Exploring the impact of e-tutoring sessions with students

PG Cert (Learning and Skills)

Module: UTLGN3: Context & Curriculum in Lifelong Learning

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7th June 2012

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Abstract

The researcher provided e-tutorials to her first-year students on a childcare course at a further education college. The provision enabled the students to access the researcher as an e-tutor on a Monday evening from 6 to 9pm using the college's Moodle platform. Whilst online, students used the instant messaging facility for one-to-one interactions and the assignment facility to submit work for the researcher to collect, review and provide feedback.

This enquiry reports on qualitative and quantitative data analysed to gain insights into students' use of e-tutorial provision: a tally chart, text records of students' instant messages, their responses to questionnaires and their grades on a 2-part assignment task. Students demonstrated positive reactions to the provision of e-tutorials and those who used e-tutorial provision for assignment support showed improved marks. Whilst these results should be interpreted conservatively due to the number of factors that can affect student achievement, they are still promising enough to recommend further research and the continued development of e-tutorial provision for assignment support.

1.0 Aims and purpose of the research

Classroom instruction is traditionally supplemented by personal tutoring. Although the definition of 'to tutor' is to work with an individual or small group, the term represents more than this, given that, for example, lecturing a small group does not amount to tutoring (Childs, 2003). The Latin root of the word 'tutorial' is 'tueri' means to watch over, signifying that tutoring must entail an element of 'watching over' or personal guidance to constitute tutoring (ibid). If however, the guidance occurs at a distance and is mediated by Internet technology, then the process is referred to as 'electronic tutoring' or 'e-tutoring' (ibid; Houge, et al, 2007). E-tutoring refers to individualised learning support via the Internet (Johnson and Bratt, 2009) and ongoing communication between the e-tutor and e-tutee (Flowers, 2007). E-tutorials may involve highly structured individualised support to occasional response to homework questions (Denard, 2003).

The researcher's interest in e-tutoring stems from this being utilised as part of a 'blended learning' approach on a foundation degree course that she teaches at a small further education college in a rural market town in Gloucestershire. Blended learning is an emerging trend in higher education and refers to the blending of text-based Internet technology with face-to-face learning (Garrison and Kanuka, 2004). The blended learning approach of the foundation degree course incorporates a regular weekly online session, occurring on a Monday evening from 6 to 9pm, in addition to a regular weekly face-to-face

session occurring on another weekday evening. The online sessions utilise synchronous and asynchronous Internet technology via the college's Virtual Learning Environment (VLE) using the Moodle platform. Moodle sessions provide opportunities for the researcher and students on the foundation degree course to interact online through forums, chats, wikis, databases, quizzes and the like, as well as through e-tutorials which provide support for learners' summative assessment. During unstructured e-tutorials, learners are able to negotiate the type of guidance or support that is required of the tutor. Summative assessment is typically a written assignment, and for some modules, also a presentation. Learner feedback and course evaluations (Meredith, 2010-2011) for the foundation degree have documented the effectiveness of these sessions to guide students towards summative assessment.

This enquiry explores the impact that the provision of e-tutorial sessions has upon the 'learning experience' of the researcher's other students who are on a vocational education course – namely level 3 childcare students who at the same education institution as the students on the foundation degree.

1.1   Research questions

Oliver and Conole (1998) have noted 'few studies have been able to demonstrate the kind of advantages which have been promised'. Hence, it is not enough to simply introduce a new method, but to evaluate its impact. Erhmann has stressed that there is much to be gained from evaluating, "not so much what happens in the moments when the student is using the technology, but more how those uses promote larger improvements in the fabric of the student's education" (1995, cited in Heines, 2000, p61). Erhmann (ibid) also has emphasised that it is not so much about the 'average truth for education at all institutions' but what we can learn about our own learning programmes and our own students. This enquiry, therefore takes a more localised view.

The development of students' knowledge and understanding, dispositions/attitudes to learning as well as intellectual, practical and transferable skills are all fundamental outcomes of a programme of learning and indicative of students' 'learning experience' (QAA, 2008; QCF, 2010). Therefore, the impact of e-tutorial sessions upon students' knowledge and understanding and dispositions/attitudes to learning will also be considered for the purposes of this enquiry.

How have regular e-tutoring sessions impacted upon students' perception of their dispositions/attitudes to learning?

How have regular e-tutoring sessions impacted upon students' perception of their knowledge and understanding?

What impact have regular e-tutoring sessions had upon the achievement level of students?

