

***This is the Author's Accepted Manuscript version of a paper published in WORLD JOURNAL ON EDUCATIONAL TECHNOLOGY by the Academic World Education and Research Center in April 2014. The final publication is available online at: <http://www.world-education-center.org/index.php/wjet/article/view/3119>.***

***Citation: Ade-Ojo, G. (2014). Evaluation of an E-peer Tutorial Model for Mature Trainee Teachers. World Journal On Educational Technology, 6(1). Available online at: <http://www.world-education-center.org/index.php/wjet/article/view/3119>.***

## Evaluation of an E-peer tutorial model for mature trainee teachers\*

By

Gordon O. Ade-Ojo\*\*

University of Greenwich, UK

\*The original project was funded by the Higher Education Academy, UK.

\*\*Gordon is also a research fellow of the University of South Africa (UNISA)

### Abstract

This paper reports the disposition of a group of trainee -teachers in a university towards the provision of tutorial support through the use of an E-peer-tutoring model. Two participant cohorts were involved in the study. In the first cohort, mature second-year students on a PGCE programme initially participated as tutors to first-year students through a MOODLE platform but subsequently functioned in both roles as the need arose. With the second cohort, similar students in the same year group participated interchangeably as tutors and students. Using a mixed method approach, the study explored the effectiveness of this approach from the viewpoint of students. It explored participants' dispositions towards the use of both the electronic platform and the peer tutoring model and the rationales driving those dispositions.

Data were collected through a combination of the analysis of participants' logs, semi-structured interviews and focus groups. The data thus collected were subjected to a mixture of quantitative and qualitative analysis with the former focused on distributional patterns and the latter on participants' views and preferences. The study found that while participants found the model to be useful, there are a number of problems with its use. In particular, the elements of voluntary commitment to the model by students and the limitations to the knowledge of students acting in the role of tutors were found to be a key stumbling block. Based on this, the study argues for two things. First, assumptions about innovative ideas need to be explored further in the context of learners' disposition towards such ideas before they are introduced wholesale. Second, and with specific reference to this study, it is suggested that a mandatory model of the approach, which eliminates the element of voluntary participation, might need to be considered, if the approach is to fulfil its potential.

## Introduction

Studies on the use of Peer-Tutoring (PT) as a vehicle for tutorials through the electronic media provided overwhelming evidence of its usefulness (Dewey and Cannon, 2006, Van Rosmalen, Sloep, Brouns, Kester, Berlanga, Bitter and Koper, 2008, Westera, De Bakker and Wagemans, 2009, Herring-Harrison, Gardner III and Lovelace, 2007), with many focusing on specific learner and support issue types. Some of the more dominant foci include alleviating teachers' workload and using the approach as a source of additional resource (Dewey and Cannon, 2006, Westera, De Bakker and Wagemans, 2009, Van Rosmalen, Sloep, Brouns, Kester, Berlanga, Bitter and Koper, 2008b), its contribution to the nature of knowledge construction (Hsiao, Brouns, Kester and Sloep, 2013), structure and characteristic of a good tutoring programme and tutor respectively (Van Rosmalen, Sloep, Brouns, Kester, Berlanga, Bitter and Koper, 2008c, instrument of societal support (Hsiao, Brouns, Kester and Sloep, 2009) and supporting learners with disabilities (Mayheady, Mallette and Harper, 2006, Herring-Harrison, Gardner III and Lovelace, 2007). In addition to providing evidence of the usefulness of the approach, these studies also highlight the importance of learners' role in this success. In spite of this acknowledgement, however, there has been little exploration of learners' attitudes towards the approach.

The present study is designed to explore the disposition towards the use of the approach amongst a specific group of learners, trainee teachers in the Lifelong Learning Sector (LLS). By mapping out learners' disposition towards the approach, we would be able to make broader statements about adopting the approach with a particular group of learners and in addition, to highlight the potential limitations that learners' dispositions might reveal.

Developing from the above goal, this study aims to answer three central research questions. First, what are the dispositions of trainee teachers towards the use of an electronic platform in tutoring and what factors are their rationales for these dispositions? Second, what are the dispositions of trainee teachers towards PT and what are the rationales for these dispositions? Third, what are the dispositions of trainee teachers towards adopting either a voluntary or mandatory use of an E-PT model and why? By answering these questions, this study would be able to inform decisions about the adoption of this approach by teacher educators.

