To What Extent is Moodle Virtual Learning Environment Software an Effective tool for Enhancing E-Learning in an Urban Secondary School?

Introduction

One of the seminal issues in current pedagogical debates is the use of e-learning as a tool to enhance pupils⬚ progress and engagement both in and out of school. E-learning is widely recognised as the future of education and, as the technical age develops and expands, the possibilities are infinite. The use of VLEs in a school-setting are the natural extension of man⬚s approach to deepening understanding of the world through sharing knowledge. Resultantly, ⬚virtual learning communities facilitated by the internet are an extension of this trend⬚ (Augar et al, 2006, p.74). E-learning has the capacity to support and foster learning of a range of learners including SEN, Gifted and Talented and those with low receptiveness to ⬚traditional classroom learning⬚ (Boulton, 2008, p.11). It is argued that a salient feature of e-learning is the inherent social aspect through which groups of learners can work together to support and enrich each others' learning (Augar et al, 2006, p.73). However, despite the wide-spread popularity of innovative approaches to learning, there are dangers inherent in an over-reliance upon e-learning strategies. Forsyth is a key contender in this debate and he suggests that an over-zealous approach can negate the ⬚educationally appropriate⬚ aspects of e-learning (Forsyth, 2001, p.9, 20). After all, in any aspect of education, learning must be of ⬚real practical benefit⬚ to the learner in order to be genuinely successful (Evans and Bellet, 2006, p.119). Programmers and educationalists alike may become spellbound by the potential technological advances and inadvertently create e-learning activities which prioritise the technology rather than the development of the learner⬚s knowledge and skills

This paper is concerned with the use of Virtual Learning Environments (VLEs) as a tool to enhance Independent Further Learning (IFL) outside of the classroom. Specifically, this paper adopts a case study approach to explore ways in which Moodle software is, and could be, used for best effect. This study was conducted at a challenging urban secondary school in the West Midlands which, for the purposes of confidentiality, will be referred to in this paper as Church View School. Within the school, the customised version of the Moodle VLE is referred to as CVoodle. All names mentioned are pseudnyms. Church View School serves the surrounding community, most of its pupils live on the white, working class council estate in which the school is situated. The community is a close-knit and, in many ways, parochial one; there is little integration with other communities in the city. The area has a poor reputation with a dominant gang culture which has been the result of widespread unemployment and the low-aspiration, ⬚benefit culture⬚ attitude of its inhabitants.

In 2007, Moodle software was trialed in an attempt to enhance the e-learning policy which had previously been a low priority. The software was developed and managed by Gordon, the senior ICT technician, under the leadership of Natasha, an Assistant Headteacher with special responsibility for e-learning. Initially, CVoodle was promoted heavily despite being unfamiliar ground for technicians and teachers alike. Natasha adopted a highly prescriptive management style making its usage compulsory both in class and for setting homework. Despite this, little training was provided and teachers were expected to explore the software unaided. Teachers became disenchanted with CVoodle particularly when the second, more complicated version of the software was introduced in 2008. Resultantly, the VLE as a whole was maintained inconsistently, creating accessibility issues and giving the impression that e-learning in the school was shoddy and poorly planned. Current use of CVoodle has continued on the same downward spiral and, whilst the software is rich with promise, its potential is not being maximised. In light of this, the following questions have been devised to explore the possibilities inherent in the software and the implications for best practice in the future.

Research Questions

Which elements of Moodle software are being used currently?

To what extent do teachers' and pupils' perspectives on Moodle differ?

What are the factors preventing effective deployment of the software?

Literature Review

1. Which elements of Moodle software are being used currently?

In order to address the subject in an appropriate and comprehensive manner, the key technical terms must be clarified. Within this paper, 'e-learning' will be used to explore internet-based learning software. Specifically, this paper is concerned with the use of Moodle VLE software, a free web application which, at its most basic level, allows for course content provision online whilst more sophisticated applications of the software facilitate activity modules. This ranges from posting course documents online to the submission, marking, drafting and assessment of coursework or homework to establishing and maintaining forums and databases where learners can communicate with their peers and teachers. Moodle operates on an open source basis which means that individual web programmers can freely adapt and enhance their version of the software, customising the basic framework and creating bespoke add-ins to meet the needs of the learners. Dron, an advocate of the open source approach, suggests that it provides ' the potential for diversity and the ability to customise an environment to a given set of needs' (Dron, 2007, p.219). Moreover, once programmed, these additional facilities can be shared amongst programmers, thus bringing to fruition an innately collaborative and highly sophisticated learning environment.

Additionally, although the term ' Virtual Learning Environment (VLE)' is attributed to Moodle software (http://moodle.org/) it is not the only such term used to describe the plethora of similar online learning sites used in education establishments across the world. According to Dron, a key distinction exists: ' Virtual Learning Community' versus 'e-Learning Environment (ELE)' (Dron, 2007, p.220). He suggests that we view an E-learning Environment as a more limited, and less interactive, version of a ' Virtual Learning Community (VLC)' ; in an ELE, the facility to learn online is provided but learners adopt an independent and linear approach to their learning. This, Forsyth suggests, is inherently flawed. He refers to education establishments ' getting it wrong' by simply uploading information onto web pages and, consequently, denying learners the opportunity of fully ' interacting with the data offered by the internet' (Forsyth, 2001, p.8).

In contrast, a VLC is community-centred and thus thrives on learning that is sociable and collaborative in its essence. It is the ' social context' that provides the distinction (Augar, 2006, p.75). Kordaki affirms this distinction, stating that a VLC is a ' virtual place where the learners can actively construct their own knowledge' (Kordaki, 2006, p.355). More than likely, a VLC will include the basic features of an ELE such as content provision, yet it will encourage users to take an active role in learning and promote a sense of ownership and belonging to an educational collective. Dron explores this distinction by suggesting that ELE can be considered as a ' habitat or micro-habitat that is connected to, or part of, other systems which form the entire learning ecology' (Dron, 2006, p.8). In this sense, Moodle straddles the divide between an ' environment' and a ' community' . Whilst this distinction is a crucial one in terms of the implications for the users' learning styles, Moodle with be referred to as a self-termed Virtual Learning Environment throughout this paper as this best describes its current usage in Church View School where an effective e-learning ' community' has yet to be established.