2.0 Literature review

At the onset of this millennium, research had indicated that advances in information and communication technology were influencing postsecondary educational institutions to ask staff to provide various curriculum opportunities for learners that were not readily available through traditional in-person delivery (Lewis et al, 1999). More recent research in distance education indicates that the delivery of instruction through means other than direct personal contact is rising (Parsad and Jones, 2005). The current generation of learners in Further and Higher education are from the new breed of 'digital natives' (Prensky, 2001) who have been immersed in technology and new technological devices since they were born (Tunks, 2010). These learners process things graphically and at 'twitch speed' as they are used to being 'plugged in' visually and receiving instant gratification (Prensky, 2001). With this and the growing popularity of social networking technology such as Facebook, Twitter, Bebo, MySpace and the like, learners are now leaving school and coming to Further and Higher Education 'with a new technological sophistication and new expectations for communication' (Moodle, 2012). This trend continues to encourage schools, colleges and universities to recognise the importance of providing supportive spaces online for learners (Moodle, 2012). The British Education Communications Technology Agency (BECTA) highlighted that e-learning activities within individualised learning programmes, blended learning, traditional classroom tools and to support learning can aid high quality, effective teaching and learning experiences when they are appropriate to the needs of the learner (2006).

The majority of colleges in the UK make extensive use of intranets and networks and increasingly wide use of commercial or open-source Virtual Learning Environments (VLEs), with 82 % of colleges using a VLE as their main learning platform in 2006, compared to 59 % in 2003 (BECTA, 2006). The VLE provides a learning platform by which a tutor may engage in regular, ongoing e-tutorials with students, as well as other e-learning activities. Although three-quarters of colleges with a VLE indicated that they have used it across most types of

learning activity, nearly three-quarters of colleges with a VLE have made the most significant use of it as simply as a repository for course documents (BECTA, 2006). Whilst nearly all colleges have made some use of e-mail for staff-student communication its use is widespread in only 24% of colleges, and there is only some use of other electronic communications with learners (BECTA, 2006).

The commercial e-tutorial industry has seen an unprecedented decade of growth in America, influenced not only by not only the explosion of worldwide Internet access, but also driven by federal policy initiatives such as 'No Child Left Behind' (Flowers, 2007). However, a study completed in 2004 by the California Virtual College and Smarthinking, found that adoption and utilisation of e-tutorial services were lower than expected (Doherty and Atkinson, 2004, cited in Turrentine and MacDonald, 2006). One of the major factors was dependent upon the lack of both staff and institutional experience with the provision, which consequently had a negative impact on student uptake (ibid). Earlier in 1998, Williams-Glaser observed that both faculty and students indicate that, 'they do not have the time or desire to use any technology unless it results in a greater understanding of the course content'. To date, there is a lack of considered reflection within the education sector as to the impact of different methods of delivery on the student learning experience with a paucity of research around the adaptation and delivery of online materials and resources (Timmis et al, 2004). It has been highlighted that as a recent phenomenon, e-tutoring has not yet incorporated pedagogical principles (Bixler and Spotts, 2000, cited in Alonso et al, 2005). However, it has also been pointed out that the best practices of face-to-face tutoring in the Socratic tradition also apply to e-tutoring, even if some students may resist the 'guided discovery' learning process because of the interface (Turrentine and MacDonald, 2006). It has also been stressed that e-learning cannot continue without pedagogical techniques, and if possible, these should be aimed at personalised learning, whatever the instructional technology (Alonso et al, 2005). Evaluation efforts continue on the integration of technology to improve education. Heines (2000) followed Fitzelle and Trochim's (1996, cited in Heines) efforts into evaluating web site development and whether this enhanced student perceptions of learning. Whilst Fitzelle and Trochim's study utilised Likert-scale questions in a survey to measure student's perceptions, Heines' (2000) study aimed to attach statistical significance to results by additionally including assessment of actual student performance.

3.0 Methodology

3.1 Participants

The participants in the experimental group included the population of first-year students on the level 3 childcare course. The participants in the control group included the population of second-year students from the one of 2 tutor groups that had been taught by the researcher in their first year on the childcare course. The researcher taught both the experimental and control groups on the academic unit relevant to this enquiry. The researcher had also taught both groups on another unit of the course relating to professional practice, but was academic tutor to only the control group. The researcher continued to teach the control group on the professional practice unit in their second year on the course. Because the researcher no longer taught the control group on any of the academic units of the course, it was felt that ethically, she was not in a position to introduce the e-tutorial provision to them or to withhold it from them.

The total population of the experimental group was 18 students, 17 female and one male. During the timeframe relevant to the provision of e-tutorials, there was one more female student in the experimental group, but this student left the course before the questionnaires were distributed. The total population of the control group was 14 students, 13 female and one male. The majority of the students from both the experimental and control groups were of a white and middle class background with no learning difficulties. One student from the experimental group was Asian in ethnic origin. The mean age of students from both the experimental and control groups was 18 years.

3.2 Design

The overall approach adopted in this enquiry was 'mixed methods' quasi-experimental practitioner research. The first-year childcare students from the experimental group would have access to regular e-tutorial provison on Moodle on Monday evenings from 6 to 9 pm. These were similar to the unstructured assignment tutorials that took place on the foundation degree. Moodle's instant messaging facility enabled one-to-one online interactions between researcher (the e-tutor) and individual learners, and the assignment facility allowed individual learners to submit work for researcher to collect, review and provide feedback. 2 face-to-face practical sessions were delivered by the researcher to the students in the experimental group on how to use the instant messaging and assignment facility. Following these sessions and from the first week of January 2012, the students in the

experimental group could access regular e-tutorial sessions, which would include support for a 2-part assignment task. Data from the e-tutorial sessions was generated and recorded over a 5-week period; this included 2 additional weeks post-deadline for the second part of the assignment task in order to accommodate several students' requests for an extension. At the end of this 5-week period, the students in the experimental group were expected to have completed the assignment task.