### **The concept of PT**

It is important that we define the bounds of what counts as PT which informed this paper. This is important because issues such as duration, frequency and role have differed significantly in the various understandings of tutoring as presented in the literature. As a result, there have been differences of opinions as to what qualifies as PT. This difference, I argue, is significant for the range of emergent views on the effectiveness of using a PT model.

The literature on the conceptualisation of PT can be broadly using the twin criteria of who benefits and what is delivered. With the former, there are two competing structures with one focusing mainly on tutees as beneficiaries and the other focusing on both tutees and tutors as beneficiaries. Typifying this perception of PT are studies by Gooldad and Hirst (1989) and Topping and Ehly (1998a) and Fuchs et al (1997). These studies are hinged on a perception of PT as occurring with pairings that involve a higher achieving student tutoring a low achieving peer. This suggests that PT is invariably focused on academic outputs of the low achieving learners and that the main beneficiaries are learners who operate in the tutee role. More importantly, studies that focus on the tutees as beneficiaries and, therefore, prioritise academic development would seem to have drawn from a traditional cognitive development-based conceptualisation of PT (Slavin, 1996, O'Donnell and King, 1999 and Maheady and Gard, 2010).

Another construct of PT is based on the concept of collaborative learning strategy (Fantuzzo et al, 1992) and encourages learners to alternate between the role of tutor and tutee. This perception acknowledges that both tutors and tutees can benefit from using the PT model and the understanding that what is benefitted can vary between the social and the academic. This perception of PT, it can be argued, is more aligned to the social learning theoretical framework of motivation and cohesion (slavin, 1996). Such a construct will inevitably identify benefits that are built around individual and group incentives which encourage learners to support one

another (Maheady and Gard, 2010 and Rittschof and Griffin, 2001) with social cohesion being achieved through the individual learner's recognition of their own accountability and duty of care for the group's and the individual's progress in learning (Rittschof and Griffin, 2001).

The conceptualisation of who benefits is directly linked to the second criterion for defining PT as identified above- what should PT deliver- academic or social development? Topping and Ehly, (1998b), Ryan et. al. (2004) and Okilwa and Shelby (2010) eminently illustrate the perception that a conceptualisation of the beneficiary of PT that focuses on lower achieving learners as sole beneficiaries will inevitably highlight academic development as its main goal.. In contrast, the alternative perception of PT as being beneficial to both tutors and tutees will inevitably admit both academic and social development as possible outcomes of using the model. Such a perception of PT as being of reciprocal value to both tutee and tutor is highlighted in studies by Rittschof and Griffin, (2001) and Maheaddy and Gard (2010).

In the context of the context of the present study, the relevance of the different conceptualisations of PT is aligned to the research goal- could we make bold statements about the disposition of both tutors and tutees involved in using this model? This is a central question that the present study aims to answer. Drawing from the ongoing therefore, the study will cover views and perceptions held by all parties related to the learning settings in which PT is used. A direct impact of this stance on the structure of this research project is the conscious alternation of roles amongst the participants such that each member can alternate between the role of tutor and tutee.

### **The present study**

This study was designed to evaluate the effectiveness of a PT model with two cohorts of trainee teachers in the LLS, which refers to learning settings that cater for learners who are beyond the official compulsory schooling age and covers a wide range of learning setting which includes mainstream further education colleges in the UK, adult and community education centres, voluntary organisations that provide training and other forms of learning provisions which might be work place based.

The first cohort was a group of twenty first year and twenty second year trainees on a two-year part-time LLS teacher training programme. The initial view was that the former would naturally act as tutees and the latter as tutors. It is important to note here that this original conception was altered as the study developed such that the roles were alternated as needs arose with no specific role boundaries imposed. The second cohort was a group of twenty LLS trainee teachers on a full time one year programme who had the freedom to alternate roles.

An electronic platform built on the university portal, which is used as the repository for their resources was used as the platform for the interaction amongst participants. The platform was structured such that all participants had access to dialogues and discussions at any time. To ensure that participants were able to protect any piece of information they did not wish to divulge to the larger group, a hide function was built into the e-platform. A real-time dialogue instrument was provided through which a discussion link can be initiated.

All participants were given an induction including training in the use of the platform, the role of tutors and the essential skills for tutoring. This enabled the project to cater for the established ingredients of effective PT including tutor training and preparation, opportunity to practice tutoring skills and a structured learning format amongst others (Enright and Axelrod, 1995 and Van Keer, 2004). In addition, resources were made available on the portal which all the participants can access as and when required. Following the induction, participants were encouraged to choose tutors and tutees as necessary and to use a specially designed diary to log their views on the use of the model on a weekly basis. Together with the use of a questionnaire and selective interviews, this formed the basis for collating data on views and perceptions of participants.

