see *Learning Tasks in Y1/p.164*, in *Taking Action Y2/p.168*)

- I trained my students to self-assess in an effort to become self-regulated and autonomous learners (see in Y1 *Taking Action in Period 2*, p.166),
- I welcomed argumentative processes with my students in order to help them develop critical thinking (see *Argumentative processes in the classroom* in Y1, p.161),
- additionally, by employing ICT use, I encouraged and assisted a triadic connection among the parents, the students and myself, the teacher (see in *Description of the Action Plan in Y2*, p.183, *ICT use for parents* in Y2, p.196).

8.2.2. Quality of purpose in relation to personalised learning and ICT

Through this study I had the chance to explore how the use of ICT practices could integrate into a personalised learning framework. I noticed that change seemed to influence the following areas:

- *curriculum and pedagogy*, in terms of learning opportunities, flexibility in learning, and classroom versus online learning (see Appendix, Various 8, Q1a/q1f,e; q2b; q2d; Q2 'classroom and online learning' p. 352),
- *information and communication processes*, in terms of a seamless connection of school with home, new communication channels, enhancement of the social capital, and the diminishment of time and space limitations (e.g. parent-teacher / student-teacher / group student chat sessions)
- *the student and his/her learning*, in terms of collaborative work and learning preferences (see Appendix, Various 8, Q1a/q2b; Q2 'playfulness of the system', 'support for self-confidence', 'persistence', p. 350).

I could say that ICT use integrated with most of the conceptual issues of personalised learning up to a certain degree (see *Quality of theoretical understanding*, p.282-289). What did not develop satisfactorily enough was perhaps the issue of 'a seamless connection of school with home'.

Embedding ICT use in a personalised learning framework taught me some lessons.

In particular, in relation to *curriculum and pedagogy*:

- Technological interventions do not guarantee that the online tasks are engaging, challenging, collaborative and satisfying. These latter are properties of a well-conceived design (Green, 2010), of a 'learning design' which takes into consideration theories of learning and teaching methodologies in order to create online tasks and learning experiences (MacLean and Scott, 2011). As an example, in order to address this concern, when I provided online learning tasks I adapted them to the students' needs (see Y2, p.185).
- Technology cannot vouch for the success of an innovation. Technology systems may be customised to become efficient, economical and playful and, thus, influence learning positively, but what may really bring change is practice itself (Sharples et al, 2009). This understanding was the most important lesson for me throughout this study. I noticed that the personalised learning environment welcomed an integrated use of ICT. Moreover, technology systems do not provide a substitute for a skillful teacher; it is the teacher who guarantees the success of an innovation online (Lambropoulos, Faulkner and Culwin, 2012).
- Technology does not instantly turn the users from knowledge managers to knowledge communicators. Young students in an online environment need good-quality induction and an early use, explicit and extensive tutoring and support and guidance (Ofsted, 2009; Zhang and Sun, 2009). In fact, practical experience and hands-on training prior to the intervention period proved helpful for my students whereas it was regarded an important issue by their parents (see Y2, p.203).

In relation to *the student and his/her learning*, the study suggested that:

- Technological interventions are not always the preferred learning environment for all children, even if it is an enjoyable one. Children like outdoors activities and traditional toys as well (Stephen et al., 2008). In my case, one of my reasons of choosing ICT was the fact that my students enjoyed online activities (see Y2, p.182). Soon I found, however, that children enjoyed their outdoor activities as well and they would not give them up for a chat session. They suggested more flexible chat times (see Y2, Table 4, p.196), so I identified suitable chat time and dates before I offered a chat planner the following year.
- Being young does not necessarily distinguish someone as a digital native. Being a digital native seems a complex concept and it may relate to positive technology attitudes, intentionality, agency and choice (Jones and Healing, 2010), to a technology-rich setting (Crook, 2011; Facer, 2012; Littlejohn, Beetham and McGill, 2012), to properties of distinct social groups (Sánchez et al., 2011), rather than to people's technology learning styles (Margaryan, Littlejohn and Vojt, 2011). In fact, Brown and Czerniewicz (2010), in order to traverse age, suggest the term 'digitizen' as a substitute for the terms 'digital', 'net', 'native', and 'generation'. In this study I learnt that children perceived ICT to be playful and liked being connected. However, they grew into it, for example, my students requested for more complex ICT use at the end of Year 2 after they had almost two years of practice in collaborative work in class. On the other hand, their parents were reluctant to communicate online (see *Appendix*, Table 15, p. 354 and Table 16, p. 355). However, there were some parents that persisted and one mother who 'confessed' that she liked it (see *FP05/interview extract* in Y3, p.244). Perhaps technology adoption time was not consistent and there were late and early adopters. I mainly presume that being part of the digital culture is after all a matter of positive attitudes and personal objectives towards technology. In

this sense, I believe that age is not in itself a predictor of technological understanding.

In relation to *Information and communication processes* the study suggested that:

- Technological access inside the home is not formed. Difficulties may result in hindering the child's computer use and end up in a faulty connectivity between home and school computer use (Livingstone, 2011). This is because parents may be aware of the importance of technology use at home but they may be unable to offer technology support to their children, either because they do not have the knowledge or the time to spare (see in Y3, *FS54/focus group1*, p.235; *FP47/chat 11*, p.239). It is also because parents feel responsible for their children's security and online dangers like 'net grooming' and pornography and tend to use mediation or blocking strategies in their children's computer use (Livingstone and Helsper, 2008; Watson, 2006) (see in Y3, *FP37/ chat12*, p.241; *FP54/interview*, p.245). In this study I noticed that the parents did not restrict their child's online use. The less computer competent parents mediated the time and the quantity of use whereas the most computer competent parents preferred an online co-use with their child (see in Y3, p.241). An additional difficulty of technological access inside the home is that not all homes have access to a broad band connection. This can set the ground for 'digital divide' and social equity issues in technology use (DiMaggio, et al., 2001; Livingstone, 2009). In this project the one side of the continuum (see in Y3, p.245), the 'technology privileged' (Stevenson, 2011) participants took part, which suggests that the other side, 'the technology *non*-privileged users', probably exists.
- Technology use does not make people become more or less social beings. Online interaction depends on users' goals such as self-expression, affiliation, or competition (Bargh and McKenna, 2004), and on their interpersonal communication skills (Nie, 2001). In this study I learnt that the children and their

parents went online with different objectives: the children, because of a preference to be socially connected in a playful environment (see in Y3, p.248), and their parents, because of a trust to the teacher/usefulness of the online intervention (see in Y3, p. 241), and of a willingness to support their child's online attempts (see in Y3, p.240).

- Online intention of use is influenced by determinants including ease of use, time management, technical availability and support (Luor, Hu and Lu, 2009; Venkatesh, et al., 2003). In the project accessibility (support, resources and expertise) was relatively sufficient for the child-user and seemed to help them to increase their computer self-efficacy beliefs (see in Y3, p.249). The parent-user experiencing scarce accessibility developed computer anxiety feelings instead (Y3, p.244).

8.3. Quality of outcome

Apart from its practicality, educational research is tested on another area: ethics. An educational research project that only strives to identify what goals should be achieved and does not investigate how to reach those goals does not have an emancipatory plan for change and remains a research project with a 'utilitarian function' (Groundwater-Smith and Mockler, 2007:199).

Knowledge that is gained from the solution of a practical problem is valid when it involves reflexive knowledge from the dialogue of many voices related to the problem. Reflective knowledge may add to ethics: a researcher reflects on his/her work, s/he estimates the research strengths and weaknesses and discloses both. In this study I involved multiple voices of students in discussions and I complied with criticism.

I came to understand ethics as dilemma instances; occasionally in the research there were 'crossroads' where I had to decide which route to take. All through this study there were four kinds of dilemmas: *moments of uncertainty*, decisions about the *balance of power* (students-teacher; practitioner-researcher), questions about *the reporting of the action*, and, finally, ethical issues that appeared when *personalised learning fused with ICT use*. I resolved them taking into consideration as many parameters as possible in the complex system of my class. Perhaps in another educational context my decisions might not have the same value. Perhaps even in my educational context my decisions might not have been the best ones; yet, what I was always looking for was not the best but the most suitable answers to my dilemmas.

I look at the above four kinds of dilemmas in depth below:

8.3.1. Moments of uncertainty

An example is given below. It is about consent and ethics, and appears to be similar to what Guillemin and Gillam (2004) describe as cases of 'ethically important moments', moments that demanded moral reasoning in the research. For some time at the beginning there was hesitation not on whom or how many to notify about the online intervention I was to offer to my students but rather of the order, that is, *of whom to notify primarily*. Knowing that this attempt was to enhance the learning of the school children foremost, asking the students' consent first was considered ethically right. Yet, to move young children first on the priority list of receiving consent before a number of influential and powerful groups in and out of school was extraordinarily innovative, if not radical. It could be received with reservation even with disapproval and everything would be wasted before even having started. To address the problem, I took some provisional measures. Children would be notified and consulted first but consent was essential from school and parents as well. Consequently, the same day the children were notified the school principal, the primary head teacher, and the English teachers at school were informed. Additionally, parents received a letter-application explaining the reasons of the online intervention and asking for their permission to their child's participation (see *Appendix, Various 11, Research Ethical Approval, p.365*).

8.3.2. Balancing power between my students and me

This project claims that it has been the combined work of the students and me. Looking at it with a critical eye, however, I can say that the mode of students' participation was not the same throughout the project. It varied from low to medium in Y1 and Y2 and from medium to high in Y3 (p. 253). At the beginning I had the role of the 'initiator' and finally in Y3 I took the role of the 'consultant' into the research (Stoecker, 1999). With this I mean that I initiated the change and as the students

engaged into the project I receded into the background and became their advisor, the 'consultant'.

An example of that is the design of the reward system (see Y1, p.163). I introduced the reward system to the students but later the students with my help separated it into two more suitable systems to them. Above all my aim was to help my students to participate in the change (McTaggard, 1991b), maybe in an 'assigned but informed' way (Hart, 1997:41). I concluded that in that way the students had the opportunity to develop critical thinking and reflexive techniques to understand and act upon an erroneous situation. Gradually, that is, the young students would cultivate not just problem-solving but 'problem-posing' (McTaggard, 1991b:180) skills as well.

Engaging the students in the research made the issue of power sharing paramount to me. I, the teacher, no longer had to be the locus of power. I understood that 'the authority and execution of the research [was] a highly collaborative process between [the practitioner-researcher] and the members of the organisation under study' (Greenwood, Whyte and Harkavy, 1993:176). Therefore, who was in control of the research question was important. I believed that the control of the research question, the ultimate manifestation of power in research according to Maguire and Mulenga (1994), expected me-the teacher to be a good listener of the students' stories (McIntyre, 2000).

I presumed that engaging children as co-researchers made the problem quest richer in experiences. 'Problems are mutable', Edwards, Sebba and Rickinson (2007:653) believe; they have the power to evolve, to change shape. One view of the problem may be misleading. Requesting the children's views meant that the range of the interpretations of the problem was raised. The plurality of voices helped to raise observations and critique. The transparency of the evidence, that is, warranted for the quality research.

Although engaging the students in research was a time-consuming process, I thought that it should not be rushed. The students had to be trained carefully and properly in order to become change agents. For example, at the end of the project the children were seen to adopt online learning whereas their parents were reluctant to do so. Although the parameters of this change showed a discordance (Table 14, p.282), the children adopted the change faster than their parents. Perhaps this was because the children worked for a year at personalised learning before exploring online learning. Time had to work in favor and not against the developmental procedure. This study was not seen as a quick fix of a certain problem. That is why it never finished, it only stopped.

8.3.3. Balancing power between my two roles

In this study teaching practice informed research and research informed teaching practice, the two routes being totally interdependent. Being the practitioner I served as the 'inside expert' while being the researcher as the 'outside expert'. Only the 'inside' and the 'outside' expert was the same person and, therefore, balance between the two had to be kept. As the practitioner I felt responsible for bringing a change in the lives of the students and set on a journey to support it. My researcher's duty here was to define not only the 'what' but the 'why' and the 'how' in the learning of the young children and then declare the connections by theorizing them. In this research case it was understood that the limitations of my practitioner's role were covered by the strengths of my researcher role's and vice versa.

The conceptual side of the intervention (the designing of an online intervention) demanded that I-the researcher was more of an initiator (Stoecker, 1999) rather than a consultant or a collaborator at least at the beginning (p.253). The students discussed and listened to each other and became animated with the issue of personalisation. However, they did not have the experiential skills to create a picture

of it, or, to realise and organise it in practical forms. They enjoyed personalisation into learning but they did not know how to materialise it. I-the practitioner, on the other hand, combined my expertise with the local knowledge and organised these efforts towards the development of a product to serve the needs of the students. Consequently, the provision of solutions came from me at the beginning and gradually as the students got control of it, they realised how to take initiative in dealing with problems.