2. To what extent do teachers' and pupils' perspectives on Moodle software differ?

It may be argued that, in part, e-learning suffers when teachers' views of e-learning so not correlate with pupils; teachers may see the internet as a platform to extend knowledge whilst pupils are used to using the internet in a social and leisure context.

As Holloway and Valentine recognise, the emergent technology is often viewed as a '' boring tool that has little relevance to children's everyday offline lives. Instead it emerges the preserve of ' boffins' and ' geeks' (Holloway and Valentine, 2003, p.154). Despite this, it is widely held that teachers' enthusiasm is essential to making ICT a fascinating tool that can motivate pupils. Teachers should be aware of the potency of ICT in pupils' social lives, through applications such as MSN messenger and Facebook, and maximise social trends through the VLE , harnessing potential that it holds. After all, as Augar astutely synopsizes, ' it is the users who will determine whether the developers efforts are a success' (Augar, 2006, p.75). Holloway and Valentine refer to teachers' application of e learning as ' adultist' as they focus on the future benefits of VLE software in terms of progression and key skills on the workplace. Instead, they suggest teachers shift their perspective and consider the immediate context of e-learning, in the way that a child is orientated more towards the present than the future (Holloway and Valentine, 2003, p.154). This point is further corroborated by Laurillard's studies, in which she concludes that effective e learning centres upon ' an understanding of how students learn and design[ing] the use of learning technologies from this standpoint' (Laurillard, 2005, cited in Mentis, 2008, p. 217).

It is evident that e-learning can not only be viewed in different ways but also applied in different ways, depending on the teacher's approach. As Tomlinson suggests, teachers can be ' disinclined to modify teaching practice in ways that...extend beyond the defined norm' (Tomlinson, 2004, p.519). The profusion of websites like wikipedia and sparknotes present e-learning as a content provision tool, whilst sites such as BBC Bitesize evidence the possibilities for a more interactive approach which encourages pupils to extend skills learnt in the classroom. Garrison and Anderson suggest that knowledge acquisition and skills development should be married through the social dynamic that software such as Moodle can bring to fruition through chat and forums. In these terms the internet can be viewed as a ' new medium for construction, a new opportunity for students to discuss, share and collaborate on constructions' (Garrison and Anderson, 2003, p.39). Moreover, by enhancing the social dynamic of VLEs teachers may reduce pupils' reticence to participate in e-learning activities as they will satisfy pupils need for learning to be a shared, social experience (Salmon, 2002, p.5) that will, in turn, build the ' spirit' of ' membership of a community and the feelings of cohesion that develops amongst learners' (Graff, 2006, p.131).

3. What are the factors preventing the effective deployment of Moodle software?

Whilst attitudinal divides between teachers and pupils impact on effective CVoodle usage, circumstantial and logistical issues must not be ignored. Pragmatic concerns, whilst providing a significant barrier to effectiveness, are more easily rectified than ideological or attitudinal barriers and yet they clearly ' diminish motivation to participate' (Augar et al, 2006, p.76).

A number of theorists have investigated inhibiting factors, in particular Forsyth suggests five key factors, the five T's, which obstruct effective e-learning (Forsyth, 2001, p.19-22). These seem particularly pertinent in the context of Church View School as they focus on teachers' reluctance to immerse themselves in the emerging arena of e-learning rather than concentrating on pupil motivation. Forsyth encapsulates a number of concerns that have been cited by practitioners since the birth of e-learning in schools in the early 1990s (Bell, 1993; Cassell, 1995). As far back as 1990, the HMI stated that rigorous and consistent training was essential to productive use of ICT for learning (DES, 1990, p. vii). Forsyth argues that teachers suffer from a lack of time, insecurity about new technologies in which

pupils surpass their own expertise, a lack of initial training and corroborative support afterwards (Forsyth, 2001, p.19-22).

However, Forsyth also suggests that ⬚ territoriality on topics⬚prohibits effective e-learning as teachers no longer maintain control of the sequencing of pupils⬚ learningHe argues that with a wealth of information on the internet pupils can dip in to topics which they are study in a haphazard and potentially detrimental fashion (Forsyth, 2001, p.19-22). Potentially, with self-directed e-learning pupils could encounter concepts which are unfamiliar and, consequently, they may unbalance the progression path envisaged by the teacher. In this sense the power of the teacher may be undermined, or their role may be altered. The e-learning teacher, inevitably moves from their didactic role as a ⬚ sage on a stage⬚ to a ⬚ guide on the side⬚ who facilitates opportunities rather than imparts knowledge (Collison et al, 2000, p.34). To some degree, such ideas are outmoded now as they relate to a time in which e-learning was an emergent concept rather than the range of systems that have been embedded in education establishments globally. Moreover, technology has developed considerably allowing teachers to map out a topic network which clearly illustrates the route along which pupils should progress whilst also identifying connections between topics and related texts. In this way, therefore, Moodle has the facility to encourage independent e-learning whilst also shaping and directing the learning trajectory.

However, the success of a VLE is not entirely based on the approach taken by teachers and the leadership team, it also involves active and genuine participation from the pupils. Augar et al argue that, in order to establish effective e-learning, a community must be built which requires participants to input both a ⬚ minimum level of interactivity⬚ and ⬚a minimum level of membership sustained over time.⬚ The inherent caveat exists that e-learning provision does not necessarily bring a community to fruition; there must be pupil-driven motivation, such a social element, to create ownership and the resultant longevity of learning that is envisaged by teachers and leadership⬚ (Augar et al, 2006, p.74-75).