### **Research methods**

The study employed a mixed method approach which is particularly reflected in the analysis of data. The preference for a mixed method approach to this study was in a way inevitable, as it was informed by the goals of the study. As illustrated in Odom, Zercher, Marquart, Sandall and Brown (2006), studies of a complex nature

such as the present one, and which have sophisticated goals inevitably attract a mixed method approach. The choice of a mixed method approach is often due to the realization that no single method would reveal the entirety of the findings desired in a study. In the context of this study, the research goals were a combination of seeking distributional patterns and searching for in-depth perceptions and views from participants. The sophistication of this combination of goals necessitated the use of a mixed method approach. More importantly, the sophistication of the research question in this study dictates that there would be different stages to the research both in terms of implementation and analysis. The choice of a mixed method approach, therefore, is informed by the desire 'to take advantage of the unique strengths of each methodological approach when engaged in different stages of the research process' (Check and Schutt, 2012:239 and Tashkkori and Teddlie, 2010).

A quantitative analysis of data collected through questionnaires was carried out using the SPSS statistical toolkit in order to map out the distributional pattern of views and perceptions. Findings emerging from this stage of analysis were subjected to further investigation through a semi-structured interview and a textual analysis of participants' logs. The combination of both approaches thus provided a richer source of information and fuller details about the issues under investigation. In essence, the study, therefore, is designed along the lines of the sequential intermethod approach described in Johnson and Turner (2003) and Check and Schutt, 2012:243). Using the log enabled perceptions to be recorded in real-time and to reflect participants' instinctive views and feelings about the use of an E-peer tutorial model in the course of their study. The findings from a simple textual analysis of the logs then informed the nature of the next element of the sequence, a questionnaire.

Data collected from the questionnaires were subjected to an intramethod mixing (Check and Schutt, 2012), which involved both quantitative and qualitative analysis. The focus of the quantitative analysis was mainly to track the distributional pattern of views through the use of the descriptive statistics tool of SPSS. Further emerging information from the questionnaires were subjected to a simple semantic analysis of texts which enabled the generation of themes that were aligned to the research questions. The final element of the sequence was essentially iterative in nature with the goal of seeking further clarification on findings from both logs and questionnaires. This was done through the use of semi-structured interviews, which not only enabled the researcher to seek out nuanced views, but also empowered the participants to present new and additional strands of their thoughts.

Decision on sampling was guided by the funding condition. The cohorts were all students in the university where the researcher is based and the focus of the funding was to identify their attitude towards the use of PT. There was an immediate advantage to the use of this sample as the issues of access to research site, the ability of the site to provide relevant information and the adequacy of the site for collecting information (Check and Schutt, 2012) were immediately accounted for. Nonetheless, the issue of representativeness was also an important factor. The cohorts used in this study were considered representative as they had representations of most features of adult learners studying on a teacher-education programme. Such features included maturity, gender representation, subject of study and experience.

### **Findings and Discussions**

The findings in this study are structured in a form that directly reflects the research questions. The findings from the initial data collection tool, a questionnaire, was analysed and the content coded and presented along the lines of the research questions. Subsequent data, qualitative data collected from the analysis of participants' logs and interviews were then integrated into the existing research questions driven structure. This enhanced the presentation of a holistic picture of the findings.

Before presenting the findings in respect of each research question, it is important that the distinctive demographic features of the participants are recorded and acknowledged, as these might be significant in terms of correlation. As such, the distributional patterns of four key demographic features are presented below.

**Table 1 Showing participants' roles in the project**

	Frequency	Percent	Valid Percent	Cumulative Percent
group 1 tutor	18	28.1	28.1	28.1
group 1 student	18	28.1	28.1	56.3
group 2 tutor and student	24	37.5	37.5	93.8
Mainstream tutor	4	6.3	6.3	100.0
Total	64	100.0	100.0	

The pattern of roles undertaken by the participants is presented above.. The goal was to see if the role undertaken by participants might be significant in terms of their attitudes. A similar stance is taken in respect of the patterns presented in tables 2, 3 and 4 below which show the gender, teaching experience and study discipline distributional patterns respectively. The distributional pattern presented in table 1 above indicates that 28.1% of participants operated in the role of tutor with the same percentage for tutees. As findings are analysed, a key focus was to see if the particular roles these participants were located in had any significance for their responses, attitudes and perceptions.