During the research there was a constant worry that my perspective (the practitioner-insider's) would influence the instrument construction and data collection. For this reason, questions were set continuously about 'good research'. It was decided that 'value-for-use' in gathering evidence was more important than proof of 'actual impact' (Elliott, 2007). It was important to gather evidence that described 'the complexities of the case in sufficient detail to be of universal significance to other teachers' (Elliott, 2007:239). Impact is subjected to consequences of action which make it difficult to predict even in the long run sometimes. What I sought was evidence that could 'generate practically useful knowledge' (Elliott, 2007:245). For instance, in my effort to restructure the seating arrangement of my class I noticed that I needed the informed consent of the head teacher and of three other teachers. This evidence could have 'value-for-use' for another teacher who would like to do what I did. It could even have 'actual impact' on the school structure as the school headship could be influenced to change the old-fashioned classroom arrangements. I was intrigued by impact but impact came second in my priorities.

The blurring line between 'to know' and 'to know well' (Code, 1995) was an important issue throughout the research. The strategy of asking 'burning questions' (Ulanoff, Vega-Castaneda and Quiocho, 2003:406) helped in order to raise evidence. Burning questions are nothing but questions that haunt someone. One of

my haunting questions was whether my insider's role in the research would override my researcher's role and subjectivity would outbalance objectivity in the study. I also understood that sometimes I turned out to be 'the protagonist' in the research. I considered salient to analyse my own judgments, reactions and impressions as well as the children's. This enabled me to delve into a prevailing problem and ask further questions in an attempt to understand the complexity of the problem. To question everything relentlessly became a habit of mind, a 'commitment to an ethic of constant inquiry about practice and learning' (Ulanoff, Vega-Castaneda and Quiocho, 2003:428).

Hence, through action and reflection I concluded that I was wrong in the way I looked at my two roles at the beginning of the project. It was not a matter of what common ground the two roles had because, apparently, in action research the two roles start and end at the same point. Using a simile I can say that I eventually came to understand the two roles as Janus-faced: from the one side, the practitioner's view through planning and action, and from the other side, the researcher's view through observation and reflection.

8.3.4. The report writing

Being ethical had to do with how I planned, designed, collected, analysed and reported this research project.

The report of this particular research study tried to be faithful to the concepts of 'authenticity', 'reflexivity' and 'transparency' (Feldman, 2007; McTaggard, 1998; Winter, 2002) (see also p. 126-127). 'Authenticity', according to Winter (2002:149), should not be seen as 'honesty' (a very detailed account that becomes resistant to criticism) but rather as 'a complex moral and cognitive achievement'. 'Transparency' for McTaggard (1998:222) has 'a sense of the collective and explicit commitment to a practice'. Feldman follows Winter (2007:27) arguing that the combination of the

reflective principle ('self-questioning') and the dialectic principle (collaborative process) is equivalent to critical reflection. Feldman argues that it is not enough to exchange ideas, arguments and counter-arguments but there is a need to examine perspectives critically to ensure quality.

Therefore, in this report attention was paid to the plurality of voices; the students' and their parents' views were heard and taken into account as instruments were constructed and data collected. Their consent was given for the presentation and publication of data or findings of this study (see *Appendix, Various 11, Ethical Approval Document*, p.365). Care had been taken to ensure that their permission was not just a procedure. I believed that forms of engagement and not of coercion among the stakeholders and me would vouch for the validity of this report (e.g., participation in the online intervention was voluntary: the participating children were the ones who wished to take part having their parents' consent as well (see, p.128); the children gradually learnt to construct knowledge collaboratively with their classmates and the teacher both in a classroom and in an online environment (e.g. the case of the reward systems design in Y1, p. 163, and in the shared docs/group chat in Y3, *focus group1*, p.236).

My understanding had regularly been challenged by 'self-questioning' in the construction, collection and analysis of the data. These were times I paused and reflected before taking a decision how to proceed. I consider my first 'self-questioning' moment in this study when I questioned myself whether I should start this study earlier than the degree official start date (see *Chapter 1*, p.3; *Appendix*, the Ethical Approval Document, p.363). Moreover, arguments from the students and the school community were seen as such moments (e.g., the 'noise' issue in Y1, p.171). I experienced self-questioning a lot whenever I had to decide about 'who, how many and why' to take part in a situation (e.g., how many parents and children to be involved in interviews and why so, Y3, p.224-225).

A lot of consideration was taken to offer for a careful and detailed description of data. I accepted the necessity of knowledge sharing because it was through the report transparency that the ethicality of the practitioner could be assured. Thus, data were recorded, securely saved and anonymously used in discussions with stakeholders and peer practitioners (see *Appendix*, Ethical Approval Document, p.265). In some cases the Greek language was used in construction and collection of data. Once the outcomes were out in the open and analysed, they were translated into English. For the sake of reliability in the report, it is noted when translated cases of analysis occur.

My contribution to the research community was mostly made through and presentations to conferences, seminars and symposiums (see *Published Work*). Sharing my research findings with others about matters such as ICT in education and personalised learning was an insightful and judicious time for me because I gained from the critical view of other researchers. Their remarks helped me to contemplate on unclear areas in my research and then to reflect in order to appraise, reject, consider or reconsider, and finally to be able to define a matter in better ways.

I also made choices about the discourse language in the report. In it, the use of the word '*learner*' was problematic. In English the subjects of education are referred as '*learners*' or '*students*' with the word '*learner*' gaining prominence recently (Biesta, 2009). The problem with the word '*learner*' rose when I thought that 'a learner is someone who needs to learn something he does not yet know, [...] the learner is not simply lacking what he needs to learn but the learner is lacking the very capability to learn without the intervention of the educator' (Biesta, 2010:542). Not a very liberating assumption for what I regarded the children to be like in this research. I believed that the children *could* construct the knowledge they lacked socially, that is among themselves and me.

Although quite radical in his views, Jacques Rancière (1991) in his book *The Ignorant Schoolmaster* gave a different perspective to the balance of power in the classroom, which I seemed to prefer. He understood the educator not as an explicator or a superior intelligence but as someone who demanded an effort to be made by his student and as someone in position to verify that this effort had been made. Thus, the subject of education was someone whose intelligence was not subordinated to an educator but s/he was a person who came to study and, thus, to become a *student*.

Being Greek, I also examined if the Greek translation of the word 'student' had an equivalent or close connotation to the English one. In Greek, a 'student' is translated as 'μαθητής' (/mathitis/) denoting 'a young (=new, fresh) participant in education' (Bampiniotis, 1998:1041). Its ancient Greek verbal form 'μανθάνειν' (/manthanin/) means 'to comprehend through the senses *in order to think*' (my italics) (Dorbarakis, 1998:502). It also suggests an ongoing action as the person constantly seeks new knowledge (Aristotle, Poetics 4, 1448b 4-19). I concluded that the word 'student' was closer in meaning to what I wished the children to be in this research; henceforth, I referred to the children engaged in this research with the term '*students*' and not with the term '*learners*'.

8.3.5. Personalised Learning fused with ICT

In a personalised learning environment, ICT use implicated a number of targets, of outcomes that I wished to reach. I evaluated and reflected upon my targets so as to estimate what was gained and what was still missing. Most of the times the targets I aimed at were not easy targets to reach and sometimes I could only reach them partially.

For instance, I could not easily make judicious choices how to personalise the ICT intervention in a suitable way. This is why the planning of the structural design of the

online intervention developed under much consideration, and, because of that, took time (see *Chapter 6*, p. 187).

I was also skeptical about the issue of e-safety. There is a need for new protocols to be designed in the web concerning ethics and safety. With online engagement changing from static to dynamic in e-mails, websites, blogs and social networks, privacy should change into transparency. The idea of transparency should be associated with a unidirectional information sharing and disclosure among online users (Vaccaro and Madsen, 2009). Yet, security, legality, power and ethicality in the digital world are issues that have not been broadly addressed at schools.

I was cautious in regard to e-safety (see Y3, p. 213-214). Firstly, my students' safety was of prime importance to me. Secondly, I had sensitised their parents on the web danger and offered protection measures in various forms (see Y2, 'securing sensitive data', 'CD manual' p.184; Y3, 'training' p.185). Yet, I believed this was only the beginning and more actions ought to be planned in the future.

8.4. Quality of theoretical understanding

Quality of evidence lies in its substance, that is, in its discourse. It also lies in its argumentation, that is, in its theoretical claims, resources, conceptual maps of knowledge. I see the matter of theoretical understanding interrelating with practice and ethics. Theory led me to make decisions about educational aims in my practice, and practice helped me to understand and balance the theoretical values and limitations of personalised learning and ICT. In addition, theory and practice directed the ways I planned, collected, and analysed the research evidence.

I continue with a discussion of the evidence in relation to personalised learning and ICT seen through a theoretical perspective. Through a continuous feed between theory and practice, I could finally afford to construct my own working definition of personalised learning, shape my body of practice, and be in position to offer practical advice on the issue of personalised learning and ICT use.

8.4.1. Quality of theoretical understanding in relation to personalised learning

When I decided to place my practice into a personalised framework, the first thing I did was to define what 'the learning student' would be. Simms (2008:2) described it in a way that was inspiring to me:

'in a school where personalised learning is adopted, the student is an articulate, autonomous but collaborative learner, with high meta-cognitive control and the generic skills of learning, gained through engaging educational experiences with enriched opportunities and challenges, and supported by various people, materials and ICT linked to general well-being but crucially focused on learning; [*this student is found*] in schools whose culture and structures sustain the continuous co-construction of education through shared leadership, and by using personalisation, the conditions of student learning are transformed and deep learning is secured'.

Using this definition as a compass I examined my teaching practice anew. I looked more critically to see how I used theoretical concepts and pedagogic issues that were of central importance in personalisation.

At first, I realised that my teaching methodology ought to be reassessed. To guide my students, I had to focus on the students' intention to understand what they were learning (e.g., as it was important to help my students comprehend what collaborative work and assessment felt like, I engaged them in activities in Y 1, p.157, 166). In my case, it meant that my students, by interacting with their peers and me, could gain the scaffolding they needed to bridge the gap between what they could actually do and what they could potentially do. Logically, I considered collaboration processes to be important.

According to von Glaserfeld (2005:3), constructivist learning is 'a constructive activity the learners themselves have to carry out'. I understood that my students could construct an understanding for themselves from implicit instruction and background knowledge, what Forman (1989:57) calls a 'proleptic instruction', and then, through collaborative work they could share their understandings with their peers (e.g., the collaborative ways they employed in designing the reward systems in Y1, p.163). It was likely that my students could benefit from a classroom experience where both teacher and peer interaction were integrated (Rojas-Drummond and Mercer, 2003) and where my authority worked as guidance to serve the learning goals of the students (Howe, et al., 2000). Directed by experience and theoretical contemplation, I set my mind to providing a collaborative environment for my students.

As changes started to take place, the social constructivistic lens on learning was encouraged (e.g., in Y2 the integration of ICT use in the curriculum was in a way constructed upon the experience that Y1 research offered, p. 178). However, teaching was never understood as one of two kinds, either constructivist or

instructivist. I considered my teaching practice as a set of instructional means that could engage my students actively into learning through discovery and invention without ignoring the significance of direct instruction (Beaumont and Chang, 2011; Vogel-Walcutt et al., 2011). I regarded teaching as

‘a continuum of practices [...] at one end of the continuum are constructivist practices where students are active in constructing their own knowledge [...] and at the other end are practices that involve transmission of ready-made knowledge to passive students’ (Golding, 2011:468).

It would be wrong to say that I ignored my students’ EFL academic achievement. On the contrary, it was very important to me that the developmental changes I planned led to my students’ academic success. I just took a different route to teaching it. To do so, my teaching practice inclined towards active engagement in learning, in an attempt to give my students independence to experience it (e.g., the assessment charts aimed both at helping my students’ to build self-regulation skills and to prepare well for the forthcoming test, Y1, p.175-176).

Personalised learning cannot be without student voice, assessment for learning and learning-to-learn strategies. I was determined to put my students at the centre of the system and to work in partnership with them (e.g., even literally when I reshaped the seating arrangement of their class so as to encourage partnerships in Y1, p. 158). I wished that my students developed ways to become more responsible for their own learning and academic headway. I believed that if the students engaged actively in learning and were challenged in a multitude of ways, they could learn to plan, monitor and evaluate their thinking, and they could learn to be in control of their own learning (Cook, 1993). This was what ‘the students’ voice and choice over their own learning’ meant for me.

People, however, do not plan, engage and perform tasks if they are not motivated. Zimmerman (2000:226) values self-efficacy (personal beliefs about having the ability

to learn or perform effectively) and outcome expectations (personal beliefs that the outcomes will be rewarding) as powerful drives of motivation. Social cognitive theory (Bandura, 1977, 1986) considers behavioural, cognitive/personal and environmental factors to be responsible for behaviour, all three operating interactively as determinants of each other and with self-efficacy as the key mechanism in this triadic relationship. There is even evidence that supports the view that self-efficacy and deep learning foster 'bidirectional reciprocity' (Phan, 2011:238). I realised that my students' degree of motivation related to their judgments of how well they could perform. Following, my students' efficacy perceptions seemed to determine what action to take, how much effort to put and how resilient to difficulty they could be when challenged with a complicated situation (Bandura, 1977:79) (e.g., in Y3 children relied on parental help and training and developed self-efficacy beliefs when online which helped them persist in the face of difficulty, p.212).