Methodology

This investigation has taken a case study approach to explore the extent to which one specific VLE software can be used effectively. The major benefit of a case study approach is the investigation is inherently based on depth, rather than breadth. Consequently, one precise area of e-learning has been pin-pointed and investigated in the context of one specific school as opposed to surveying a wider range of e-learning strategies in a number of schools. This study is based on empirical evidence and provides the opportunity to explore and evaluate current e-learning literature. Ensuring that conclusions drawn are 'not simply of the story-telling and picture-drawing kind, but theory-seeking/theory-testing studies which try to tease out why a situation is good, bad or mediocre' (Bassey, 2007, p.154).

It is important to consider, therefore, that while a detailed understanding of effective VLE usage will be sought, there are also inherent limitations to this style of investigation. Essentially, with its narrow focus, this study may be too reductive in its approach. One concern may be that the study focuses on one school only rather than comparing strategies used at a number of schools and obtaining more reliable, data-rich, quantitative results. As Bassey identifies 'case study is usually a form of qualitative research' (Bassey, 2007, p.142) and therefore the conclusions drawn may not be universalisable as such results are usually opinion-centred and thus entirely subjective. Within education, there are numerous factors which can contribute to the effectiveness of any teaching and learning strategy at any one point. In order to provide a sharp and incisive focus, not all of these contributing factors have been adressed. Resultantly, this paper should be treated as a thought-provoking, descriptive primary investigation rather than an e-learning handbook with a dogmatic and prescriptive approach to effectiveness.

This study was conducted over three weeks at Church View School and results were gathered from three research groups; pupils, teachers and technicians, to ensure effective triangulation and reliable information retieval. Surveys and questionnaires were carried out to gather quantative data about CVoodle usage and qualitative data so as to consider as many perspectives as possible and explore the VLE's effect on all its users. This method ensured that both 'factual' and 'attitudinal' information could be obtained (Fogelman and Comber, 2007, p.127).

All questionnaires and surveys were deliberately anonymous to ensure confidentiality and to ensure that participants answered as openly and honestly as possible. Moreover, interviewees have been attributed with pseudonyms and little contextual evidence about their roles has been provided in this study to ensure that they can not be identified.

Research Groups:

1. The team of four ICT technicians working in the school with specific focus on the Senior technician, Gordon, who was responsible for the initial set-up of the software in 2007 and its subsequent adaptation and maintenance over the following years. The technicians completed an open question questionnaire to allow maximum input of their technical expertise. Additionally, Gordon was interviewed at length in order to provide high quality information that could be challenged and explored through dialogue. This allowed for a detailed technical perspective which elucidated the practical implications of the software. Moreover, Gordon had access to data about the volume and frequency of software usage school-wide.

2. Twenty-two teachers voluntarily completed an easily accessible online survey through www.surveymonkey.co.uk via an e-mail link sent to all teaching staff. Survey Monkey was an approriate research method as it collated and analysed results automatically, ensuring that the end product was 'systematically collected and comparable data' (Fogelman and Comber, 2007, p.129). To fit around teachers busy lifestyles, the survey comprised of eight carefully devised questions with multi-option answers and several comment boxes for longer answers. Many of the research group had experienced the advent of the VLE andits initial integration as well as newer teachers who joined the school when Moodle software was already embedded. The group included teachers who were advocates of e-learning as well as those who were reticent to experiment or did not utilise the VLE at all. SLT with teaching roles were also included anonymously in this group. Attention was also directed to James, an Advanced Skills Teacher graded Outstanding by Ofsted. He has considerable experience of using CVoodle and specialises in innovative practice. Like Gordon, James was interviewed on an individual, face-to-face basis to elicit detailed responses and to gain a more comprehensive understanding of the effectiveness of current e-learning through dialogue. Theorists suggest that information gathered through conversation can be 'the most fruitful' as the discursive nature of the interview allows the research to 'explore [the interviewee's] views' in greater depth (Ribbins, 2007, p.208).

3. A group of twenty pupils at the school; ten from year eight, ten from year eleven. Year eleven pupils had experienced the advent of the VLE part way through their schooling, and the initial barriers encountered during the pilot stage. Their usage was largely centred on the submission, re-drafting and assessment of GCSE coursework. In contrast, the year eight pupils had a year's experience of utlising and navigating the VLE. Their usage was mainly for the submission of homework tasks and as a starting point for research activities within the curriculum. These pupils provided a more effective research group than year seven pupils who, as a new cohort, were still familiarising themselves with the software. In order to attain a representative sample, both the key stage three and key stage four pupils were selected from tutor groups rather than teaching groups to ensure that a range of ability levels and teaching staff were included.

When planning and executing the investigation it was vital to consider which research methods would glean the most incisive and accurate results from the participants involved; which techniques would elicit the highest quality information. A combination of quantitative and qualitative data was needed including statistics on current usage and opinions on strengths, weaknesses and potential of the software. Consequently, two small-scale pilot schemes were conducted in order to formalise research questions and establish the most appropriate and beneficial research methods.

The initial pilot involved 25 randomly selected pupils, five from each year group, who trialled the paper-based pupil questionnaire in their English lessons. This was a particularly fruitful pilot as it brought to light the fact that pupils needed to be selected from tutor groups rather than teaching groups. This ensured a clearer picture of the extent to which CVoodle was being used by a wide range of teachers whilst also recognising that effective e-learning needs to be accessible to pupils of all ability levels. Moreover, the pilot questionnaire also evidenced the fact that a pupil

questionnaire needed to be written predominantly in closed, multiple choice questions as pupils lost interest in open questions and failed to provide information. A second pilot was also conducted via informal verbatim conversations with members of teaching staff in order to devise a comprehensive list of possible strengths and weaknesses of CVoodle for the teachers' survey. Moreover, the results from the ICT technicians' questionnaires were used to devise the questions to ensure a cohesive approach. Furthermore, the teachers' survey included a number of optional 'comment' boxes to ensure that individual teachers could develop and justify their opinions in detail, thus providing rich quantitative and qualitative data sources.