The design of this enquiry was used to study patterns of student access to regular e-tutorial provision over the period of time relevant to this enquiry and the impact of this provision upon their academic achievement. At the same time, the design was also used to study the perceptions of students regarding the impact of regular e-tutorial provision on their learning experience. The achievement of those learners in the experimental group who accessed e-tutorial provision for assignment support was studied against the achievement of learners in the control group. The marks achieved on the 2-part assignment task by students in the experimental group who accessed the e-tutorials for assignment support during the period of time relevant to this enquiry, were compared to the marks achieved by students in the control group for the same assignment task which they completed in the previous year. The brief and criteria for this assignment task were identical for both experimental and control groups. The assignment task was also set under similar timescales and with similar deadlines for completion.

The research questions were answered using both quantitative and qualitative data. Quantitative data enabled numerical and comparative analysis. Qualitative data enabled key ideas to be drawn from the analysis of the text records of instant messages from the experimental group posted during e-tutorials and questionnaires answered by both groups.

3.3 Methods

A tally chart was used to observe and record the frequency at which individual students from the experimental group accessed e-tutorial sessions over the 5-week period of time relevant to this enquiry. Data was collated and analysed for any set themes/patterns. At the end of the 5 weeks, the text records of instant messages on Moodle from the students in the experimental group who had accessed e-tutorial sessions were qualitatively analysed for any set themes/patterns. This was in order to determine not only why the students had accessed the e-tutorial provision during the 5-week period relevant to this enquiry, but also which of them had accessed the

e-tutorial provision for assignment support. Individual student's interaction/activity within e-tutorials were categorised by function in accordance with the microgenetic analysis of the interaction/activity context.

Around the same timeframe, a pilot unstructured interview by one of the researcher's lecturers on PG Cert Learning and Skills who had no previous association with either group involved in this enquiry was conducted with a student who was randomly chosen from the experimental group sample which had accessed the e-tutorial provision for assignment support. Themes/patterns were drawn from this and qualitatively analysed. Following analysis, these themes/patterns were used to help formulate 2 different questionnaires for further qualitative and quantitative data collection from both experimental and control groups (Appendices 1 and 2). Responses from both sets of questionnaires were collated and analysed for set themes/patterns.

The researcher marked the experimental group's completed assignment task following the submission of its component parts. Following this period of marking, marks achieved by those students in the experimental group who accessed the e-tutorial provision for assignment support were then collated and compared with those achieved by students in the control group for the same assignment task in the previous year.

3.4 Ethical considerations

The Data Protection Act has informed confidentiality, accessibility and security of data. Relevant protocols of the British Psychological Society (2000) and the British Educational Research Association (2004) has informed ethics. Data was obtained through the use of Moodle's instant messaging facility and therefore, written permissions/consents were obtained from each of the participants who accessed Moodle for the use of this type of material. The participants' confidentiality was observed at all times, and their identities were not and shall not be disclosed to any parties. Data collected was not and will not also be disclosed to any parties, but will be submitted to the University of the West of England (UWE) for assessment purposes with participants remaining anonymous. The participants had the right to withdraw at any point. The purpose and organisation of the research project was explained to the participants in advance of their participation. The questionnaires were anonymous. The participants have access to the evidence and findings of the

research. The right to participants' debriefing is emphasised by ethical guidelines of the British Psychological Society (2000).

3.5 Reliability and validity

The results of the tally and the content of instant messages can be corroborated by text records on the college's Moodle platform. Following the 5-week period relevant to this enquiry, functional categories were derived in accordance with the microgenetic analysis of the interaction/activity context from the text records of students who had accessed the e-tutorial provision. The text records of 5 students from this sample were coded separately by a different researcher to establish interrater reliability. These text records were chosen on the basis of the diversity of student interaction/activity that they contained. The other researcher is a colleague of this researcher on the childcare course and also a student on the UWE Learning and Skills course. Percent agreement on the coding was 86%.

Through functional categorisation and coding, it was determined which students in the experimental group had accessed e-tutorials for assignment support. The relevant assignment task marks of the students from the experimental group who had accessed the e-tutorial provision for assignment support were compared with those achieved for the same assignment task by students of the control group in the previous year. Having 2 sets of marks from the experimental group to compare with that of the control group helped to ensure internal and external validity. The effect of the predicted grades of students in both experimental and control groups was also analysed.

The researcher marked all the assignment tasks of both groups for the academic unit relevant to this enquiry. A twenty percent sample of marked assignment tasks from both groups for the relevant academic unit had been internally verified within appropriate timescales to ensure that the researcher's assessments were appropriately conducted.