As Simons and Bolhuis (2004) advise, it would be best to concentrate on building a teaching model which would endorse the use of challenging and interesting tasks with explicit goals. Thus, it was important to me to strengthen students' self-regulation skills and higher order knowledge skills such as ability to evaluate, classify, define problems and reflect (Brandford and Stein, 1993). It was important to strengthen the students' beliefs about the value of learning. For this reason, I insisted on collaborative work, task-related interaction, computer-supported environments, new methods of assessment and new roles for the teacher (Järvelä, 2006) (e.g., for those reasons in Y1 the philosophy of setting and dealing with a learning task changed, p.129).

It was essential to design a learning environment incorporating all the above learning concepts and pedagogic issues in an effective and powerful way. By this, I mean that it was important to negotiate with my students and not to offer what I believed as necessary. Thus, I looked more critically at the learning objectives I had

set for my students, their learning goals and the outcomes that they aimed for. They were academically oriented, maybe not utterly but pretty much. I resolved that academic achievement was not the only thing needed; it was only part of my students' education. I wished to guide my students to be 'educated'. For me the 'educated student' changed meaning and became indicative of a person who was able to ask questions and seek answers (Pring, 2010:87)

'in a quest of trying to make sense of reality, of seeking understanding, of exploring [...] what it was meant to be human or of creating through trial and error something new which demanded the application of skill and the mastery of standards'.

8.4.2. Quality of theoretical understanding in relation to personalised learning and ICT

As nowadays students encounter learning with more sophisticated tools 'the spaces they learn must adapt to reflect their different needs' (Wright, Lownsborough and Perry, 2005:1). The implication is that students' views about how they learn are important and should be heard because students may engage with forms of learning that are partially recognised and explored at school (Underwood et al, 2010; Sefton-Green, 2005). Although it is not obvious, it means that children appropriate opportunities and experiences around them for learning and, thus, they can become the agents of their own learning (Maddock, 2006).

It seems that when technology features interlock with practices like personalisation, (Becta 2008b, 2009b, Underwood et al, 2010), alternative learning environments can be possible and engaging ways can be offered to students not just to learn but to design their own learning as well (Flecknoe, 2002; Green and Winkler, 2005). Having the quality claims in my mind, I concluded that,

In relation to *curriculum and pedagogy*,

Educational technology gives the chance to students to find more ways to learn, more subjects to choose from, more flexibility in studying, a personal online learning space, and even help when in difficulty (DfES, 2005:11) (see *the findings of the Questionnaire to Children (Q1a)*, p.196),

Interventions in learning may go beyond simple online tasks (Keengwe, Schnellert and Mills, 2012) and can mix educational web 2.0 activities with formal classroom teaching aiming at the evolution of methodologies for powerful learning development (Boyle, 2005) and lifelong learning. Forms of blended learning are likely to aid the playful, expressive, reflective and exploratory nature of the student in order to develop collaboration, new literacy and inquiry skills (TLRP, 2008) (e.g., children enjoyed shared docs more than simple online docs: they liked being socially connected [a web 2.0 feature] in order to do an exercise [a formal classroom feature], see in Y3, p.236, *focus group1*).

There should be a 'complementarity' of traditional (face-to-face) with web-based instruction. In this work a diversity of students would be catered for (Pineteh, 2012; Lin and Tsai, 2011). In this study I can say that the docs and the assessment in the online intervention resembled the traditional learning material we used in the classroom. The chat service was a completely new learning experience for the students. I suppose using both traditional and web-based activities helped the students to envision online learning as 'a different approach in learning' (Y3, p.235, *FS54/focus group1*).

In relation to *Information and communication processes*, I concluded that,

Technology innovations can provide electronic services to students, to their parents, and to the school community so as to be seamlessly connected in order to communicate with each other and get advice and/or guidance from anywhere at any

time (e.g., the chat service in this project had such capabilities) (Kent and Facer, 2004)

Technology can support social capital: it bridges distances, reaches to many people, opens communication channels for people, and supplements face-to-face communication (DiMaggio, Hargittai, Neuman and Robinson, 2001) removing time and space constraints (e.g., Y3, p.234, *FS44/focus group 2*).

In relation to *the student and his/her learning*, I concluded that,

Educational technology may alter the way people learn by introducing a collaborative mode in their learning (DfES, 2005), and encourage the formulation of communication skills outside the classroom as users of online communities interact, exchange and construct knowledge (Pineteh, 2009) (e.g., in group chat children from different classes, sometimes barely knowing each other, went online)

Technology innovations can support students' online learning preferences: (i) to bring ICT tools and practices from their home into their classroom, (ii) to have their teacher's support in an internet environment (Becta, 2007), (iii) to experience social networking collaboratively and communicatively with their peers (Becta, 2009), and (iv) to engage in tasks that are foremost enjoyable (e.g., see *the findings of the Questionnaire to Children (Q1a and Q1b)*, Y2, p.196).

Arrangements are good to be made to go beyond the home-school computer use divide. Research points at a 'portability' of social practices from school to home and vice versa: formal learning does not take place exclusively at school, it can also happen at home as young people work on schoolwork, and informal learning is not entirely a characteristic of a VLE, it can be seen in class as students collaborate (Kent and Facer, 2004). This suggests that there is a continuum rather than a divide of formal and informal learning with ICT that young people experience at school and home. This insight can open a promising road to link successful learning practices at

school with successful ones used at home that have a learning relevance and value (Selwyn, Potter and Cranmer, 2009; Williamson and Facer, 2004).

I was aware of the learning practices that the students used in class, but I confess I was surprised with the practices I discovered that the children exercised at home. One particular student, a dyslexic student, in class showed poor academic skills. When he was online, however, he used a lot of his defensive mechanisms to manage his work. One in particular was a way he had developed to remember his duties online: he had created a separate coloured folder (red) where he dropped the docs I sent each time. His mother later told me that he used colours at home in his effort to be organised. When he did work on a doc, he filed it with my feedback in a new folder with a different colour (green). He was able to know at any minute where he kept his complete and incomplete work. I found it interesting and discussed it with the students. Soon I noticed a lot of other student-users to copy his practice. From then on, I became attentive to children's successful learning practices at home that could be transferred into the classroom, or into the web.

8.5. Sustainability and success

This study does not claim a change ‘for all students in all settings’ but it claims that the pedagogic innovation of personalised learning brought a sustained change for the students of my class. Therefore, two things are important to underline in attempting to explain the success of the innovation in my study: the locality of the conditions and the sustainability of the change.

As mentioned in the Action Research literature, Stake (1978:8) argued that ‘although the general is not despicable, the particular does deserve praise’. In my case this meant that the adaptation of a model to bring developmental change mattered more at a local level for the simple reason that I did not have the knowledge of how the same variables could behave in other school environments. The nature of the action research pointed at a localisation in this study that had the following characteristic: the complex system of my class was specific enough to dictate key local parameters and general enough to accommodate those parameters in design templates of broader educational systems. Taking again the example of the classroom seating rearrangement (see Y1, p.158), it was a specific problem seen locally but because it was a problem likely to be seen in the practices of many teachers it could become general. Seen it through this lens, I agree with Whitehead (1989:47) who argues that ‘the ‘general’ in a living theory still refers to ‘all’ but instead of being represented in a linguistic concept, ‘all’ refers to the shared form of life between the individuals constituting the theory’.

In sustaining a change in a complex system one should take notice not just of the elements and agents but mostly their connections; it is those connections among elements and agents that bring about properties, phenomena and behaviours (Mason, 2008, 2009). This means that predictions are difficult to make; what is

made is rather a pragmatic comprehension of the complexity. Yet, how is this knowledge helpful to identify a successful innovation in a complex system?

Changes around us do not just happen but they build gradually and give a chance to people to observe them and get feedback. This implies that successful organisations are the ones which continually adapt or rearrange their components in the light of new probable conditions. To do so they employ a successful implementation policy: they establish interventions consciously after receiving feedback about a new alternative they plan to adopt. The agents in an organisation choose a route in an ongoing process; the agents may not always choose best as the best choice is unknown due to the infinite possibilities and to the perpetually changing environment around them. What may, however, sanction a good chance of a successful choice is 'to hit the problem from as many angles, levels and perspectives as possible' (Mason, 2008:45).

A developmental change in education, therefore, does not appear to be the result of one particular variable no matter how effective it can be. It seems that many variables should be enabled. But how do we know which can be a good direction for a change? Feedback from educational research appears to be useful at this point since it can suggest with a degree of confidence which variables may promise improvement in learning outcomes (Mason, 2009).

Rogers (1995) sees five steps in the process of change: potential adopters need to (i) know about change, (ii) be persuaded to try it, (iii) make a decision about it, (iv) implement it, and (v) continue or stop using it. At the point where potential adopters decide what to do and whether to take action or not Ely (1999) notices that people rely on their own perceptions. He lists eight conditions for an innovation to be adopted: implementers may agree to exploit an innovation if they (i) are dissatisfied with a present status quo, (ii) have sufficient knowledge and skills, (iii) have available resources, (iv) have available time, (v) are given rewards or incentives, (vi)

participate in decision-making, (vii) are committed to the innovation, and (viii) are supported by the leadership.

It is inferred, then, that any change, successful or not, has a slow growth and development due to its complicated character. And secondly, change needs supporting services and devices to live and flourish.

The pattern of change in my study can be seen in Table 13 (p.256). It referred to the complex system of my class with a diversity of agents and elements with a multitude of interrelations among themselves. It was the interrelations, the multiplicity of people's perspectives and the uniqueness of the real-life events that gave a tone of unpredictability into the research; yet, at the same time this gave richness into the research and provided an air of 'completeness'. It seemed to echo Aristotle (*Metaphysics*, Book 10, Section 1045a) arguing that 'the whole is greater than the sum of its parts'.

The yardstick of success for an innovation is, after all, if and for how long it endures in time. It is interesting to see students three years later after the end of the online intervention to log in to ask for advice and send personal messages to me. Taking a critical look at my implementation I can say that the continuous action with long-term outcomes suggested an orderly course in change which I acknowledged as sustainability. In fact, sustainability for me correlated with success.

8.6. My contribution to knowledge

What follows below are my thoughts about what this work could offer to knowledge.

8.6.1. In relation to personalised learning

Throughout this work I asked myself questions while I explored personalised learning as an approach and collaboration as one of its spinal themes. I have addressed those questions earlier in the thesis, for example:

- How can I define personalised learning after all?
- What are the difficulties of personalised learning in practice? How much is possible to achieve?
- What are the limits of personalised learning when theory is put into practice?
- Could I say, at the end, whether it was a worthwhile concept for me?
- How can I build knowledge collaboratively with my students?
- How can power be distributed between my students and me?
- What learning skills are needed to enable my students' argumentative processes?
- What problems might I anticipate concerning group dynamics? What measures should I take if such problems arose?

I can now see them as questions inside the main research question:

How can I modify my teaching method to become personalised in a well-designed way? What do I need to transform?

Those questions were answered as action and reflection took place throughout the three research years; this is how I believe I can contribute to knowledge.

First, I would like to make some points about the importance of the concept of personalised learning in my inquiry. More specifically for me,

- personalisation was a purely educational innovation, it did not carry a political baggage as in the UK; in fact, I did not see my work as a way of addressing a governmental agenda,

- it was thought to be an innovation aiming at the development of my students' learning, *and* the improvement of my practice.

Overall, I can argue that personalised learning in my case was not seen having the instrumental angle that the policy makers suggested when they introduced the approach in education. As I have previously said (*Chapter 3*, p. 62), for me, personalised learning was an approach with practical and moral insights. This is why, I believe that the prime contribution of this work is that it took a propositional piece of knowledge, dismantled it from its political message, and turned it into practical knowledge. The theory of personalised learning presented an auspicious plan for learning which was not explicit how it could be materialised in class. This work has found reliable and durable ways to do so.

Furthermore, the findings of this study can generate a theoretical stance in educational research: what a researcher may say about a concept can reach the classroom, and the wisdom of the classroom can be turned into theory. I consider myself a supporter of personalised learning and I can hardly see myself practising as before any more. Holding such practice positions and noticing how hard it is to find readings on personalised learning in Greek, I have set my mind to turn part of this work into a practical manual in Greek for any practitioner interested in the approach. This could be a personal contribution to the teacher community in Greece.