Presentation and Analysis of the Case Study Findings

1. **Which elements of Moodle software are being used currently?**

The key research groups used to address this question were teachers, pupils and ICT technicians. From the outset, it was apparent that the CVoodle was in no means being used to full effect, this was corroborated by the teacher survey in which 90.9% of participants felt that the VLE was being used either not effectively or very ineffectively school-wide (Appendix I). One teacher even commented that the VLE was 'only being used to hold course documents,' one of the dangers of an unimaginative approach to e-learning which Forsyth warns against (Forsyth, 2001, p.8). Furthermore, teachers accepted that much of this was due to their own reluctance to participate; 54.6% of teachers stated that they used the software either not effectively or very ineffectively. Nine teachers stated that they did use the software at all. These results were supported by the ICT technicians who all stated that the VLE was being used to a low level of effectiveness by teachers and pupils. In fact, in the interview conducted with the senior ICT technician, it became apparent that an average of just five teachers per day logged on, less than 10% of the whole teaching staff.

To an extent, these results were corroborated by pupils who agreed that 55% percent of teachers did not maximise use of the VLE (Fig I). An important distinction arose here though with 60% of year eight pupils (Fig II), as opposed to 50% of year eleven pupils (Fig III), stating that teachers did not make the most of CVoodle. This suggests that, across the school, CVoodle is being used more frequently, although not necessarily more effectively, at key stage four where pupils and teachers may make more use of CVoodle for submission, drafting and assessment of GCSE coursework.
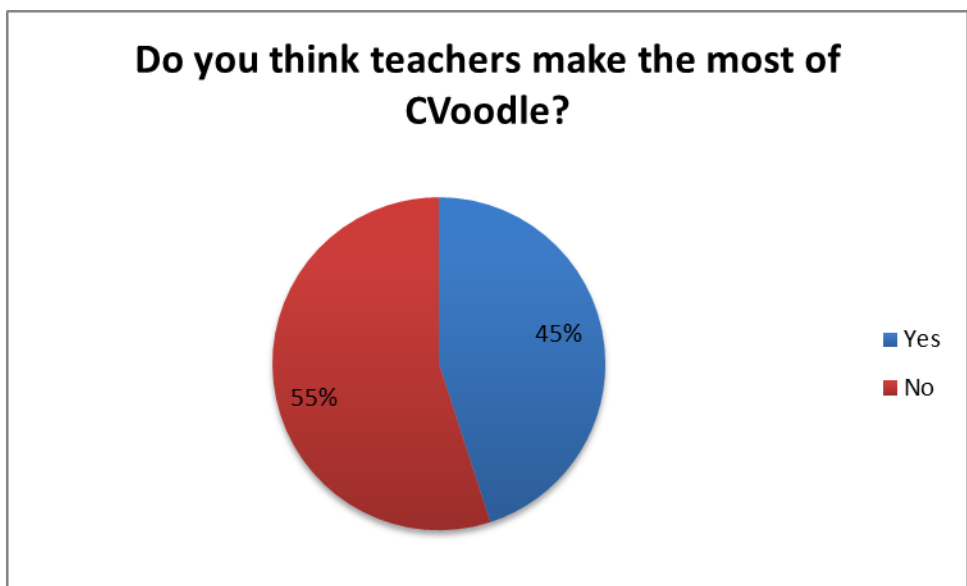
Fig I:

Do you think teachers make the most of CVoodle?

45% Yes
55% No

Fig II:

Do you think teachers make the most of CVoodle?

- Yes 40%
- No 60%

Fig III:

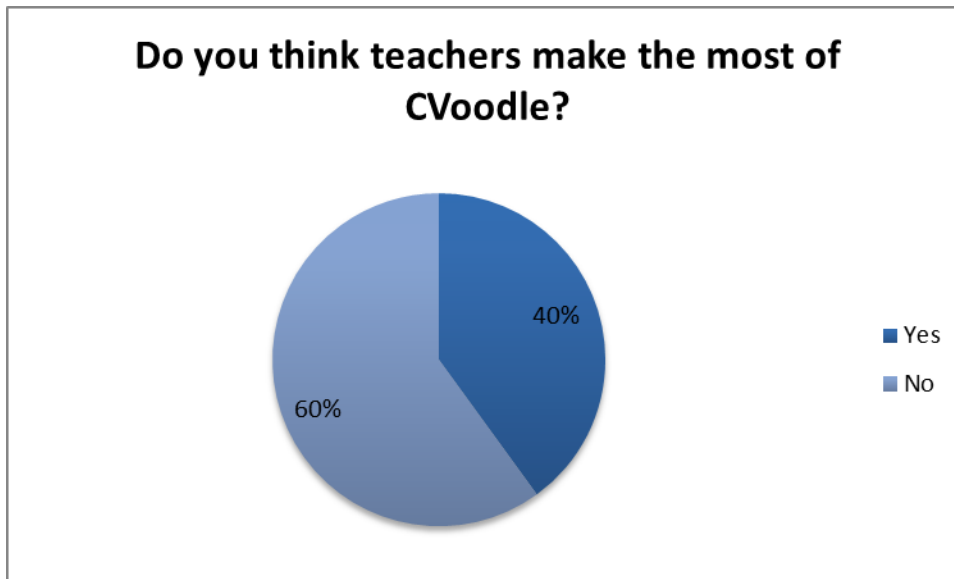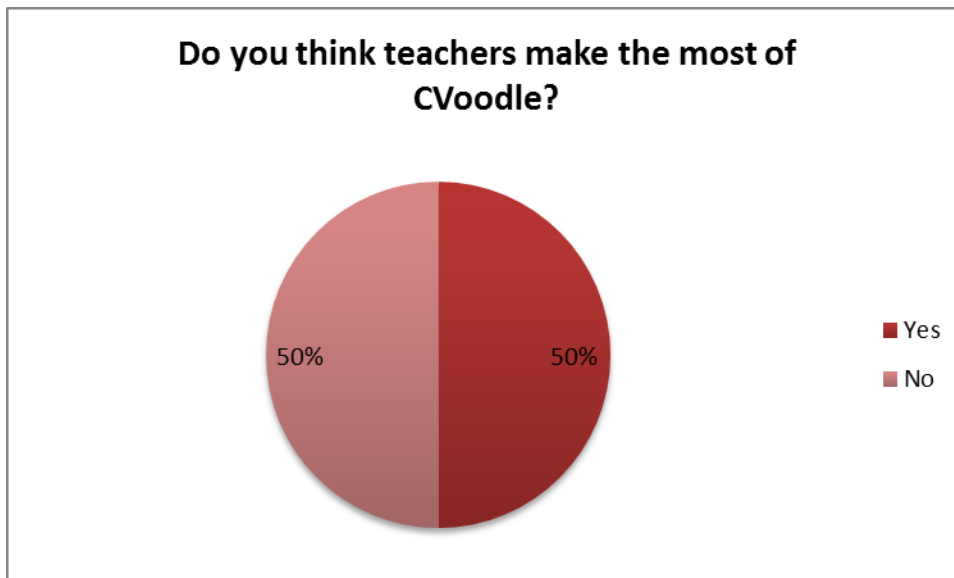**Do you think teachers make the most of CVoodle?**