4.0 Analysis of results

4.1 Frequency of access

Results from the following tally chart indicate that 13 students representing 68% of the population of the experimental group accessed e-tutorial provision at least once during the 5-week period relevant to this enquiry.

Table 4.1a Frequency at which individual students in the experimental group accessed e-tutorial provision over the 5-week period

Student	w/c 2/1	w/c 9/1	w/c 16/1	w/c 23/1	w/c 30/1
1	-	-	-	-	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	√	√	-	√
5	-	√	-	-	-
6	-	√	√	-	√
7	-	√	-	-	√
8	-	√	-	-	-
9	-	-	-	-	-
10	-	-	√	-	-
11	-	-	-	-	-
12	-	-	√	-	-
13	-	√	-	-	-
14	-	√	-	-	-
15	-	√	√	-	√
16	-	√	√	-	-
17	-	-	-	-	-
18	-	√	√	-	√
19	-	-	√	-	-

It can be observed from Table 4.1a that the number of students who accessed the e-tutorial provision was highest in the week before the first assessment deadline. Access by students was next highest in the week of the first assessment deadline (highlighted in blue), followed by second (highlighted in lavender).

4.2 Functional categorisation and coding

13 students formed the sample that had accessed e-tutorial provision. The text records of each of these students' instant messages during e-tutorials were analysed in order to determine why the students had accessed the e-tutorial provision and to discern which of them accessed it for assignment support. 7 functional categories were derived in accordance with the microgenetic analysis of individual student's interaction/activity context during e-tutorials. The students accessed e-tutorial provision to:

1) **Request information (RI)** – To find out what needs to be included in their work in relation to the assignment brief.
2) **Check application of their knowledge and understanding (CAKU)** – To find out if they have included the appropriate information to meet the relevant assignment criteria. This may involve using an instant message and uploaded assignment, just a message or just an uploaded assignment.

3) **Clarify a concept (CC)** – To request clarification of a concept or an issue relevant to their assignment, in order to aid their understanding.

4) **Query deadlines (QD)** – To find out when particular assignment tasks are due or to state their intentions to submit an assignment task in relation to an impending deadline.

5) **Request for an extension (RE)** – To ask for an extension to the deadline for submission for either the whole or part of an assignment task.

6) **Test the e-tutorial provision (TEP)** – This involved sending an instant message to tutor test the facility.

7) **Share a concern (SC)** – To voice personal concern over their perceived academic performance on the course or a course-related problem.

These functional categories were applied to the coding of the 13 students' individual text records. Where more than one code is shown in a cell, 2 or more separate functions were found to have occurred within a student's interaction/activity during e-tutorial sessions.

Table 4.2a Frequency and type of interaction/activity of individual students in the experimental group who accessed e-tutorial provision over the 5-week period

Student	w/c 2/1	w/c 9/1	w/c 16/1	w/c 23/1	w/c 30/1
4	-	CAKU	CAKU	-	CAKU
5	-	TEP	-	-	-
6	-	CAKU	CAKU	-	CAKU; QD
7*	-	TEP	-	-	CC; RE
8	-	TEP	-	-	-
10	-	-	RI	-	-
12	-	-	TEP	-	-
13	-	TEP	-	-	-
14	-	TEP	-	-	-
15*	-	QD	CAKU	-	RE
16	-	TEP	SC; CAKU; RE	-	-
18*	-	TEP	CAKU	-	CAKU
19	-	-	CAKU; RI	-	-

Where a student's number appears as italicised and bold, this indicates that the student accessed e-tutorial provision for assignment support. Overall, 7 students or 37% of the experimental group accessed e-tutorial provision for assignment support. Where a student's number is followed by an asterisk, this indicates that the student continued to access the e-tutorial provision after the 5-week period relevant to this enquiry. Although one student, Student 17, did not access the e-tutorial provision during the 5-week period relevant to this enquiry, this student did access it thereafter. Therefore 57% of students from this sample continued to access e-tutorial provision.

Coding of text records for the function of student interaction/activity during tutorial sessions for this sample of students revealed the following results:

Table 4.2b *Percentage of student interaction/activity according to functional category for students who accessed e-tutorial provision for assignment support*
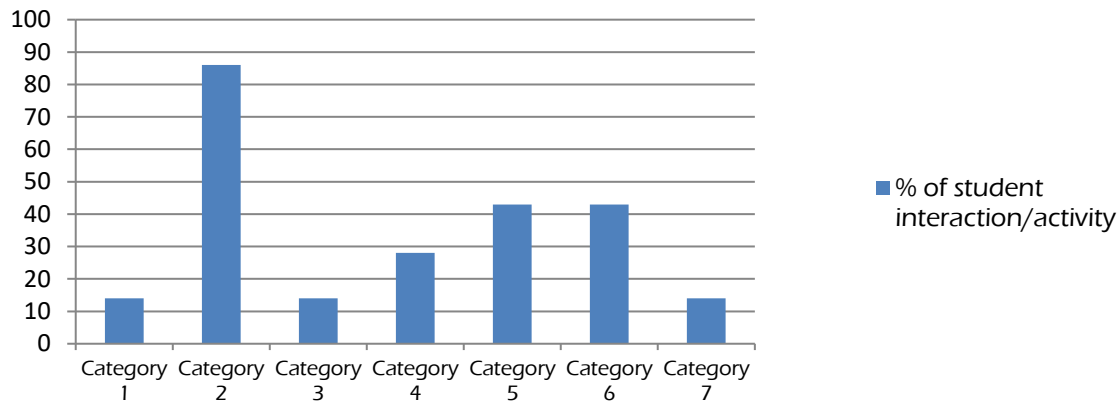
The most frequently occurring functional category for this sample of students was to 'check application of their knowledge and understanding'. This can be illustrated by the example of student 19 who stated, "yeah that makes sense, the child is in year 2 so will be moving on to key stage 2 in the next academix (sic) year, rather than extending to the next key stage should I give a few examples of what else they can do to develop on this level or should I mention the next subject that is after green plants?".

4.3 Student's perceptions of the impact of e-tutorial provision upon their knowledge and understanding and attitude/disposition as a learner

The pilot semi-structured interview by one of the researcher's lecturers on PG Cert Learning and Skills took place with Student 6. The themes that were derived from this interview focused on students' 'knowledge and understanding', 'dispositions/attitudes' and e-tutorials as 'different to emails'. This was because Student 6 had disclosed that she had accessed the e-tutorial provision because she felt that this helped her to improve her 'knowledge and understanding' to 'get on with the assignments better', and because it was not only 'different to e-mails' but 'better than using e-mails'. The themes helped to develop 2 different questionnaires that were distributed to both the experimental and control groups (Appendices 1 and 2).

4.3a Results of questionnaire for the experimental group

Of the total population of students, only one student stated that they did not access Moodle as part of their course. Reasons provided by the students for using Moodle include to access assignment briefs, powerpoint presentations and course notes, and 'to talk' to the researcher. Consistent with other evidence, 7 students indicated that they had accessed e-tutorials for assignment support. The reasons why other students did not access e-tutorials related to their not needing it, time restrictions, and ICT problems. Examples of related comments include:

"I have not needed it."

"I have not needed it yet but will in the future."

"I don't have time." and,

"My computer will not allow me and most of the time our internet does not work."

The majority of the population of students indicated that they were interested in being able to access an e-tutor at least once a week in the evening. Responses provided by the 7 students who accessed e-tutorials for assignment support indicate that they perceive that it benefits their knowledge and understanding and dispositions/attitudes as a learner. Examples of comments include:

"I understand what to do better now."

"It helps because you get the information sooner."

"It has impacted greatly on my knowledge and understanding as it has given me a wider range of information to access and use from home."

"I found it beneficial to talk to the teacher online and getting feedback on my assignment. This helps me to stay on track."

"Taught me to ask questions and ask for help." and,

"I'm more positive as more help is available".

Comments regarding the difference between accessing an e-tutor and contacting a tutor by email were very similar and may be represented by the following example:

"Online access means I can get a reply straight away rather than e-mail, may take time as the inbox may be full. I can also have a chat conversation on Moodle which is easy to communicate (sic)."

4.3b Results of questionnaire for the control group

Of the total population of students, only one student stated that they did not access Moodle as part of their course. Reasons provided by the students for using Moodle, include to access assignment briefs, powerpoint presentations and course notes. All students bar one stated that they would like to have access to an e-tutor for personal assignment support. The one student stated that it was because Moodle made their laptop 'crash', but that she would access an e-tutor if this provision was available on another 'website'. Regarding frequency of access to an online tutor, once a week in the evening was the most popular choice, followed equally by all the rest. Responses from the students regarding how they perceive that regular access to an e-tutor would impact upon their knowledge and understanding and attitude/disposition as a learner were all positive. Examples of comments include:

"You are able to ask more direct questions about work and get more of an answer which is relevant."

"It will help because if I were stuck on a part of an assignment that I was doing I could ask the tutor that evening, then get on with it instead of waiting until I was next in college to ask."

"It would make me more focused and motivated to complete my assignments."

"It would be helpful for students to study more."

"It will give me extra confidence with the work when I am working at home."

"More likely to finish an assignment if given support, less likely to become stressed about work if you know you can talk to your tutor."

"Having regular access would make me have a good attitude as it helps knowing I have extra support when I need it."

4.4 Comparison of assignment marks achieved for the 2-part assignment task

In order to facilitate comparison between the marks achieved for the different components of the assignment task relevant to this enquiry, numerical equivalents were assigned to the Pass, Merit and Distinction grades, at 2, 4 and 6, respectively. The 7 students who accessed e-tutorials for assignment support achieved a mean mark of 4 for the first component, and a mean mark of 2.8 for the second component of the assignment task. In comparison, the students in the control group achieved a mean mark of 2 for the first component, and a mean mark of 2 for the second component of the same task in the previous year. If we were to apply the rationale of

a 'split-half' analysis, it is worth noting that the rest of the students in the experimental group who did not access e-tutorials for assignment support achieved a mean mark of 3.3 for the first component and a mean mark of 2 for the second component of the assignment task.