**Table 2 showing participants' experience**

	Frequency	Percent	Valid Percent	Cumulative Percent
With previous experience of teaching	15	23.4	25.0	25.0
No previous experience of teaching	45	70.3	75.0	100.0
Total	60	93.8	100.0	
System	4	6.3		
Total	64	100.0		

Table 2 shows that the vast majority of participants, 79.3% had no experience of working as teachers. This is not surprising as the programme on which they were studying was an initial teacher training programme. As such, it is only normal to expect that trainees would have very little experience of working as teachers. Nonetheless, potential significance of teaching experience will be explored when necessary.

**Table 3 showing gender distribution**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	22	34.4	34.4	34.4
Valid female	42	65.6	65.6	100.0
Total	64	100.0	100.0	

Table 3 shows that more participants, 65.6% are female. While this might immediately raise questions about the representativeness of the sample in this study, previous studies have provided evidence that the field of study of the participants, -Lifelong teacher education- is female dominated (See Ade-Ojo, 2008). The dominance of female participants in this study, therefore, merely conforms with the established pattern in the sector

**Research question 1: what are the dispositions of trainee teachers towards the use of an electronic platform in tutoring and what factors are the rationales for these dispositions?**

Participants were required to present their views on the usefulness and effectiveness of engaging with PT through the use of an electronic platform. Two particular questions were focused on eliciting answers to this research question. The first sought participants' disposition towards the use of the electronic platform while the second sought reasons for the preferences expressed in respect of the former question. The tables below present participants' responses to these questions.

**Table 4 Participants' views on the use of E-platforms for tutorial**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Useful	33	51.6	51.6	51.6
Valid Not useful	5	7.8	7.8	59.4
Valid Extremely useful	23	35.9	35.9	95.3
Valid Extremely un-useful	3	4.7	4.7	100.0
Total	64	100.0	100.0	

Participants were given four options; useful, not useful, extremely useful and extremely un-useful. As indicated in table 4 above, 87.5% found the E platform either useful or extremely useful. This suggests that the vast majority of participants were comfortable with using the platform in receiving and delivering tutorial. While this figure appears impressive, it is important to note that 12.5% of participants found the platform either un-useful or extremely un-useful. In the context of the fact that this might translate into a huge number of learners, this constituted an issue for further exploration both within the quantitative framework of the questionnaire findings and the qualitative framework of the logs and interviews.

In respect of the former, tables 5 and 6 below give an indication of the rationales for positive and negative dispositions respectively.

**Table 5 Rationales for a positive disposition towards e-platform**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accessibility	10	15.6	16.7	16.7
	Convenience	13	20.3	21.7	38.3
	Enjoyable	10	15.6	16.7	55.0
	Combination of academic and social	10	15.6	16.7	71.7
	Options available	9	14.1	15.0	86.7
	not relevant as not seen as useful	8	12.5	13.3	100.0
	Total	60	93.8	100.0	
Missing	System	4	6.3		
Total		64	100.0		

**Table 6 Reasons for negative disposition towards E- platform**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not real learning	3	4.7	5.0	5.0
	Technical	3	4.7	5.0	10.0
	Not the same as human	2	3.1	3.3	13.3
	Not relevant as found useful	52	81.3	86.7	100.0
	Total	60	93.8	100.0	
Missing	System	4	6.3		
Total		64	100.0		

As indicated in table 5 above, 86.7% of student participants were favourably disposed to the use of an E-platform for PT. These participants gave a range of reasons including the flexible option it offers and the element of convenience that comes with it. As shown in table 6, the 13.3% of participants who were not



favourably disposed towards its use anchored their reasons around the technicality involved, and the fact that it lacks the direct human touch and does not, therefore, represent a real learning experience for them.