- Yes 50%
- No 50%

Despite this, teachers and pupils expressed a belief in the potential of the software with 80-90% of teachers agreeing that CVoodle could be an effective tool for setting IFL, communicating with pupils and helping pupils catch up on work missed (Appendix I) . Similarly, up to three quarters of all pupils believed that if CVoodle were to be improved it would encourage them to complete homework/coursework, to a higher standard and generally improve their learning (Figs IV, V and VI). Interestingly, this view was not supported by the ICT technicians who, on the whole, did not believe that the VLE could be used more effectively. Predominately, this was attributed to users 'not using it and giving up' or 'staff not being willing to use the software' (Appendix II).
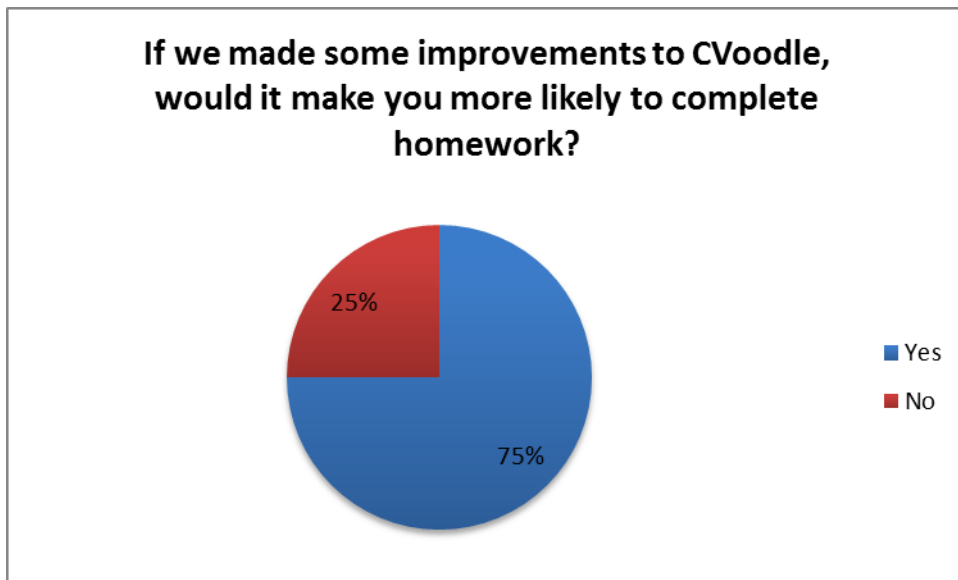
Fig IV:

If we made some improvements to CVoodle, would it make you more likely to complete homework?

- 25% No
- 75% Yes

Legend: ■ Yes ■ No

Fig V:

If we made some improvements to CVoodle, would it help you to complete homework of a higher standard?
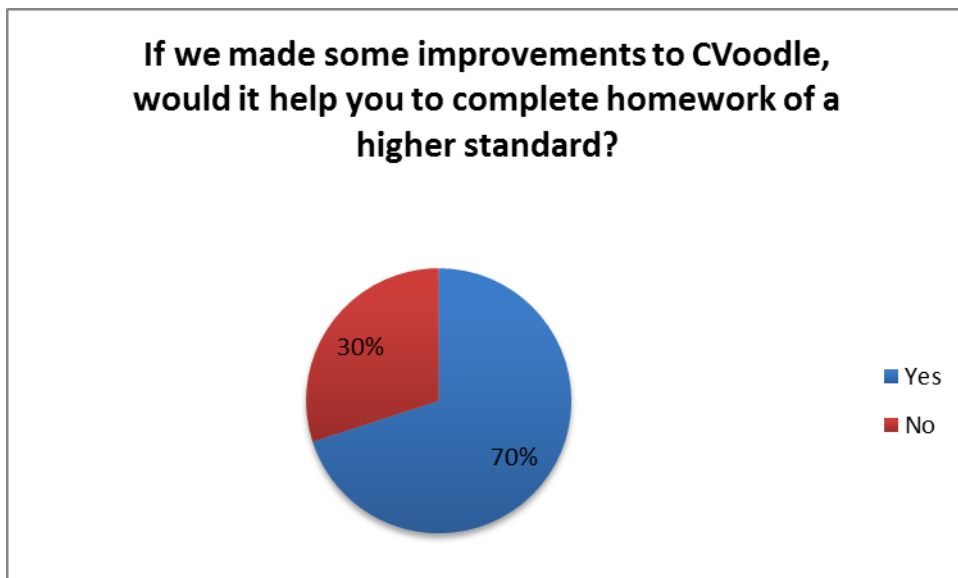
- 30% No
- 70% Yes

Legend: ■ Yes ■ No

Fig VI:

From these results it may be inferred, tentatively, that the reticence to use the software came largely from the teachers. This correlates clearly with Tomlinson☐s assertion that teachers can be ☐ disinclined to modify teaching practices in ways that... extend beyond the defined norm☐ (Tomlinson, 2004p.519). This result may be attributed to the demographic of teachers at Church View. The school has a base of experienced teachers, many of which have been working at the school for decades and take a ☐ conventional☐ approach to teaching and learning. This has an inherent impact on pupils☐ usage of the VLE as conventional 'sage on stage' teaching styles may mean prevent pupils' development of independent computer-based learning strategies and are thus ill-equipt to make fruitful use of the software even when directed this way (Boulton, 2008, p.14).