BTEC numeric equivalents for grades on the 3-point scale were applied to the predicted grades for each student in both the experimental and control groups to calculate each group's mean predicted grade. The mean predicted grade of the students in the experimental group was 190.50 or 'Merit Merit Merit', and the mean predicted grade of students in the control group was 189.23 or 'Merit Merit Merit'. There was a difference of only 1.27 points between the predicted grades of both groups, providing a negligible effect on the marks achieved for the relevant assignment task by students who accessed e-tutorial provision for assignment support. The mean predicted grade of the sample of 7 students who did access the e-tutorial provision for assignment support was lower than that of both groups at 184.80, but still equivalent to 'Merit Merit Merit'. Although there was a difference of 2.4% and 3% in the predicted grades of this sample and that of the experimental and control group respectively, $p < .05$ and therefore this factor would not have a significant impact on the marks achieved by this sample for the relevant assignment task.

5.0 Discussion

The three main questions addressed here concerned the impact that the provision of regular e-tutorial sessions with students would have upon their learning experience. To answer these questions, a diversified approach – quantitative and qualitative – was needed and likely to shed light on the different aspects of student's learning experience. The results are discussed here in relation to these questions, using the different types of analyses for support.

> How have regular e-tutoring sessions impacted upon students' perception of their dispositions/attitudes to learning?

Schulman (2002) identifies a 6-stage learning process that involves: engagement and motivation, knowledge and understanding, performance and action, reflection and critique, judgement and design, and commitment and identity. Here, learning begins with student engagement, which then leads to knowledge and understanding. It is evident from the qualitative analysis of the students' responses from the questionnaires that they perceive that regular e-tutorials have benefited and would benefit their dispositions/attitudes to learning.

Comments from students in the experimental group who accessed e-tutorial provision such as, "I'm more positive as more help is available", indicate that it has engaged and motivated students towards learning. Comments from the students in the control group such as "It would make me more focused and motivated to complete my assignments.", "It will give me extra confidence with the work when I am working at home.", and, "Having regular access would make me have a good attitude as it helps knowing I have extra support when I need it." also highlight the importance of considering the effects of emotions upon learning. For example, students learn and perform more successfully when they feel secure, happy, and excited about the subject material (Boekarts, 1993; Oatly and Nundy, 1996). When considering the comment, "More likely to finish an assignment if given support, less likely to become stressed about work if you know you can talk to your tutor." we are reminded that emotions such as anger, anxiety and sadness have the potential to distract student's learning efforts by interfering with their ability to perform tasks. Students who are depressed or anxious about their learning often do not feel competent about their work (Cole, 1991). In such cases, e-tutorials may help reduce student's anxieties by providing opportunities for timely feedback to learners about their work. The one-to-one structure of the e-tutorial also facilitates the opportunity for the e-tutor to be able to personalise support. One learner did use the e-tutorial to 'share a concern' (see Table 4.2a).

In a traditional learning environment, attendance may be used as an indicator of learner engagement (for example, Brocato, 1989). Here, it is argued that this concept may be extended into the virtual learning environment (Douglas and Alemanne, 2007). The data from both Table 4.1a and 4.2a indicate that more students accessed the e-tutorial provision when an assignment deadline was imminent. This is pattern is similar to that in a study of a subject specific group whose findings indicated that students saw web-based resources as something to be used solely to support revision prior to end of course examination (Saunders and Klemmif, 2003). With this in mind, the students' preferred choice of frequency of access to an e-tutor, once a week in the evening, throughout their course, as indicated by the data from the questionnaires, would seem sufficient for their needs. Attendance data can also be interpreted to have implications insofar as the use of Moodle is concerned, as a web-based 'information repository' (BECTA, 2006). Not only can course-related presentations and documents be stored on and accessed from Moodle by the students, as indicated in questionnaire data, but also text records of instant messages, assignment/work submissions, as this enquiry has shown, as well as text records of forum and chat discussions, wikis and other course activities. Learners may therefore revisit these sources of information as frequently as they require, including for the purposes of revision. This has some relevance to the comment of a learner from the control group on how she

perceives that e-tutorial provision would potentially impact upon her study skills, "It would be helpful for students to study more." This system may also be exploited for the purposes of 'catching-up' when a student has fallen behind (which may be due to reasons of 'physical' non-attendance).

The sample of students from the experimental group who accessed the e-tutorial provision for assignment support constituted 37% of the population of the experimental group. The Open University stresses that it is usual to expect that only a third of students will participate in discussions and activities, especially if these are unrelated to assignments (cited in Epic, 2011). Comments from students who did not access the provision were mostly that they did not have the time to so or that they had not yet needed to access it yet, and also because of technical reasons due to problems with accessing Moodle and/or the Internet (one student). This indicates that online alternatives should not replace, but complement face-to-face interaction. This is a view echoed frequently in the literature by students (for example, Jeffrey, et al, 2006), but also by the majority of academic staff (Butler and Sellbom, 2002). It has also been highlighted that whilst e-tutorials can be a highly effective medium of learning for the student, it may be an inappropriate learning environment for more dependent learners. Whilst giving students greater control over their learning experience, the flexibility of study schedules does place greater responsibility on the student (University of Illinois, 2010).