Allowing personalised learning in my class for three years, I could now offer some advice to an interested practitioner. In specific, some strategies to follow, some constraints to be aware of, and some benefits to expect:

Strategies: A practitioner should

- make ideas understood before practising them with the students (see Chapter 5, p.157)
- establish partnerships so as knowledge to be built collectively, e.g. teacher-student(s), student(s)-student(s)
- establish stakeholders' partnerships (e.g. teacher-parent(s)) so that communication channels open to send/receive information and feedback for the sake of the student
- establish an argumentative style in his/her teacher talk, not to agree or reject without asking/receiving an explanation; students need modeling to develop argumentative processes (see Chapter 5, p.161)
- prepare learning tasks that offer opportunities, that is, tasks that are explicit, challenging and enjoyable (see Chapter 5, p.172)
- be informal but also knowledgeable and well prepared; it is worth spending time to design carefully (see Chapter 5, p.153)
- be consistent in his/her practice: e.g. to follow routines and rules (see Chapter 5, p.162, *Diary Notes Y1/Nov, no 4a*)

Constraints: A practitioner should

- understand that preparation takes a lot of time; there is plenty of workload; teacher training or experiential learning may be needed at times (see Chapter 5, p. 164-165),
- remember that a classroom where personalised learning is practised it usually becomes noisy; to some people a noisy class may 'bustle with life', but to some others it may 'hustle' disturbingly (see Chapter 5, p.171),
- expect difficulties in group work (in formation, group roles, group knowledge, group dynamics) (see Chapter 5, pp.159-161),
- put up with argumentative talk; at times, it can be frustrating (see Chapter 5, p.170),
- understand that it is crucial for the approach to align with the practitioner's teaching subject knowledge and expertise, as well as with his/her personal values and school culture and ethos,
- need the support of other teachers, parents and school heads.

Benefits: A practitioner may notice that

- students become more engaged and active; students start reflecting how they learn and how they learn best,
- students understand what the learning objectives are about and develop a more effective awareness of success and failure,
- as students work collaboratively to build knowledge, they gradually develop sharing and communicating skills for future workplaces,
- students experience feelings of contentment and well-being, which are easily picked up by the parents; parents are, then, more willing to support the teacher's innovations,
- students experience a personal closeness to the teacher; the informal relationship of student-teacher reflects trust, which is likely to lead to better classroom behaviour and higher levels of academic attainment; positive student-teacher relationships seem an effective drive for students to learn,
- the teacher experiences a closeness with his/her students as he/she becomes aware of the private selves of the students in the process of sharing and communicating knowledge.

8.6.2. In relation to personalising learning with technology

While exploring the issue of ICT and contemplated on its use in a personalised learning environment, again, I developed some questions. For example:

- Is the link of ICT and personalised learning a useful one?
- Can personalised learning live without ICT use?
- How can I understand the various claims made about ICT use in my practice?

The above questions were nested inside the research question:

How can I use ICT practices to sustain a well-formed personalisation scheme in learning? How much and how well can ICT practices do it?

The answers to the above questions could be my second contribution to knowledge, as they can relate to teaching practice.

For a new learning experience planned as online learning, there should be a learning methodology that prepares for it. Taking as a whole all the claims made in the quality criteria about ICT use, I perceive ICT use to be effective and useful for learning. However, I hold the belief that ICT is not a tool or pedagogy; it is both, ICT is a *pedagogic instrument*. Because of that, I did not regard ICT to have a techno-centric nature; I understood a generic character in ICT use. For me, ICT encompassed a whole class of things, for instance, accessibility, skills, environment, and intentionality. For instance, collaboration was a pedagogic issue that personalised learning and ICT practice shared. However, collaborative work in my practice was wholly realised when ICT practices were embedded in the curriculum because ICT use found a way to keep the element of collaboration consistent and indispensable in my practice (e.g., with the use of shared docs in Y3, *focus group1*, p.236). In turn, it prepared the students to better understand and appreciate the collaborative capabilities of network technology. Concluding, ICT use was not seen as a tool or pedagogy because it was both.

I realised that personalised learning *necessarily* involved ICT use as it could transfer the pedagogy of personalised learning from class to home and backwards. In this sense, there was a continuous flow of personalised learning in the students' lives and it can be argued that ICT use maintained and sustained the personalised learning of the students. This is the third finding that this work may contribute to knowledge. ICT use is capable of channeling pedagogy uninterruptedly from school to home and from home to school. Seen it that way, I can say that personalised learning and ICT practice seem *a good match*.

Exploring ICT use in a personalised learning environment for two years, I could say the following to an interested practitioner, in relation to ICT benefits and constraints:

Benefits: The practitioner may notice that ICT use

- Offers ways to students not just to learn, but to make choices about learning (e.g. students could choose when and where to learn, Chapter 6, Questionnaire Q1a,b answers, p. 196),
- Offers opportunities to students to design learning around their own needs (e.g. Chapter 6, Questionnaire Q1a,b answers, p. 196),
- Offers ways to students to share and communicate while learning; in this sense, social practices used in class reach out to online practices, and social online practices may travel back to reach classroom practices (e.g. group chat/group docs, Chapter 7, p.236, 238),
- Approximates the learning that students enjoy in new environments out of school (e.g. gaming literacy, Chapter 7, p.238),
- induces feelings of content and well-being to students as ICT use appears to have a playful character (e.g. Chapter 7, p.232) and circulate their perceptions among their friends (e.g. Chapter 6, p.206; Chapter 7, p. 232, 237); strengthens students' feelings of closeness and trust to the teacher (e.g. Chapter 7, p. 214), and parents' feelings of gratitude and trust to the teacher (e.g., Chapter 7, p. 241),
- Influences the students' self-efficacy because of its playful nature; students may wish to engage in online activity and persevere in the face of difficulty as long as the online activity is enjoyable (e.g. Chapter 6, p.196)

Constraints: The practitioner should

- Prepare well in advance; planning and decisions on the construction of an ICT intervention may even be more time consuming than online material design (e.g. Chapter 6, p.187),
- ICT use embedded in curriculum is regarded a new educational experience for students, and as such, it requires a teaching methodology to support it (p.297),
- Remember that not all young students enjoy ICT use; children value outdoor activities highly,
- Remember that the e-safety of the children is imperative and decisions may be needed against progressive online design (e.g. multimedia formats) to safeguard it (e.g. Chapter 6, p. 201)

8.7. Limitations of the research project

This work employed multiple quality criteria in order to safeguard good quality (pp.236-259), criteria for the 'praxis', for the ethics of the research, and for the theoretical substance and argumentation of the evidence. I used this knowledge to come to a theoretical understanding on the issue of personalising learning with ICT use, and conclude about how to put this understanding into practice. This is the prime contribution of this work to knowledge since personalised learning as a concept and as a context is still an under-researched area. This work tells a story about pedagogy and practice with young students, and it offers a story about ICT use which refuses to be techno-centric. It is a story about change regarding the learning of my students and the improvement of my practice. It took time as my students and I involved in continuous action and reflection. This was necessary because it geared an orderly course of change with long-term plans. I regarded this continuous flow of reflective action supporting sustainable change. For me, sustainable change correlated with successful change.

It is important to point that the scope of this study was to find whether ICT use could sustain personalisation in the learning of my students. It was beyond the scope of this work to explore the impact of the intervention on the students' EFL learning outcomes. Although I was an EFL teacher and my students' academic attainment mattered to me, I aimed first at a change in their learning processes and the improvement of my practice. As I am a rather cautious person who usually measures up a situation before planning a move, I assumed that I had to consider the conditions for change. I suppose what I did throughout the three research years was, indeed, one big action research circle: setting the conditions for change. It was a big circle which recapped the action research circles of this study within it. I presume one of my next moves would have been to investigate the usefulness of the intervention on the students' EFL learning.

Yet, as I have previously stated (*Chapter 3*, p.100), it is impossible to separate conditions for change from outcomes. Therefore, even if I did not aim at investigating EFL learning by personalising learning with technology, there were instances in the research that the EFL learning of my students emerged as an issue. For example, in the chat log data students talked about the effectiveness of the online intervention and actually referred to its usefulness in an academic sense:

'it helps me learn English better...I mean I can understand the tenses and make less mistakes in the test' (*FS09/chat log5*, extract).

Looking at the log history such remarks came early at the beginning of Year 2 and seemed to change focus towards the end of Year 3. For instance,

'it's fun learning English this way' (*MS48/focus group4*, translated extract),

or, much later on

'I could communicate using English...I mean I could talk with my friends online and at the same time do the tasks in English', (*a student texted this message to me three years after the end of the online intervention*).

It seems that students were more extrinsically motivated in personalised learning with ICT at the beginning (through the usefulness of the intervention), and by using the online intervention they seemed to become intrinsically motivated in ICT use (through personal attitudes and objectives) as time passed by. However, neither the intervention influence on the students' learning, nor the students' motivational transition was analysed in this project. There were 'snapshots' but not descriptions or measures of the impact of the intervention on the students' academic attainment.

I consider it a limitation in this study for two reasons: (i) success could be differently viewed by other stakeholders in this research; for instance, another teacher interested in EFL error-free production might not find my intervention successful unless accuracy was practised, and (ii) since my technology intervention aimed to be foremost pedagogic in order to gain an effective potential in learning, its

suitability as much as its usefulness to the students' needs and preferences was also necessary. It could be that personalising learning with technology was suitable to the needs and close to the learning preferences of the students; yet, it had also to be a practical intervention so that students could acquire a foreign language, and other people could notice this impact.

As I claimed earlier, I never denied my interest in my students' academic attainment, 'I took a different route to teaching it' (p.284). It seemed to me that maintaining collaborative work and communicative skills was more significant to the personalised learning of my students but in no way more important than accuracy so as to override it. Simply, I concentrated less in accuracy because it was not in my focal research areas.

One of my leading aims in this project has been my students' perceptions of what learning was, the ways they learnt and how they envisioned learning to be like. My instructive means could affect the route, the rate and the final achievement level of my students' second language acquisition (Ellis, 1986:217); but first, it was my intention to incorporate my students' informal learning into school formal learning and to link successful practices of school with successful practices outside school and vice versa. I needed to hear carefully to what my students were telling me about successful learning.

That is why I was interested in investigating the complexity rather than the causes of the complexity. In other words, even though the reactions of the participants in this study were a product of causality, it was not relevant to measure it. Rather, to understand causality and reflect upon it was thought as more 'adequate' than 'necessary' (Weber, 1962:39).

8.8. What I would have done differently

What I concluded in this study was that personalisation and ICT use were two entities that meshed well together. Online technology use enabled personalised learning to reach children at home and had the potential to connect home with school as well. I understood online technology as an effective tool which once embedded in a personalised learning curriculum it could be helpful to reach pedagogic goals such as collaborative work. I chose to use ICT in my practice because it complied with the personalisation theory and because I was interested in experimenting with it.

After three years of research, I realised that ICT use became suitable when the learning approach harmonised with the new experience in learning. It was through the personalised learning practices, such as collaborative work, that the students became familiar with change. Then it was relatively easy for them to share and communicate when they were socially network connected. The continuous flow of collaboration in classroom and in online forms maintained and sustained the personalised learning of the students. In short, ICT use could contribute to the sustainability of personalised learning on the condition that personalised learning had been established as a concept and practice.

This is a thinking line I would not change had I to do this project again. However, there are things that I may have done or planned differently. For one thing, I suppose I would have taken more action on change diffusion towards the school teacher community. However, there was reason to believe that some steps towards change diffusion had been taken. More specifically, my students and their parents had adopted the change in various degrees through the three years, I had taken certain steps to reach the teacher community at school (see Y2, p.191), the heads were aware and in favor of the change in learning I had introduced (see Y1, p. 158;

Y2, p. 188; Y3, p.216), and there were teachers at school who formed Development Groups because they liked to think differently about their practice (see *Chapter 2*, p.28). Those were promising factors for change diffusion. I suppose if I had planned a fourth cycle of action it would have been about the diffusion of the change to the school teacher community.

Furthermore, I would have made efforts to explain to interested teachers in personalisation about constraints. Constraints for me were not seen as limitations but as opportunities for reflection and improvement. Yet, people interested in this change would need to know what this involved. For example, noise was a constraint (Y2, p.171). It was a troubling issue as it interfered with collaborative norms and group dynamics in class and it could appear online in different forms (see Y3, *focus group1*, extract, p. 236). Web danger was another (Y3, p.240, 245). Teachers interested in my change would need to know where online danger lurked, how to deal with that, and how important it was to provide e-safety when using ICT, considering the school context.

Research findings suggest that change diffusion such as ICT use should be supported by the collaborative efforts of internal (i.e. of the students and the teacher) and external stakeholders (i.e. of the parents and the school) (van Melle and Cimellaro, 2003), by a new educational professionalism of teachers directed by lifelong learning, knowledge development and knowledge sharing (van Weert, 2006), by a collegial exchange about ICT knowledge and experiences (Baskin and Williams, 2006), and when the school leadership and headship encourages ICT practices (Underwood et al., 2009).

Therefore, my priority would have been to make clear that a teaching methodology should be harnessed to match to a new learning experience such as an online one. Using ICT pedagogically needed a suitable learning environment to grow. At the same time, it was important that teachers were provided with information about the

new technologies, about how technologies compare, and with support to make effective use of new technologies in their practice (Lawless and Pellegrino, 2007). Because of that, I would have tried to influence the school heads/leaders to arrange for an appropriate training scheme to teachers both on skills and pedagogic aspects of ICT suitable to the needs of their class. In fact, measures should be offered regularly for long-term plans especially if it is to apprehend recent technological developments (Balanskat, Blamire and Kefala, 2006; Zakopoulos, 2005).