2. To what extent do teachers⬚ and pupils⬚ perspectives on Moodle differ?

Results suggest that teachers⬚ usage of the software is sporadic and limited butHolloway and Valentine have suggested that it is not only this but also the ⬚ adultist⬚ approach of teachers that renders e-learning ineffective. They suggest that a child-centred perspective is necessary to facilitate successful usage of the software, one which includes a focus on the social, shared learning experience that can be gained through peer-learning applications such as forums and educational chat rooms where both teachers and pupils can participate (Holloway and Valentine, 2003). This notion is clearly corroborated by the pupil questionnaire in which a ⬚ chat area⬚ as a potential enhancement to the software was the most popular option for both the year eight and year eleven research groups. Whilst this option was preferred by 80 and 70% of pupil groups respectively (Figs VII and VIII), only 50% of teachers felt that this would be a beneficial addition to the VLE (Appendix I). In contrast, teachers stated that setting homework/coursework and monitoring pupils completion of it was the major strength of the software.
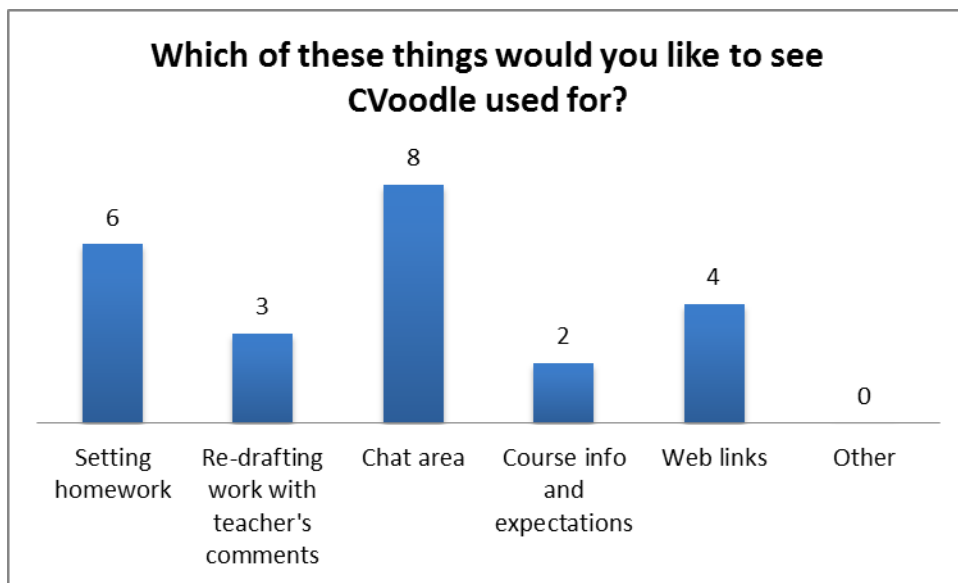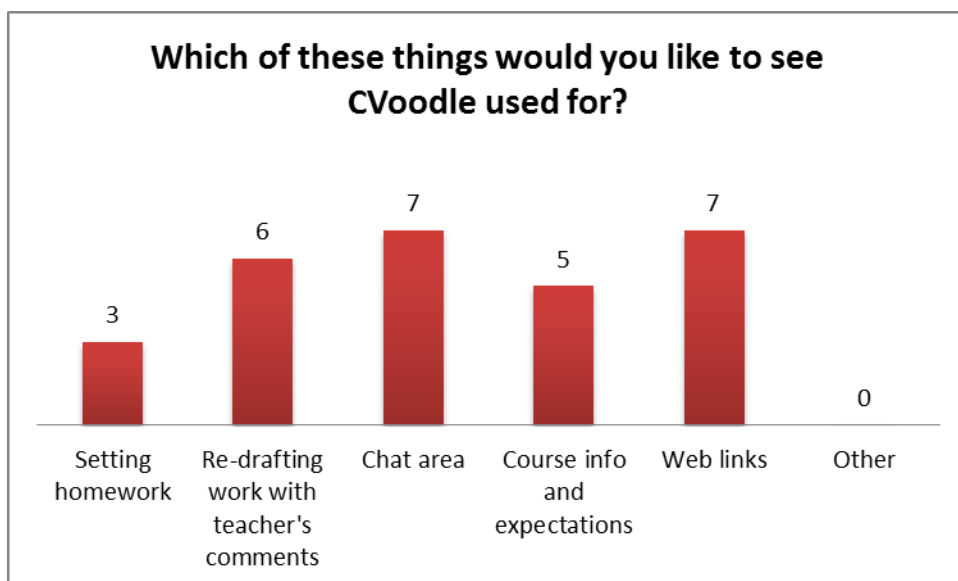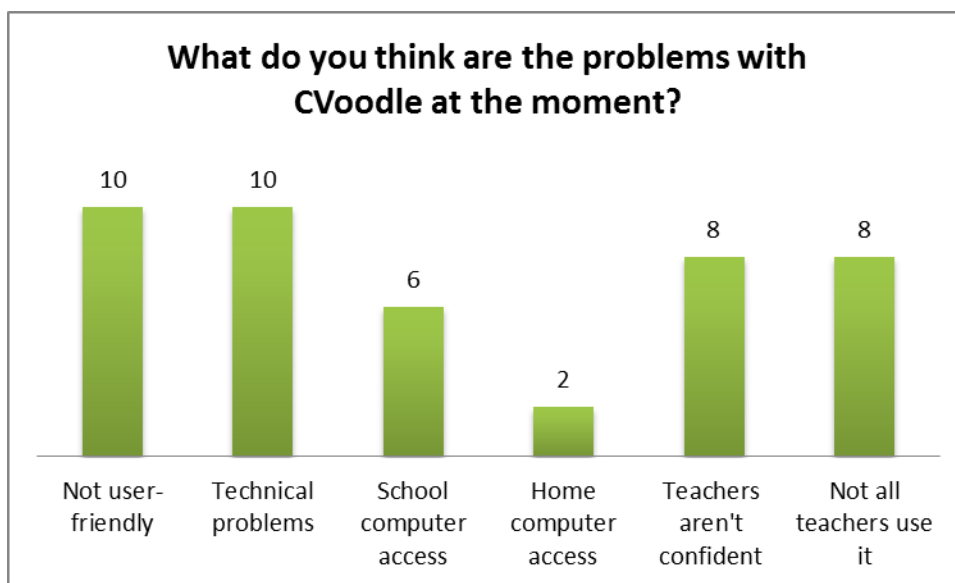
Fig VII:

Fig VIII:

3. What are the factors preventing effective deployment of the software?

Across all of the research groups there was a wide spread of problems identified with the software and, to some extent, it is difficult to identify clear trends in the results gathered. This correlated clearly with literature on the topic in which a wide range of barriers have been identified by theorists as the causes of ineffective e-learning, in particular Forsyth⬚s five T⬚s (Forsyth, 2001,p.19-22). In the case study results, blame was attributed to low teacher confidence and a lack of consistency in teacher by pupils (Fig IX) and, in equal measure, teachers insisted that pupils⬚ lack of motivation was a major factor in preventing effective deployment of the software (Appendix I). This data may imply one of two things; either that the problems with CVoodle are various, wide-ranging and affect different users in a host of ways or; that there is a blame-shifting culture attributed to failed whole-school initiative in which user groups are not willing to accept full responsibility for their part in its ineffective deployment. In an interview with James, the AST and innovative practice enthusiast, this sentiment was encapsulated when he suggested that the problems were "multi-causal" and that "leadership insist that one size fits all... but it doesn⬚ t." He suggested that the partial, haphazard implementation of the VLE had prevented a secure, personalisable usage for teachers which "destroyed confidence and a genuine willingness to try. Not that anybody would admit to that" (Appendix IV).

Fig IX:

What do you think are the problems with CVoodle at the moment?

| Not user-friendly | Technical problems | School computer access | Home computer access | Teachers aren't confident | Not all teachers use it |
| 10 | 10 | 6 | 2 | 8 | 8 |

Despite this, there were two central issues identified; technical problems with the software itself and time constraints. In both the year eight and year eleven research groups the problems with the software were largely attributed to technical problems and an inaccessible user interface (Fig IX). The teachers⬚ survey also showed that this problem was a major barrier with 45.5% of teachers complaining of a poor user interface and 54.5% being deterred by technical gliches (Appendix I). Technicians also supported this point, stating that the software has an inherent problems with a ⬚ poor UI⬚ and being ⬚ not very easy to set up⬚ (Appendix II).

Ostensibly, the most significant barrier for teachers, however, was the time constraints they were under in relation to the set-up and maintenance of their own areas of the software. Not only did 77.3% of participants select this options but one teacher made the insightful comment that:

> Until time is given to e-learning and each student can e-submit then CVoodle will remain nothing more than a sparsely-used novelty (Appendix I).

This anonymous comment epitomises staff disenchantment with the software and a number of other similar comment were made. For example, teachers commented that the software was "very time-consuming" and that it "takes me four times as long to to do anything useful on CVoodle as it does to do it well in a normal way" (Appendix I). As a National School, Church View teachers are pushed hard to live up the the leadership⬚ s mantra of 'every child, every grade' in order to reach the benchmark of 30% A*-C GCSE grades including Maths and English. This leaves little time to explore new technologies and, with a number of new initiatives being promoted concurrently, insufficient

INSETs are being provided to help teachers keep up with the plethora of teaching and learning strategies being suggested.

To amalgamate these findings, it is useful to consider an interesting point raised in the interview with Gordon in which he suggested that time constraints and a poor user interface were not, in fact, separate issues but had the same root cause . He insisted that the precisely because the user interface was difficult to access and use to its full potential that staff needed to spend so much time setting up their CVoodle areas, adjusting and uploading documents.

Conclusions and Recommendations

In its current incarnation at Church View School CVoodle is in an ineffective e-learning tool, largely because the uptake from staff and pupils alike has been sporadic and inconsistent. Initially, the software was integral to the whole school e-learning policy and was heavily promoted by leadership and subscribed to by teachers. However, over time and owing to the change in leadership responsibilities it has become side-lined and teachers have become disenchanted with the software, focusing on technical gliches rather than the wealth of possibilities it holds. The complicated user interface and the resultant difficulty that teachers and pupils have had in navigating the software has made CVoodle a chore. Instead of being an engaging and interactive tool, the focus has become working with, or against, the technology itself rather than the learning activities that have been devised.

From the study, it is evident that many of the barriers to effective e-learning are as a result of teachers own lack of confidence and the inherent time constraints in working in a busy and challenging school. Whilst teachers insisted that low pupil motivation was a key factor, pupils expressed a clear desire to engage more holistically with the VLE if alterations to the user interface and purpose were made. Consequently, as a direct result of the Church View case study and the accompanying literature, the following recommendations for more fruitful future usage have been uncovered. Judging by the findings of the case study, these points have been put in priority order:

1.Meeting Pupils Expectations

In order to encourage pupils to use the VLE more effectively provisions must be made by the ICT team to foster a learning community of which all users feel a part, using learning technologies from the standpoint of child-centred activity (Laurillard, 2005, cited in Mentis, 2008, 217). To do this, a forum facility should be incorporated into CVoodle with specific chat topics in each subject area. These topic areas should be devised by the teacher to anchor peer learning strategically to the progression path envisaged so as to create a sense of peer learning as opposed to a general social arena.