> *How have regular e-tutoring sessions impacted upon students' perception of their knowledge and understanding?*

It is evident from analysis of the students' responses from the questionnaires that they perceive that regular e-tutorials have benefited and would benefit their knowledge and understanding. It is also evident that from analysis of the text records of students who used the e-tutorial provision for assignment support did so primarily in relation to 'check application of their knowledge and understanding'. Although Schulman (2002) indicates that knowledge and understanding should follow on from student engagement, it is also important to remember that working in the online environment is still new for both e-tutor and students and therefore students may need an overview of the platform, e.g. Moodle, and the tool e.g. the instant messaging and assignment facility, itself before they can effectively participate in e-tutorials (Turrentine and MacDonald, 2006). Further, if e-tutors are not properly trained in online delivery and methodologies, the success of the e-tutorial provision may be compromised (University of Illinois, 2010). It has been pointed out that the best practices of face-to-face tutoring in the Socratic tradition also apply to e-tutoring, even if some students may resist the 'guided discovery' learning process because of the interface

(ibid). This was found to be the case when e-mails have been used for communication between e-tutor and e-tutee (Turrentine and MacDonald, 2006). However, because Moodle's instant messaging facility is synchronous it should encourage 'chat' and therefore circumvent this. Feedback, therefore, becomes even more important as part of the e-tutorial process. Learner responses indicate this, "I found it beneficial to talk to the teacher online and getting feedback on my assignment. This helps me to stay on track." and, "Taught me to ask questions and ask for help." "Online access means I can get a reply straight away rather than e-mail, may take time as the inbox may be full. I can also have a chat conversation on Moodle which is easy to communicate (sic)." The last response also highlights that it is important for the learner to be able to give feedback to the tutor as well (Ehlers, 2004). This may be facilitated via the instant messaging facility, which is similar to eponymous tools on popular social networking sites which are widely used by digital natives. This can also be linked to the views of popular learning style theorists (for example, Kolb, 1984 and Honey and Mumford, 2000) who suggest that learners have developed individual learning style preferences and learn best in the environment that meets the needs of their preferred style.

What impact have regular e-tutoring sessions had upon the achievement level of students?

Heines (2000) has noted that favourable student reaction to instructional technology (in Heines' case, a course Web site) is not evidence that they actually learn better because of it. Heines cautions that it is 'impossible to prove conclusively' that students learn better because of any application of technology due to large numbers of uncontrolled variables in such studies, whilst also citing extraneous conditions such as the Hawthorne or novelty effect as well as Experimental Bias. This has been noted by this researcher. Further, as also highlighted in Heines' study, ethics rules out that a cohort should be split in half so that one half receives the benefit of a provision that most believe will enhance their learning, whilst the other half is deprived the benefit of that approach so as to serve the purpose of being a control group. Therefore, this enquiry has used an existing situation where first- and second-year cohorts exist on the same course, which have been taught by the same teacher, on the same units. Although this situation may be flawed from a purely statistical point of view, as Ehrmann (1995, cited in Heines, 2000) suggests, there is still much that can be learned to improve teaching or learning in the local environment.

E-tutorials have had a beneficial effect upon the achievement level of students. The evidence shows that the 7 students who formed the sample of students from the experimental group who accessed e-tutorial provision for assignment support achieved higher marks on a 2-part assignment task in comparison to the marks achieved for the same assignment by the

students in the control group and also the other students from the experimental group who did not access e-tutorial provision for assignment support. The mean predicted grade for this sample of 7 students was slightly numerically lower than that of the control group and even that of the other of the students from the experimental group who did not access e-tutorial provision for assignment support. Because p<.05, the groups' predicted grades were not considered to have an effect on their achievement levels. It is for this reason that a T-Test or an Analysis of Variance to assess whether the means of the groups were statistically different from each other was not performed. It is worth noting however, that in Heines' (2000) study, the probability of success was further analysed, focusing on the performance of the lower half of the class. The rationale here was that 'good students would learn regardless of the instructional techniques employed' (Heines, ibid). This has given this researcher insight for further study. In addition, whilst Heines' study analysed achievement data from students collected over 5 years, this enquiry has been limited to analysing assignment marks received after a 5-week period of e-tutorials.

The enquiry was conducted with childcare students and the results may not be generalisable to other vocational or academic groups of students. Furthermore, the sample selection limited the power to control other factors that may have affected the results, given that groups were selected without any random pre-selection process. The means for achievement were not statistically analysed.

E-tutorials are a new learning tool and further research is needed to explore the reality for students and to ensure that the quality of the learning experience is being maintained. Future research should make use of different subject cohorts to address the issue of generalisability. Research must take place over a longer period of time and achievement effects must be analysed across the whole of a course rather than within selected assignments on single units.