8.9. Recommendations for further research

This research started in a class where students were learning English (FL), and aimed at developmental changes in their learning and in my practice. However, reform possibilities at the level of EFL learning and curriculum were not explored. Hence, further research may be needed to investigate, for instance,

- The usefulness of personalising learning with technology in foreign language learning,
- The effectiveness of personalising learning with technology in foreign language teaching.

This was also a project of 'fit practice'. I mean that, under the context conditions I described in *Chapter 2*, I designed and executed a developmental plan for change that was suitable to a particular group of students of a specific school. It was a plan for change for a concrete population with certain properties.

This immediately points at further research whose aim could be to widen the scope of the specific. For instance, further research may be planned where the particularity of the *school* or *age* changes:

- How does the same developmental plan for change apply to students of the same age in other private Greek schools, or, in other public Greek schools?
- How do the parents/other teachers/the headship in schools perceive this developmental change?
- How does the same developmental plan for change apply to younger ages (6-8), or to older ages (15-18) at school?

Research may be directed towards personalised learning and ICT use in more general terms. For instance,

- Except ICT practice, what other practice may also be a good match with personalised learning?
- How should personalised learning be practised so as to vouch for educational inclusion for all students?

Conclusion

In my end is my beginning (T.S. Eliot)

Circles are magical symbols. They have no beginning and no end; they roll in eternity. This is their way of telling stories of unity, wholeness, and infinity. Cycle, κύκλος /kiklos/ in ancient Greek, means 'a revolving vehicle', and as a word it shares the same etymological origin with the ancient English word /whēol/, 'the wheel' (Bampiniotis, 1998: 972). For obvious reasons, therefore, the circle has been an indispensable symbol in action research: it pictures the ongoing process of the lifelong journey to knowledge.

This was a research project I initiated aiming at readjusting areas in my instruction that were ineffective. I intended to look for interventions that could deliver the best suitable outcomes for my students. In essence, I wanted to change my practice, how I understood my practice and the conditions under which I practiced. That is why I chose action research as a methodology because it is 'a self-critical process of a practice-changing practice' (Kemmis, 2009:464).

By and large, action research appears to be significant to practitioners, to the Greek teacher community, in my practice, and particularly in the development of this project.

The significance of action research to practitioners

It can be argued that action research is owned by teachers for themselves (Mertler, 2008; Stenhouse, 1975). Going one step further to define what kind of action research teachers do, it appears that teachers do mostly practical action research when they start a project involving others in it (e.g. their students) addressing them in the second person (i.e., 'you') (Carr and Kemmis, 1986). Judging from my experience, teachers are often involved in projects of their own accord in order to create more insightful ways in their instruction and reach long-termed outcomes by listening to their students' voice. It seems to me that teachers incline more to Practical Action Research.

Action research done by practitioners is often, however, questioned for its validity since it is doubted if practitioners can be considered researchers. In action research theorists are treated as practitioners and practitioners as theorists (Kemmis, 2009); but, whether their theories of research and their practices of research coincide - especially in relation to education- is still a question under investigation. Yet, what action research highlights is that practitioners can be theorists and researchers. Wang, Kretschmer and Hartman (2010:106) define Teacher Action Research arguing that

'a teacher-researcher systematically investigates his/her own teaching/learning practice through a reflective lens in a cyclical, collaborative process with the twin purposes of modifying his/her own practice and contributing to the theoretical knowledge base in general'.

Stenhouse (1979) stresses the importance of structuring knowledge systematically, particularly 'the actionable knowledge' (Somekh, 2006:11) that practitioners produce. However, a systematic structure of an AR knowledge base may be difficult to prepare, because (i) multiple understandings may encumber an AR report (Somekh, 2000:116), and (ii) power conflicts at school level or bureaucratic problems beyond school level

may impede the practitioners' agency of change (Somekh, 2006:171). Acknowledging the difficulty for the dissemination of knowledge, Stenhouse (1975) suggests collaboration among teachers and researchers whereas Somekh (2006) proposes an intentional development of social networks, norms and values in order to build bridges of trust between different communities in local, national and international settings (e.g. the CARN network). Hence rephrasing the above, the unique knowledge obtained through action research can be claimed to be an intellectual capital which, relating it to others in collaborative ways, may generate a social capital.

Action research constructs knowledge in the process of praxis taking a pragmatic stance according to which 'good conversation sits at the heart of inquiry and frees it from methodological constraints' (Elliott, 2010:27). 'Good conversation' is not a consensus but a convergence of people's different opinions and it could be a new name for social capital in action research. Besides, the social construction of knowledge could be the discourse that 'methodology' may want to refer to from now on. Besides, without the worry of a deficient research theoretical background, practitioners could be regarded active co-producers of knowledge (Elliott, 2010:27).

The significance of action research in the Greek teacher community

Research is not a usual phenomenon among Greek teachers because of work load, time shortage, demanding schedules, resisting students, doubtful parents, mistrustful colleagues or apprehensive headteachers and school principals. Moreover, action research in Education still is not a familiar term in the Greek teachers' community. However, there have been some serious efforts to stimulate social capital in action research.

State School Supervisors (Daniilidou, 2004) have urged teachers to study and apply action research in the classroom and it seems it has become better appreciated in Early Childhood Education (Bagakis, Balaska and Didahou, 2004), Primary Education (Kyriakidis, Antoniou and Mougí, 2009) and in early years of Secondary Education (Demertzi, Bagakis and Georgiadou, 2009).

Seminars, symposiums, projects and workshops have been organised by universities and educational corporations (www2.ucy.ac.cy/science2004; edu.antthais.net) which have increasingly attracted the attention of teachers. Education journals (Virtual School www.auth.gr/virtualschool, Mentor <http://www.pi-schools.gr/publications/mentor/>, Review of Educational Issues <http://www.pi-schools.gr/publications/epitheorisi/>, Education and Science www.uoa.gr/ptde/journal provide extensive space to articles on action research, Greek Institutes of Pedagogy (www.elliepek.gr, www.pi-schools.gr) issue speeches and proceedings (Papas, A, 2002; Zoukis, N, 2007).

Books on action research have been translated in Greek (Altrichter, Posch and Somekh, 2001; Cohen, Manion and Morrison, 2000; MacBeath et al., 2005). It is, however, the work of Higher Education professors and researchers (Bagakis, 1993; Gogou, 1989; Katsarou, 1994; Katsarou and Tsafos, 2003; Kosmidou, 1989; Magos,

2007; Matsaggouras, 1998; Tsafos and Katsarou, 2000; Papakonstantinou, 1984; Xohellis, 1997) which has been extensive and promising.

The significance of action research in my practice

Through this project I wished to look for answers that were not the end but rather the means to an end: I was looking for answers that were rational and insightful, theoretically related and deriving from my teaching experience. That was praxis for me: understanding practice, the conditions of practice and practice itself was not done separately but in a way that each part informed the other parts.

I concluded that understanding how to do practice could relate to my future intentions but my actions might be different each time without relating to this understanding. On the other hand, conditions how to practise were formed through thought and actions, that is, through understanding practice and practice itself. For instance, integrating ICT use in the personalised learning of my young students was an outcome of my actions because of my understanding of the concepts of personalisation. The students' and their parents' views about ICT were important because they set the conditions for me to make practical and moral judgments about my actions. I was the one who chose the intervention but I held myself open to other people's views about the intervention. In other words, it was important to follow the process of praxis in the light of personal reflection.

My praxis originated from practice perceptions of what education is, of how education is enacted and of how people relate to each other in an educational environment. Yet, each time I remodeled either my understanding, or the doing or the conditions of my practice, I remodeled the other two parts as well. In such a way, practice constantly changed shape. A successful change, however, needs to be sustainable and in order to be sustainable a change should be firstly coherent. For me coherence meant that the ideas behind any of my developmental plans were logically linked and directed

according to educational research. I anticipated conflict and confusion in the process of change but I regarded these incongruities as dilemmas, which I resolved each time by relying on critical reflection. Hence, this research can be described as Practical Action research (Carr and Kemmis, 1986) as it was guided by my interest in enlightening myself ' to act more wisely and prudently' (Kemmis, 2009:469).

Cycles within cycles

In this research project, it is argued that the iterative scope and the reflective process of action research were important. Plans of action were continually made and modified after a reflective period: change advanced in a spiral motion of doing and evaluating. The many dynamic interactions, behaviours and properties observed among the different elements or participants, and the old patterns that seemed to develop into new ones suggested that there was a system of many complexities.

However, observing and interpreting complexity was regarded as insufficient. Instead, reflecting on an interpretation disclosed a reinterpretation with a fuller meaning. It was understood as cycles within cycles that involved action and reflection interminably.

Perhaps action research is not the only approach to interpret change but it is an approach that can warrant change and understanding at the same time. And it is exactly what set this project into motion.

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Appendices

Various 1 Year 1 Diary (extracts)

Diary Notes (Year 1) ---- **Extracts**
Project on Personalisation

(26 students, 8-9 year olds)

- **Stage 1 (Oct-Christmas): Personalised Learning, The Model**
(Oct-Nov: in groups (problems / working out ways to solve problems), in mid-Nov we discussed the pros/cons of working in groups (reflecting and evaluating processes))
- **Stage 2 (January-May): Personalised Learning, Assessment**
Dec-Feb: commenced Stage 2: Self-Assessment (instruction period)
Feb-May: Self-Assessment processes continued (problems and solutions)
(at the end of school year) → a NEED for a tool/tools to sustain the model for next year

Stage 1: October

1. **Strategic plan. Rearrange desks:**
Inform and get consent from: Primary School Headteacher, Greek / French / Music teacher. *Everybody agreed* (the French and Music teacher said they liked the idea of groups; yet, not very 'warm' to the idea of 'group work all the time'; they didn't mind if we rearranged the desks); when the children left on Friday, the Greek teacher + I turned the desks to form groups of 3-4 (we thought 5 was a 'dodgy' number, maybe many children? However, we decided to accept it if the children wanted it.) The Greek teacher agreed on group forming but she wanted to place the students in pre-determined groups while I didn't. Taking a different reasoning route, each teacher wished to put the students in groups differently; we decided to discuss it with the students first.
2. **Forming Groups: How should they form groups? How many in each group? Is the number of members important? Should Ss have a role in their groups? Which roles? Who decides what role Ss undertake? Do they change roles in their groups? If yes, in what way? What characteristics would each role pertain? How should they approach the issue who-does-what when working?** Ss accepted to work in groups of 3-5. I suggested 4 as the best number for me but some insisted on 5. I explained that 5 would make a large group and therefore it would be difficult to manage but they said they could handle the difficulties since it was their choice who was in the group (what an argument!). **Next, I asked them to form groups:** 'Please get up. Take nothing with you for now. Look around you. Find people you want to work, ask them if they want to work with you and make a group. Remember: you can only be 3-5 in a group, no more, no less. When you find your partners, get together, sit on the desks and decide on a name for your group. You've got 5-6' for this. Are you ready?'. It was amazing! They did it in 3!
They decided on roles: 'manager1', 'manager2', and 'collaborators'. They did not like the connotation of the word 'leader', 'secretary' or 'helpers' I suggested! 'Manager' for them meant 'sb in charge of the info and in charge of behaviour management in the group'. On the occasion Manager1 was absent, Manager2 would take over. All of them were called 'collaborators' - 'the managers' too, who just had one more job to do in comparison to the others (can they be so wise?). They said they would like to think more about rotating the role of the Manager (they were not sure; couldn't reach a unanimous decision)
3. **Norms/Rules to follow:** Ss + I expressed a need for a set of norms (explicit, simple, once negotiated never violated). My directions to them: 'Please get into your group to decide and write down 2 rules that your group will take full allegiance to. One should be about homework, and the second about classroom behaviour or manners in the group'. They took much time to decide on a rule about *Manners in the Group*, less about *Classroom behaviour* and they came up easily with a rule about *Homework*.
Discussing the rules in class: (Diary Notes Y1/October, no.7; seen in History Year 1, p.20)
Talking about negative forms in rules: I explained that 'positive feelings live in positive sentences'. They agreed and they reformulated the rules that were in negative forms. Two weeks later, some students told me that they were so intrigued by the power of words that discussed it time after time on the phone!