2. Meeting Teachers Expectations

Teachers must feel confident, equipped and supported in order to facilitate the e-learning of their students. Therefore technical adjustments to the user interface need to be implemented to make the software easier to access and maintain by teachers, creating less of an onus upon technicians to fix simple problems. One way this might be achieved is by creating an online manual with a FAQ section to guide teachers. Moreover, a series of re-training sessions must be held with all staff present during the Wednesday period five training slot to allow for comprehensive and cumulative tuition. To ease this embedding process, new open source applications should be staggered to ensure that teachers do not become overwhelmed and disenchanted by technological advancements.

3. Meeting Leaderships Expectations

A whole-school approach of consistent and regular usage of the VLE must be prioritsed so that pupils and teachers alike are aware of the importance and benefit of e-learning. Consequently, the VLE should be integrated into lesson planning as well as being used as an IFL strategy. This should be discussed in departmental meetings and implemented by class teachers through assessment for learning, allowing all users to bridge the gap between classroom-based learning and independent further learning. Moreover, this will ensure that pupils are trained to use

the VLE in a way which will enhance and direct their own personal learning skills particularly in developing a new range of e-learning skills such as ⬚ managing theirown pace of learning, learning how to become autonomous independent learners and taking greater responsibility for their own learning⬚ (Boulton, 2008, p.17).

Bibliography

Augar, N., Raitman, R., Lanham, E. and Zhou, W. 2006. *Building Virtual Learning Comunities*. London: Idea Group.

Bell, M., 1993. *IT in Learning*. *The Computer Bulletin*, April.

Bennet, S., Marsh, D. and Killen, C., 2006. *Handbook of Online Education*. London: Continuum.

Boulton, H., 2008. Managing E-Learning: What are the Real Implications for Schools?'. *The Electronic Journal of E-Learning*. 6 (1). pp. 11-18.

Briggs, A. and Coleman, M., 2007. Research Methods in Educational Leadership and Management. 2nd ed. London: SAGE.

Cassell, D., Carroll, J. And Broadhead, R. 1995. *Canadian Internet Handbook*: Educational Edition. Scarborough, Ontario: Prentice-Hall Canada.

Collinson, G., Elbaum, B., Haavind, S. and Tinker, R. 2000. Facilitating Online Learning: Effective Strategies for Moderators. Madison: Atwood.

Conrad, D. (2005). Building and Maintaining Community in Cohort-Based Online Learning. *Journal of Distance Education,* 20(1), 1-20.

Dron, J., 2007. *Constraint and Control in E-Learning: Choosing When to Choose*. London: Idea Group.

Evans, R. and Bellet, E., 2006. Establishing Effective E-Learning Communities within the Teaching Profession: Comparing Two Projects to Discover the Necessary Ingredients. *The Electronic Journal of E-Learning*. 4 (2). pp. 119-126.

Forsyth, I., 2001. *Teaching and Learning Materials and The Internet*. 3rd ed. London: Kogan Page.

Garrison, D. R., Anderson, T., & Archer, W. 2003. Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education*, 2(2-3), 87 - 105.

Graff, M., 2006. The Importance of Online Community in Student Academic Performance. *The Electronic Journal of E-Learning*. 4 (2). Pp 127 -132.

HMI, 1990. *Education Observed: Information Technology and Special Educational Needs in Schools.* DES.

Holloway, S. and Valentine, G., 2006. *Cyberkids: Children in the Information Age*. London: RoutledgeFalmer.

Kordaki, M., 2006. *A Special Purpose E-Learning Environment: Background, Design and Evaluation*. London: Idea Group.

Loveless, A., 1995. *The Role of IT: Practical Issues for the Primary Teacher*. London: Cassell.

Mentis, M., 2008. Navigating the E-Learning Terrain: Aligning Technology, Pedagogy and Context. *The Electronic Journal of E-Learning*. 6 (3). pp. 217-226.

Rourke, L., & Anderson, T. (2002). Exploring social interaction in computer conferencing. *Journal of Interactive Learning Research*, 13(3), 257-273.

Salmon, G., 2002. Flying not Flapping: A Strategic Framework for E-Learning and Pedagogical Innovation in Higher Education Institutions. *ALT-J Research in Learning Technology*. 13 (3). pp 201-218

Tomlinson, C., 2004. Teacher Talk: Now that I think about it: Thinking about thinking in the classroom. *Communicato*r *35*(1). 40-41.

Appendix I: Here the student included a scanned copy of the Survey Monkey, which is a good idea.

SurveyMonkey

Logged in as "bronwenjones" [Log Off]

| Create Survey | My Surveys | Address Book | My Account | | Need Help? |

You have a **basic account**. | To remove the limits of a basic account and get unlimited questions, **upgrade now!**

survey title:
CVoodle Edit Title | **design survey** | **collect responses** | **analyze results**

View Summary

Browse Responses

Filter Responses

Crosstab Responses

Download Responses

Share Responses

current report: Default Report · [Add Report]

Response Summary

Total Started Survey: **22**

Total Completed Survey: **22 (100%)**

[Show this Page Only]

Page:

1. Currently, how effectively do you think CVoodle is being used throughout the school?   Create Chart   Download

	Response Percent	Response Count
Very effectively	0.0%	0
Effectively	9.1%	2
Not effectively	**54.5%**	**12**
Very uneffectively	36.4%	8
answered question		22
skipped question		0

2. Currently, how effectively do you think you personally are using CVoodle?   Create Chart   Download

	Response Percent	Response Count
Very effectively	4.5%	1
Effectively	0.0%	0
Not effectively	27.3%	6
Very uneffectively	27.3%	6
answered question		22
skipped question		0

Appendix II: **CVoodle (Moodle) Questionnaire (ICT Technicians)**

This has been deleted to save space.

Appendix III: Pupil Questionnaire on CVoodle

This has been deleted to save space.

Appendix IV and V: - Here the student included their scanned handwritten interview notes, which isn't actually necessary.

Appendix VI : Year 8 Results – these were presented as bar and pie charts and have been deleted to save space.

Appendix VI: Year 11 Results – these have been deleted to save space.