6.0 Summary/Conclusion

The composition of the student body has altered dramatically since in the last 20 years with the advent of new technologies and the birth of the 'digital native'. This together with trends in globalisation and student retention and achievement requirements, have encouraged tutors and lecturers to discover other ways of supporting learners outside the traditional classroom. The situation today is not only characterised by the importance of knowledge and information, but the acquisition and application of it as well as the ability to generate, process and communicate knowledge and information using technological tools (Castells, 1996). Technology offers the promise of extending the role of tutors and lecturers

as well as improving both the learning experience and outcomes of students. However more work needs to be done on how this might be accomplished. The learning orientation of students has changed. This enquiry shows that some students have welcomed technology into their learning experience with perceived benefits to their learning experience and cautiously positive outcomes based upon their achievements on assignment tasks. Whilst the researcher is encouraged by this, she notes that her other students have yet to take up e-tutorial provision. This hints at the need to design learning experiences that more closely meets the diverse needs and preferences of students, moving away from a one-size fits all approach. The quality of a learning process is not something that is delivered to a learner by a tutor, but rather involves a process of co-production between the learner and the learning environment. Implicit in this is the notion that teaching methods need to change to incorporate the traditional as well as the 'e' in order to support the way that a new breed of student prefers to develop their knowledge and understanding and disposition/attitude to learning.

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Appendix 1 – Questionnaire for students in the experimental group

If you are reading this, thank you for your time in completing this questionnaire. Your participation is purely voluntary and your identity will remain completely anonymous. You have the right to withdraw at any time. All responses from this questionnaire will be shared with staff from the University of the West of England, who are tutors and markers on my Lifelong Learning and Skills course, for the purposes of marking.

You have recently had the opportunity to access me as an online or e-tutor over Moodle on a Monday evening 6-9pm, providing you with personal tutoring for assignments on the units that I teach. This was part of a small-scale research enquiry that examines the effects of this initiative.

Could you please answer the following questions in relation to my research:

1) Do you access Moodle as part of your course?   Yes   No

2) What do you access Moodle for?   _____

   _____

   _____

3) Did you access the online tutor (e-tutor) on Moodle for personal assignment support?

                                        Yes[1]   No[2]

   1 – If you answered 'Yes' please answer questions 4, 5, 6 and 8.
   2 – If you answered 'No' please answer question 7 and 8.

4) Please state how you think having regular access to an online tutor (e-tutor) for personal assignment support has impacted upon your attitude/disposition, as a learner.

   _____

   _____

   _____

   _____

5) Following on from Question 4, please state how you think having regular access to an online tutor (e-tutor) for personal assignment support has impacted upon your knowledge and understanding.

   _____

   _____

   _____

   _____

6) Please indicate how you think accessing an online tutor (e-tutor) compares to contacting a tutor by e-mail.

_____

_____

_____

_____

7) Please indicate why you did not access the online tutor (e-tutor) for personal assignment support.

_____

_____

_____

_____

8) Would you be interested in being able to access an online tutor (e-tutor)? If so, please indicate how regularly you would like to have access to an online tutor (e-tutor)

_____ Once a week in the evening

_____ Twice a week in the evening

_____ All weekdays in the evening

_____ All day to coincide with my college study day

If you are reading this, thank you for your time in completing this questionnaire. Your participation is purely voluntary and your identity will remain completely anonymous. You have the right to withdraw at any time. All responses from this questionnaire will be shared with staff from the University of the West of England, who are tutors and markers on my Lifelong Learning and Skills course, for the purposes of marking.

I am currently conducting a small-scale research enquiry that examines the effects that providing once-weekly tutoring sessions on Moodle has upon the learners of a CCLD L3 class. The students have been able to regularly access personal tutoring for assignments on the units that I teach, on a Monday evening from 6 to 9 p.m.

Could you please answer the following questions in relation to my research:

1) Do you access Moodle as part of your course?   Yes   No

2) What do you access Moodle for?   _____

_____

_____

3) Would you like to have regular access to an online tutor (e-tutor) for personal assignment support?

                                                Yes[1]   No[2]

   1 – If you answered 'Yes' please answer questions 4, 5 and 6.
   2 – If you answered 'No' please answer question 7.

4) Please state how you think having regular access to an online tutor (e-tutor) for personal assignment support would impact upon your attitude/disposition, as a learner.

_____

_____

_____

_____

5) Following on from Question 4, please state how you think having regular access to an online tutor (e-tutor) for personal assignment support would impact upon your knowledge and understanding.

_____

_____

_____

_____

6) Please indicate how regularly you would like to have access to an online tutor (e-tutor)

_____ Once a week in the evening

_____ Twice a week in the evening

_____ All weekdays in the evening

_____ All day to coincide with my college study day

7) Please indicate why you would not like to have regular access to an online tutor (e-tutor) for personal assignment support.

_____

_____

_____

_____