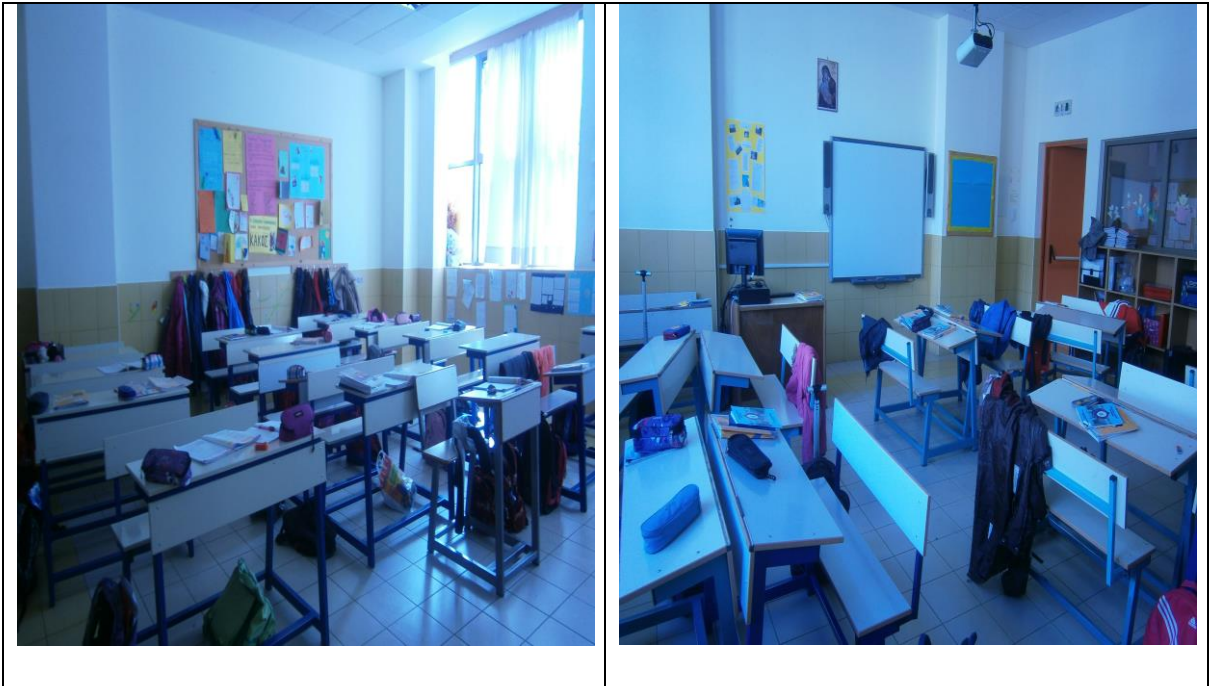
Stage 1: November - December

- 8 **Reward Systems:** I brought the Star System as a reward system in class (an alphabetical list of the students; a star is given next to a child's name as a reward for achievement or good behaviour in class; every month the student with most stars got a little present). I explained how it worked; students accepted it. After 2 weeks complains started. I asked them to explain further.
change of reward objectives (1): performance should be rewarded separately from behaviour
change of reward objectives (2): how to reward Exceptional Behaviour and Manners)
- 9 **Frustrating practicalities:**
 - a. **Negotiations, negotiations, negotiations!** (Diary Notes Y1/December, no.5; seen in History of Year 1, p.18)
 - b. **This is NOT NEOTIABLE for me: I have NEVER TO FORGET that the S is at the centre!** My role switched from instructor to facilitator according to the learning needs *so I should BE careful* because once balance is lost and I become mainly the instructor, Ss lose interest and slide back to former situations (inert, passive, noisy, and uninterested).
 - c. **This is NOT NEOTIABLE for me: I have NEVER TO FORGET that Ss must be active!** Keeping Ss active means keeping them motivated in an engaging task! Learning tasks must be *very clear*. Yet, I sense that clear objectives alone do not guarantee engaging lessons. What do I miss?
 - d. **Noise** Ss understand it positively. In a discussion with Ss, they said: 'We talk, we don't make noise! It's different...noise is when we work and hullabaloo when... we fuss and when we're naughty'. Noise can easily, however, turn to hassle if power balance is disturbed, if work is not well pre-prepared, if routines are not followed, or group norms are allowed to be violated.

Stage 2: January - May

- 10 **Assessment for Learning:**
I introduced Assessment for Learning to my students through an activity (adapted from the activity 'Context and Meaning' in the book *Challenge to Think*). My description: 'I'll give you the profiles of 2 students of your age. They used to be my students some time ago but I'm not going to tell you their names, so let's call them Student A and Student B. I'll briefly tell you what kind of people they were and how much + well they did at English' (I wrote some notes on board about both) 'Now, I'd like you to imagine that you are the teacher. What grade would you give to each student? Why? What would your grade mean for each student?'
(Part 1 missing here appears in Year 1, p.21)
(Part 2 missing here appears in Year 1, p.12)
I was intrigued by the fact that no student mentioned learning using a computer and asked about it. A student said 'I love doing things on my computer but this is playing. Whatever is fun is play, not learning!' (Amazing! Playing=having fun, nothing to do with learning---I want to explore this later).
(Part 3 missing here appears in Year 1, p.12-13)
It seemed clear to them. Next, I showed them the Self-Assessment Chart and the Monthly Self-Evaluation. We decided to start with the Chart and discuss the Monthly Evaluation later on.

Various 2 (Picture) The classroom seating arrangement (before and after)



Various 3 (Picture) Collaborative work






Various 4 Self-Assessment: Monthly Assessment (example)

Assessment (January - February)						
NAME:						
CLASS / LEVEL: Γ3						
TEACHER: Evie Benetou						
FORMATIVE ASSESSMENT						
Assessment <i>for</i> Learning						
COGNITIVE SKILLS	5	4	3	2	1	
Grammar						
Vocabulary						
Fluency						
NON-COGNITIVE SKILLS	always	usually	few times	rarely	never	
1. I am <i>reliable & punctual</i> in my work (αξιόπιστος & τακτικός στις υποχρεώσεις μου)						
2. I <i>manage</i> my own learning (φέρνω "βόλτα" τις υποχρεώσεις μου <i>μόνος / μόνη μου</i>)						
3. I feel <i>confident</i> to try something new (αισθάνομαι <i>σιγουριά</i> πως θα καταφέρω κάτι καινούριο)						
4. I can describe myself as <i>persistent</i> in the face of difficulty (<i>δεν εγκαταλείπω</i> την προσπάθεια όταν βρω μια δυσκολία)						
SUMMATIVE ASSESSMENT						
Assessment <i>of</i> Learning						
Quiz / Test :						
Dictation :						
Learning Goals for January - February					S	NI
1. Present Simple (I / you / we / they) --- ALL FORMS						
2. Present Simple (he / she / it) --- ALL FORMS						
3. Present Simple + always / sometimes / never						
4. be going to						
5. vocab of daily routines (PB p 28 / ex 2)						
6. vocab of jobs						
7. vocab of seasons						
8. vocab of time (o'clock / half past...)						

Various 5 Self-Assessment: Self-Assessment Chart (example)

.....'s Self-Assessment Chart Course book / Unit 3

Tick what is right for YOU			
some/ any [<i>there is(not)/are(not)</i> some/any...]			
Countable/ uncountable words (e.g. carrots-milk)			
My, your, his...			
Vocabulary (money, lunch, lentil soup, <i>food words</i> PB p23/ex4, PB p25/shopping)			

Grammar score: _____ Vocabulary score: _____

TOTAL score: _____

Parents' signature: _____

Notes for parents: This form that you have in your hands is a self-assessment chart. It is about the material of a unit in the text book.

- Each student evaluates his/her progress on the above material.
Column A means I DO NOT KNOW
Column B means I AM NOT SURE
Column C means I KNOW
- How we work - What does this form mean:
 1. Each student at the end of a unit self-assesses him/herself (as he/she thinks appropriate without any intervention from the teacher).
 2. The form comes home to you to have correct reference if you wish to help your children's revision for a test (therefore, beware of the areas A and B).
 3. Upon completion of a test, the students transfer their grades on the form.
 4. The form comes back home again to inform you about the test scores and to notice if certain learning goals still need improvement. Please sign and return the form to the teacher.
 5. All forms together with the tests are kept inside each student's portfolio and will be handed back to the students at the end of the year.

Various 6 Year 2 Activity

Activity Title	'What I want very much and what I can do very well in English'
Activity Type	(-) Controlled / (+) Communicative Ice Breaker
Age	9 +
Time	30'
Materials	The daisy pattern (see below)
Objective	To raise students' self-awareness about their self-regulation mechanisms and strengths in foreign language learning
Description	<p>The students are given the flower (daisy) pattern to cut. They write their 5 targets in EFL this year, one in each petal. They write their 3 strengths in English learning, in the leaf, stem and centre of the flower. They write their name at the back side of the flower. They take turns to read aloud their targets/strengths in English (don't insist if some students are reluctant to share their thoughts).</p> <p>They should be helped to notice the individuality in learning.</p> <p>They pin their daisy on a poster by the blackboard to have a chance to look at it all during the year. When the school year is over, they may take their daisy back to check how many of their 5 targets were accomplished.</p>



Various 7 Year 2 Diary (extract)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
SEPTEMBER			1 Registration in Google.com about Google Docs (given the Standard Edition)	2	3	4
5	6 Google supplied the Team Edition	7	8	9	10 In contact with Google to supply the Education Edition	11 Inform students about this idea
12	13	14 Google supplied the Education Edition for Google Docs	15 Inform School Principal + Deputy Director + Primary Headteacher about the project; inform parents + send an application for their child participation	16 Thinking how to organise files + deciding on a framework	17 Attend a seminar on a self-study e-learning package; thinking how to organise files (what structure? What rationale?)	18 First attempts to see how the chat room + Google Talk works (during the weekend)
19 Creating new files	20 Inform the Primary Headteacher about the project; Creating files	21 Start uploading files	22	23 Looking for free online teaching resources; many to choose from; exist need tailoring!!!	24	25 Prepare a demo version of the online intervention; prepare a manual, FAQ file, computer safety files (during the weekend)
26 Creating + uploading material into the files	27 Creating + uploading material into the files	28 Creating + uploading material into the files	29 Deadline for the students to sign up for the project (16/26 positive applications) Creating + uploading material into the files	30 Prepare a training period for students; sign up to get the computer lab; inform students about it		

Various 8 Children's questionnaire (Y2) and statistical analysis

QUESTIONNAIRE 1a	(5)	(4)	(3)	QUESTIONNAIRE 1b (1 st priority only)
Q1: the online intervention (docs + chat) helped me because I could on my own...				
a organise and manage my files		56.3 %	43.8 %	
b collaborate (with my classmates and my teacher)		43.8 %	56.3 %	75%
c do the online tasks with confidence		81.3 %	18.8 %	12.5%
d persist in the face of difficulty		62.5 %	37.5 %	12.5%
e manage my time (by deciding when and how much time to devote on a task)	43.8 %	58.3 %		
f decide where to do a task	62.5 %	37,5 %		
Q2: In the online intervention				
a I was learning English in a different way than being in class	62.5 %	37.5		18.8%
b I was learning English playfully (as if it was a game)	81.3 %	18.8 %		81.3%
c I practised English in Grammar + Vocabulary (in docs)		62.5 %	37.5 %	
d I practised expressing myself in English (in chat)	56.3 %	6.3%	37.5 %	

Various 9 Parents' questionnaire (Y2) and statistical analysis

A. In general

1 do you believe the online intervention is useful for your child?	1	2	3	4 81.3%	5 18.8%
2 do you believe your child found easy the access to documents?	1	2	3 37.5%	4 62.5%	5
3 do you believe your child found easy the access to chat?	1	2 12.5%	3 68.8%	4 18.8%	5

B. Do you believe that working on the online intervention would become *easier*

1 if your child had more training?	1	2	3	4 81.3%	5 18.8%
2 if the manual (in a CD form) was given in a printed form as well?	1	2 43.8%	3 56.3%	4	5
3 if you could help your child with your ICT knowledge /abilities?	1	2	3 43.8%	4 56.3%	5

C. Do you

1 generally use a computer?	1	2 18.8%	3 18.8%	4 62.5%	5
2 find playful the use of a computer?	1 18.8%	2 68.8%	3 12.5%	4	5
3 believe that your computer knowledge/abilities are more of...	1	2 18.8%	3 68.8%	4 12.5%	5

Table 15 The frequency pattern of parents' participation in chat (Y2)

CHAT LOGS in YEAR 2										
	November	December		January		February		March	April	
	chatlog1	chatlog2	chatlog3	chatlog4	chatlog5	chatlog6	chatlog7	chatlog8	chatlog9	Parent participation frequency/ session
FP01										0
FP02	✓			✓		✓	✓		✓	5
FP03										0
FP04										0
FP05	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
FP06										0
MP07										0
FP08										0
FP09	✓		✓		✓		✓			4
FP10										0
FP11										0
MP12	✓					✓				2
FP13										0
MP14										0
MP15										0
FP16										0
Nos of participating parents/ session	4	1	2	2	2	3	3	1	2	

F= female, M = male, P = parent

Table 16 The frequency pattern of parents' participation in chat (Y3)

CHAT LOGS in YEAR 3	October		November		December		January		February	March	April		May	Parent participation frequency
Older participants	chatlog 10	chatlog 11	chatlog 12	chatlog 13	chatlog 14	chatlog 15	chatlog 16	chatlog 17	chatlog 18	chatlog 19	chatlog 20	chatlog 21	chatlog 22	
FP01														0
FP02	✓	✓				✓			✓					4
FP03														0
FP04	NOT A PARTICIPANT													NOT A PARTICIPANT
FP05	✓	✓		✓	✓			✓				✓	✓	7
FP06														0
MP07														0
FP08	NOT A PARTICIPANT													NOT A PARTICIPANT
FP09	✓		✓		✓	✓				✓		✓		6
FP10														0
FP11	NOT A PARTICIPANT													NOT A PARTICIPANT
MP12	✓	✓			✓			✓	✓		✓		✓	7
FP13														0
MP14														0
MP15	✓				✓									2
FP16	NOT A PARTICIPANT													NOT A PARTICIPANT
New participants														
FP17	✓	✓		✓		✓		✓						5
FP18														0
FP19														0
FP20	✓		✓								✓			3
FP21														0
FP22	✓	✓				✓	✓			✓		✓	✓	7
FP23					✓			✓						2
MP24														0
FP25														0
FP26														0
MP27	✓			✓	✓									3
FP28														0
FP29														0
FP30		✓												1
FP31														0
FP32	✓	✓					✓							3
FP33														0
FP34														0
FP35	✓	✓			✓		✓			✓		✓		6
FP36	✓	✓		✓			✓			✓				5
FP37	✓	✓												2
FP38														0
FP39														0
MP40	✓	✓		✓		✓			✓					5
FP41														0
FP42														0
FP43	✓	✓												2
FP44														0
FP45	✓	✓	✓			✓		✓						5
MP46														0
FP47	✓	✓	✓											3
FP48														0
FP49														0
FP50	✓	✓		✓	✓				✓		✓			6
FP51														0
FP52														0
FP53														0
FP54														0
FP55														0
Nos of participating parents/ session	18	14	6	7	8	6	5	5	4	4	3	4	3	

Table 17 The frequency pattern of children's participation in chat (Y2)

CHAT LOGS in YEAR 2													
	November		December		January		February		March		April		
Participant	Chatlog 1	Chatlog 2	Chatlog 3	Chatlog 4	Chatlog 5	Chatlog 6	Chatlog 7	Chatlog 8	Chatlog 9	Chatlog 10	Chatlog 11	Chatlog 12	Child participation frequency
MS01	✓	✓	✓		✓	✓		✓	✓	✓			8
FS02	✓	✓		✓		✓		✓		✓		✓	7
MS03	✓					✓	✓			✓	✓		5
MS04		✓						✓	✓				3
FS05	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	10
MS06	✓	✓		✓		✓	✓		✓			✓	7
MS07	✓	✓		✓	✓				✓	✓	✓		7
FS08					✓			✓					2
FS09	✓	✓		✓	✓		✓		✓	✓		✓	8
MS10	✓	✓			✓				✓	✓			5
FS11	✓			✓				✓		✓		✓	5
MS12	✓	✓		✓	✓	✓	✓			✓	✓		8
FS13	✓		✓		✓		✓		✓		✓		6
MS14	✓	✓	✓		✓		✓			✓		✓	7
MS15	✓		✓			✓		✓	✓	✓	✓		7
FS16		✓					✓			✓	✓		4
Nos of participating children/ session	13	13	5	7	8	7	7	7	9	12	7	7	

F = female, M= male, S = student

Table 18 The frequency pattern of the children participation in chat (Y3)

CHAT LOGS in YEAR 3																	
	October			November		December		January		February		March		April		May	
Old participants	chatlog 13 pilot chat 1	chatlog 14 pilot chat 2	chatlog 15	chatlog 16	chatlog 17 group chat 1	chatlog 18	chatlog 19 group chat 2	chatlog 20	chatlog 21 group 3	chatlog 22 group chat 4	chatlog 23 group chat 5	chatlog 24 group chat 6	chatlog 25 group chat 7	chatlog 26 group chat 8	chatlog 27 group chat 9	chatlog 28 group chat 10	Child participation frequency
MS01		✓	✓	✓	✓	✓											3
FS02				✓	✓	✓											2
MS03				✓	✓												1
MS04	NOT A PARTICIPANT																NOT A PARTICIPANT
FS05	✓		✓	✓		✓	✓	✓									4
MS06				✓		✓					✓						2
MS07				✓		✓			✓								2
FS08	NOT A PARTICIPANT																NOT A PARTICIPANT
FS09		✓	✓	✓		✓			✓								3
MS10				✓			✓										1
FS11	NOT A PARTICIPANT																NOT A PARTICIPANT
MS12	✓		✓	✓				✓		✓							3
FS13				✓					✓								1
MS14			✓	✓				✓			✓						3
MS15				✓		✓				✓							2
FS16	NOT A PARTICIPANT																NOT A PARTICIPANT
New participants																	
FS17			✓	✓												✓	2
FS18				✓						✓							1
FS19				✓		✓	✓										2
MS20			✓	✓				✓				✓					3
MS21			✓					✓							✓		2
MS22			✓	✓				✓					✓				3
MS23			✓								✓						1
MS24				✓								✓					1
FS25				✓		✓									✓		2
MS26			✓										✓				1
MS27			✓					✓						✓			2
MS28			✓					✓					✓				2
MS29				✓		✓						✓					2
MS30			✓											✓			1
MS31			✓	✓				✓							✓		3
MS32			✓												✓		1
FS33			✓													✓	1
MS34				✓		✓		✓						✓			3
MS35			✓											✓			1
MS36			✓	✓							✓						2
MS37			✓													✓	1
MS38				✓		✓				✓							2
MS39				✓								✓					1
MS40			✓			✓		✓							✓		3
MS41			✓										✓				1
MS42			✓	✓					✓								2
MS43			✓			✓	✓										2
FS44			✓	✓	✓												2
MS45			✓												✓		1
MS46																	0
MS47			✓	✓				✓								✓	3
MS48			✓	✓				✓						✓			3
MS49			✓			✓		✓					✓				3
MS50				✓								✓					1
MS51			✓								✓						1
MS52			✓						✓								1
FS53				✓						✓							1
FS54			✓			✓											1
FS55			✓		✓												1
Nos of participating children/session	2	2	33	31	5	15	5	14	5	5	5	5	5	5	5	5	

Table 19 Emerging issues explored in the children's focus group interviews

Emerging issues and themes explored in CHILDREN's interviews	CHILDREN coded identity	Number of sources
<i>THEME 1:Technology in relation to learning</i>		
Social influence (parents, peers, environment)	FS05, FS09, MS15, FS17, MS22, MS23, MS26, MS39, FS44, MS45, MS50, FS54	12
<i>THEME 2 :Potential of educational online use</i>		
Self-efficacy, persistence, confidence, self-esteem	MS01, MS03, FS05, FS09, MS10, MS14, MS15, FS17, MS22, MS26, MS39, FS44, MS45, MS48	14
Different approaches to learning	MS01, MS03, FS05, FS09, MS10, MS14, MS15, FS17, MS22, MS23, MS26, MS39, FS44, MS45, MS48	15
<i>THEME 3:Collaboration + Communication skills in the e-app</i>		
Group docs and group chat, group roles and group dynamics when online	MS01, MS03, FS05, FS09, MS22, MS48	6
<i>THEME 4:Access and accessibility in the e-app</i>		
Parental help	FS05, FS09, MS15, FS17, MS22, MS23,MS26, MS39, FS44, MS45, MS50, FS54	12
Intentionality	MS01, MS03, FS05, FS09, MS10, MS14, MS15, FS17, MS22, MS26, MS39, FS44, MS45, MS48, FS54	15
<i>THEME 5:Constraints and enablers in the e-app</i>		
Gaming aspect, inventiveness, enjoyment	all children <i>except</i> FS54	16
Anxiety, stress	MS10, MS15, MS23, MS26, MS39, FS44, MS48,MS50, FS54	9

Table 20 Emerging issues explored in the parents' telephone interviews

Emerging issues and themes explored in PARENTS' interviews	PARENTS coded identity	Number of sources
<i>THEME 1: Technology in relation to learning</i>		
work-related attitudes in ICT	FP01, FP03, FP09, FP10, MP14, MP15, FP23, FP26, FP39, FP44, FP45, FP48, FP54	13
Access and accessibility influences anxiety	FP01, FP03, FP10, MP14, MP15, FP23, FP26, FP39, FP44, FP48, FP54	11
Training, practice, experience and familiarity influences ICT use	FP05, FP09, MP15, FP17, FP22, FP23, FP45, FP50	8
Age influences ICT use	FP01, FP03, FP10, MP14, MP15, FP23, FP26, FP39, FP44, FP48, FP54	11
<i>THEME 2: Technology in relation to the learning of their child</i>		
ICT influences child's self-efficacy mechanisms	FP01, FP03, FP05, FP09, FP10, MP14, MP15, FP17, FP22, FP26, FP48, FP50	12
parental support influences child's ICT use	FP01, FP03, FP05, FP09, MP15, FP17, FP22, FP26, FP39, FP44, FP45, FP48, FP50, FP54	14
Different approaches to learning	FP05, FP09, FP10, MP14, MP15, FP17, FP22, FP45, FP48	9
<i>THEME 3: Online systems, communication channels between the parents and the teacher</i>		
Resistance to change	FP01, FP03, FP23, FP26, FP39, FP44, FP54	7
ICT constraints	FP01, FP03, FP10, MP14, MP15, FP17, FP23, FP26, FP39, FP44, FP45, FP48, FP50, FP54	14
ICT enablers and ICT intentionality	FP05, FP09, FP22	3
Technologically privileged homes	All homes <i>except</i> FP44, FP54 home	15
<i>THEME 4: Parents' mediation techniques on the child's online use</i>		
Risk in the web	All parents reported about it <i>except</i> FP44, FP54	15
mediation techniques <i>except</i> co-use	FP23, FP26, FP39, FP44, FP54	5

Figure 5 Transcription of a chat log (example)

NODE	TEXT LINE
PC playfulness, preferences in the app (chat), feeling secure/not threatened	11, 13-14, 27-28
Organisational skills	3-6, 34-37
School life	6-9, 22
Everyday life	13, 40
Social influence (peers)	32-34
Urging the teacher to continue her efforts	27-28
Building trust between T + S	13, 18, 27-28

CHAT 1 (FS09)

1 FS09 Hi, Mrs., I', FS09.

2 T Hi! Everything alright?

3 FS09 Yes, I got your email!

4 T well, this is chat, we don't send emails here...

5 FS09 Sorry, I lost exercise much/many.

6 T Don't worry, I'll send it again. How was school today?

7 FS09 We did test in Geography.

8 T Did you do well? Geography was a difficult subject for me when I was at school.

9 FS09 Yes, hard for me, too. But I think I did well.

10 T You are great! Do you need any help with your English?

11 FS09 No, all good. This is the first time I do chat. I love it! It's fun!

12 know. I feel the same!

13 FS09 I'll make the cake on Sunday (=it was their homework). I want to do chat with you all evening!

14

15 T MS01 says (=he was online at that moment) that he asked his mum to make the cake, she did but he ate it all! Can you hold on a sec? I need to answer to FS05, she's online, too!

16

17

18 FS09 Well, MS01 do things like that.... How is FS05?

19 T MS01 says that the cake was delicious, I haven't made it yet but a friend of mine told me it was the best cake she had ever made! FS05 says that life at school is great for her, is it the same for you?

20

21

22 FS09 Yes, I love school! I could even go to school at weekends!

23 T You're amazing! When I was a student I wanted to play all the time and not at school of course! Your English is very good! What do you do about it? Do you go to a language school or do you take private lessons at home?

24

25

26 FS09 I go to a language school (=female child, 9 years old, A2 proficiency level according to the Common European Framework of Reference for Languages). But boring there, never boring with you and with the computer! Can you do this next year, too?

27

28

29 T Very sweet of you, thank you! I'll try to do my best for you.

30 FS09 Thank you!

31 T I'm chatting with FS02 and MS12 as well!

32 FS09 Really? FS02 is my best friend. We talk at school. She likes your original [student gives the word 'original' in Greek; she doesn't remember the word in English even though we've seen it in a textbook unit] lessons a lot, too! Got my 'assessment chart' and the exercise 'Plural Forms'?

33

34

35

36 T When did you send them? Yesterday?

37 FS09 No, today.

38 T I'll have a look in a minute. I was in docs in the afternoon but probably you sent them later. Do you need something else?

39

40 FS09 No, I'll do my homework, study my piano lesson until 8:00.

41 T You do that. Now that you know how to chat we'll 'see' each other online soon. OK?

42 FS09 OK! Goodnight!

43 T Goodnight

Table 21 Interview guide for the telephone interviews (parents)

INTERVIEW GUIDE (on the phone)

Parent: _____

Date: _____

RESEARCH AREAS	TO AIM	TO ASK	FOR FURTHER PROMPTING	FIELD NOTES
General research areas	Parental beliefs about ICT	1 How can you describe the online intervention? Tell me something interesting that the online intervention did for your child.	What do you believe is more important, the way your child is learning something in English, or whether your child has managed to learn something in English? How effective do you believe ICT is for learning?	
	Parental attitudes about ICT	2 What did you like or dislike in the online learning of English?	Do you like being in front of a computer? Do you feel any different if you are in front of your computer at home from your computer at work?	
Specific research areas	The online intervention as a communication channel between parents and school	1 Why did you use or did not use chat to communicate with the teacher?	What did you feel when it was chat-day?	
	Parental mediation techniques in the online intervention	2 Do you have any fears about online use? Do you usually mediate your child's online use? If yes, how? Did you mediate your child's online activity in the online intervention? If yes, how?	Where in your home is the computer your child uses? Where are you usually when your child is online? Is it a computer the family shares or is it your child's own? Who would you say is more computer advanced in your family?	

Table 22 Interview guide for the focus group interviews (children)

INTERVIEW GUIDE

FOCUS GROUP:

Date:

RESEARCH AREAS	TO AIM	TO ASK	FOR FURTHER PROMPTING	FIELD NOTES
General research areas	Children's beliefs about ICT	1 How can you describe the online intervention? Tell me something positive and something negative you found in it.	Did you find something helpful in learning English through the online intervention? If there was something you would like to improve or change in the online intervention, what would that be?	
	Children's attitudes about ICT	2 What did you like or did not like in learning English online?	Do you like using a computer?	
Specific research areas	The online intervention as a way to explore collaboration and communication skills	Can you say that you shared your work with other users? If yes, give me an example. Can you say that you communicated with other users in the online intervention? If yes, give me an example.	Was it worth?	
	Access / accessibility of the online intervention	2 How easy or difficult did you find the online intervention? Give me an example.	Did your parents help you at all? If yes, did you ask for their help? If you had your parents' help, where did you need it most? Do you think there is something that can make the online intervention easier to use? If yes, what is that?	
	What children perceive as stressors or barriers in ICT	3 Was there something that made you nervous or anxious when using the online intervention? If yes, what was that? Give me an example.	If you were nervous when using the online intervention, <i>what</i> could possibly help to reduce your anxiety? If you were nervous when using the online intervention, <i>who</i> could possibly help to reduce your anxiety?	

Informed Consent

Research Project Title: Personalising the learning of young children with the use of ICT: an action research case in a Greek primary school

Purpose: thesis for the degree of Doctor of Philosophy in Education, Institute of Education, University of Warwick, UK

Doctoral researcher: Evdokia Benetou

**Consenter: Br. Ignatios Kapetanios,
President of the Supreme Council of the Marist Brothers in Greece**

Research Project

Project Overview

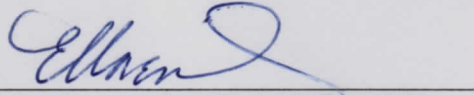
This document is to request your consent so that bibliographic sources relating to Marist Brothers and Marist Education may appear in the research. Such reference is important since the school in the research was founded by the order of the Marist Brotherhood. This can help the researcher to present clearly the relevance of the particular school values to her own and to the participants' actions in the research.

Risks

You should know that by giving your consent it is relatively easy for the reader of the thesis to come to conclusions about the name of the school. However, you must be assured that the researcher has taken all the necessary efforts to maintain confidentiality of information and anonymity of the participants in the research project.

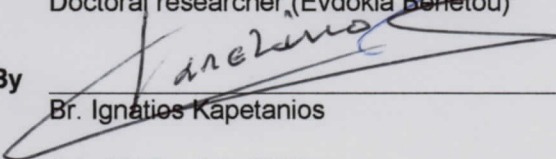
APPROVALS

Prepared By



Doctoral researcher, (Evdokia Benetou)

Approved By



Br. Ignatios Kapetanios

Date

July 2010 – July 2013

THE UNIVERSITY OF WARWICK

Institute of
EDUCATION

(Modified Application for Ethical Approval for Research Degrees)

Application for Ethical Approval for Research Degrees (MA by research, MPhil/PhD, EdD)

Name of student (Ms) EVDOKIA BENETOU

PhD
X

Project title: Using ICT to learn English (EFL): an action research case study of a group of young children in a Greek primary school.

Supervisor(s): Dr Michael Hammond & Dr David Wray

Methodology

Please outline the methodology e.g. observation, individual interviews, focus groups, group testing etc.

This is an action research case study. Qualitative as well as quantitative methods are employed. In particular, questionnaires, focus group interviews, individual interviews and electronic material such as chat logs are used.

Participants

Please specify all participants in the research including ages of children and young people where appropriate. Also specify if any participants are vulnerable e.g. children; as a result of learning disability.

Children 8-11 years old are going to take part in the research. All of them are primary school learners in a private Greek school. No participant, to our knowledge, can be described a vulnerable participant. Their parents will take part -to a certain extent- in this research.

Respect for participants' rights and dignity

How will the fundamental rights and dignity of participants be respected, e.g. confidentiality, respect of cultural and religious values?

All data deriving from children's and/or from their parents' opinions are going to be used anonymously. Where this is difficult to happen, names will be replaced with code numbers or pseudonyms. According to the Data Protection Act (1998), both children and their parents have been assured that their personal data will only serve the purpose of conducting this research. Both have consented to permit presentation of their personal data to a third party as long as it is related to education. They have been ensured that this sensitive data will be kept secure and upon possible publication it will not lead to them in any way.

Privacy and confidentiality

How will confidentiality be assured? Please address all aspects of research including protection of data records, thesis, reports/papers that might arise from the study.

Questionnaires (in paper; securely stored in PDF files, password protected): data will appear anonymously; names will be coded or covered under a pseudonym. Data will be kept separate from the coding system. Questionnaire findings will be coded first and then loaded into SASW statistics software.

Focus group interviews & individual interviews (videotaped, audio taped; transcriptions securely stored in NVivo files): pseudonyms/code numbers instead of names will be used. On the condition that the interviewees are not familiar with the teacher-interviewer, consent will be taken to use the real names of the interviewees during the interview. Data will be kept separate from the coding system. All transcriptions of the interviews will be coded first and then loaded into NVivo software.

Chat logs (chat log history; transcriptions securely stored in NVivo files): pseudonyms/code numbers instead of names will be used. Data will be kept separate from the coding system. All transcriptions of the chat logs will be coded first and then loaded into NVivo software.

Consent

- will prior informed consent be obtained? Yes
- from participants? Yes (from the children participating in this research)
- from others? Yes (from the children's parents)
- explain how this will be obtained.

The study is about young children's involvement and participation on an e-programme. Their reactions and opinions to the e-programme are to be researched.

Children will be briefed about the reason of the research and the e-programme in informal discussions in class *before the launching of the e-programme*. Only children who are willing and interested in taking part in the e-programme will be given a letter/application form for their parents to sign.

Parents will be notified *ahead of the launching of the e-programme* during School Induction Week explaining the reasons of this research and an explanatory letter asking their permission for their child's participation in the e-programme will be sent to them. Parents will find an application form attached which they may return signed on the occasion they would like their child to participate. Participation on the e-programme will only be granted to children whose parents have consented with a signed application.

Competence

How will you ensure that all methods used are undertaken with the necessary competence?

The methods employed in this research are the most usual in any action research study according to action research literature. However, it is understood that any research method has its limitations. That is why, both qualitative and quantitative research methods will be used to make sure that data has been triangulated before inferences from the data analysis are made. It is believed this will give reliability, validity and ethicality to the research.

Additionally, my participation in the ARM course (July 2010) has provided me with full comprehension of the theory construction and research design. I have also confirmed my attendance in the ARM course (January-July 2011) as I strongly believe that it will focus in detail on the principles involved in research design and methods. Furthermore, by attending the FRM course and studying for the ARM course, the

importance of ethics in educational research has been clearly made and thereafter it has been well accepted and much respected.

Protection of participants

How will participants' safety and well-being be safeguarded?

Securing the welfare of children is regarded as one of the major responsibilities of a teacher. I also understand that I have a personal duty of care for the children in my school. Therefore, all interviews will be conducted according to the Bera Revised Ethical Guidelines for Educational Research (2004) and findings will follow strictly the Bera procedures of Good Practice in Educational Writing (2003). Interviews with children will take place in a school class the children recognise and feel comfortable in it. Furthermore, a request to two other teachers will be made to attend. Having familiarised themselves with the Ethical Guidelines Manual, their special duty will be to observe the conduction of interview with special care to the ethics code of practice.

The children's and parents' safety in this research is considered in an intellectual rather than physical way. Therefore, what is essential in this study to safeguard is not their physical body but their ideas and opinions (please read also under the heading, Privacy and confidentiality).

I realise that qualification in teaching practice is a prime condition for a practitioner who attempts to do educational research in his/her class. For the above reason, I am prepared to prove with official documentation from the Greek Ministry of Education that I am a qualified English teacher active in the profession since 1986. I am also a holder of MEd in TESOL from Manchester University, UK. I therefore confirm that doing educational research in my class has developed in the normal course of teaching.

Child protection

Will a CRB check be needed? No

Addressing dilemmas

Even well planned research can produce ethical dilemmas. How will you address any ethical dilemmas that may arise in your research?

Much thought has been given about an ethical dilemma in this research. A large number of children to participate would have been much appreciated in this research from the start. Yet, it is understood that ethical conditions of research are to be set first and that may have a cost on the number of participants. Voluntary informed consent from them and their right to withdraw at any time during the research are two ethical guidelines (Bera Revised Ethical Guidelines for Educational Research, 2004) which are going to be followed to the letter. Consequently, it is clear that the number of children to participate will be defined *after* they had been informed about the nature, and scope of the research. Hence, it has been decided that the participants' research approval will be chosen over the number of participants.

Misuse of research

How will you seek to ensure that the research and the evidence resulting from it are not misused?

Misuse of evidence in a research can only happen if data has not been well constructed, collected and well guarded. That does not mean that the researcher keeps the data secretly away from any one. On the contrary, if data has been well documented and reported, it is safely secured. In particular, conducting action research suggests a non-ending dialogue among the data, the literature supporting the data, the participants, the research community and others having an interest in the study.

Reporting action research also seems to be very important as it needs to have quality. An action research work can be of certain value if the action research report is *authentic*, that is, by how serious its analysis is. The reporter should present a perspective which must be trustworthy. His/her role is to be a presenter of a text of multiple realities, of many and diverse voices. Therefore, if evidence has been reported clearly and explained in a theoretical framework, if a full account of the research story has been given, and, space for other perspectives has been provided, there is no fear that evidence misuse may happen either before, during or at the end of the research.

Support for research participants

What action is proposed if sensitive issues are raised or a participant becomes upset?

The young children and their parents will be informed that at any time during the research they have the right to withdraw should they feel uneasy and they will be assured that the researcher will respect their decision.

Integrity

How will you ensure that your research and its reporting are honest, fair and respectful to others?

Please read the part under the heading, Misuse of research

What agreement has been made for the attribution of authorship by yourself and your supervisor(s) of any reports or publications?

According to Bera Revised Ethical Guidelines for Educational Research (2004) the right of researchers to publish the findings of their research under their own names is considered the norm. Yet, where there is going to be a joint contribution to research, authorship will be shared among all contributors.

Other issues?

Please specify other issues not discussed above, if any.

This study has already started before officially enrolling in the PhD by research degree. Although initially I had meant to approach the Institute of Education, define a research area and start PhD by research studies, unforeseen and most uncomfortable family difficulties brought my initial plans to a standstill.

Mostly determined not to put off my study plans for ever, I decided to design an action research as I would have done as a PhD by research student. Having read and paid full respect to Bera Revised Ethical Guidelines for Educational Research (2004) and to Bera Good Practice in Educational Research (2003), I planned my research according to the ethical guidelines described. My deepest and most sincere intention has always been to do research with one of my primary classes. Being a teacher myself, I have often employed action research in the teaching process one way or another. This time, however, I wished to do something which would have academic rigor as well.

All the young children who take part in my study have given an informed consent prior to research. Their parents have been notified and their permission has been asked as described in the Consent part above (please find below a copy of the letter/application form given to parents as well as its translation in English). During the time I was researching without being a PhD student I have not been sponsored or funded by anyone. I frankly declare that I have collected the data for educational reasons only (in particular, for a PhD by research degree).

Signed: E.Benetou

Research student: (Ms) EVDOKIA BENETOU

Date: December 17, 2010

Supervisor: Dr Michael Hammond

Date

Dr David Wray

Action

Please submit to the Research Office (Louisa Hopkins, room WE132)

Action taken

Approved

Approved with modification or conditions – see below

Action deferred. Please supply additional information or clarification – see below

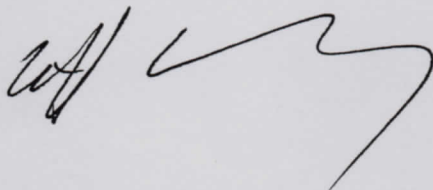
Name

E. Benetou

Date

4/1/11

Signature



Stamped

Notes of Action