### **Qualitative data**

In respect of participants' disposition towards the use of an E-platform, the logs corroborated the findings from the analysis of questionnaires presented above. Many of the entries in the log were specific about how happy participants were with the use of the platform. Some of the entries which confirmed this view include; 'It is all fun, isn't it? Just log in and you can have a chat with your colleagues' (Participant 19, cohort 1). Another entry which reflects the positivity of participants' views noted; 'Better than going to a tutor for 10 minutes (Cohort 1, participant 36) Another entry noted; 'You know these guys have time for you'(Cohort 2, participant 12). A final significant comment noted; 'Lets you know that others have similar problems to what you have ..... You are not alone' (Cohort 2, participant 8)

These themes emerged from the interviews. Two strong metaphors that emerged from the interview were 'you are not alone' and 'it is all fun' (Participant 6 cohort 1 and participant 40, cohort 2 respectively). One participant noted; I like it a lot because it can be done in a lighter mood. Can you crack jokes with your tutors? No!!!!!!'(Participant 15. Cohort 2). In addition, participants recognised three themes which also emphasised some of the findings from the analysis of questionnaires. Accessibility, 'you can contact your tutor anytime' (participant 18, cohort 1), convenience; 'grab an iPad or your phone and a tutorial is sure to follow' (participant 28, cohort 2), and flexibility of tutorial focus that an e-platform can provide 'Not just academic discussions, other interesting topics for discussion apart from academics' (participant 60, cohort 2). Drawing from the on-going, it is obvious that the sentiments expressed by participants are common to all the data sources.

Only 12.5% of participants had a negative disposition to the use of an E-platform. Entries in the log which explains the reason for this disposition suggest that a combination of envisaged problems with the technicality of using an E-platform, as well as the difference from the expected norm of tutoring which will normally involve human beings (tutors and tutees) in a face to face situation were largely responsible for this negative disposition. One entry in the logs corroborates this view noting that; 'another password to remember and just clicking and dragging' (Participant 16, cohort 1). For the latter, a typical comment was 'tutorials are supposed to be given by tutors who can see you and understand your emotional situation. Computers are not tutors, are they?' Other relevant comments include; 'it is one thing to talk about your problem and it is another to type it. They are just not the same..... at least for me' (participant 42, cohort 2). Another noted; 'it is all like some form of kid play. Click here and there, type in comments and you have no idea what the commitment of the contributors might be towards your success' (Participant 1, cohort 1).

### **Discussion**

Findings presented above confirm that many participants were positively disposed towards the use of an E-platform for tutoring. While this immediately recommends the use of the model, there is the need for some caution. A key question in this context, therefore, must centre on the interactional dynamic at play in the context of E-interaction. The nature of the explanations offered by participants who had a positive disposition to the use of an E-platform suggests that there is the possibility that participants who are comfortable with technology might be more disposed towards experimentation. In recognition of this possibility in a previous but related study, Taylor (2003) noted that 'students who have more experience using technology or feel confident about learning new technology usually prefer to learn by 'playing around' with new tools with little interference from an instructor' (Dewey and Cannon, 2006:17). A crucial question is; are learners involved in the use of this platform actually learning or are they just 'playing around'? Given that the focus of this study is on adults who are notoriously slow in taking up new technologies when compared with young people, it is important that assumptions are not made wholesale in terms of the real value of an E-platform.

In spite of the possibility of making assumptions with regard to engagement with an E-platform, it is viable to explore the possibility that a potential reason for this engagement is because it offers the opportunity to eliminate communication apprehension (Frey and sunwolf 2004) which is sometimes defined as 'an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons (McCroskey, 1977:78). Adult learners, who are at the heart of this study, are often classified as sometimes lacking confidence and presenting a very high level of anxiety (Topham and Russell, 2012). It is, therefore, not improbable that some of the participants in this study might simply see the e-platform as an instrument for dealing with their social anxiety and for eliminating their communication apprehension. The key message here is that we need to take this finding with a measure of caution and not simply adopt it without further focused investigation.

Because of the potential influence that affinity to technology might have on this finding, it was decided to carry out a correlational analysis using the cross tabulation tool of SPSS.

**Table 7 Crosstabulation of E- platform and \* Disciplines**

Count		Disciplines					Total
		sciences	social sciences	Engineering technology	Humanities	Vocational	
View on e- platform	Useful	6	9	7	5	6	33
	Not useful	0	0	0	5	0	5
	Extremely useful	8	0	14	1	0	23
	Extremely un- useful	0	0	0	3	0	3
	Total	14	9	21	14	6	64

The focus of this analysis was to use disciplines as the independent variable in analysing the disposition of participants towards the use of an E-platform..

**Table 8 Chi-Square Tests on E-platform and disciplines**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	53.528 <sup>a</sup>	12	.000
Likelihood Ratio	53.681	12	.000
Linear-by-Linear Association	.297	1	.585
N of Valid Cases	64		

a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .28.

As indicated in table 8, it would seem that discipline might indeed be a significant factor in the pattern of disposition towards the use of E-platform. All participants who belong to the disciplines of sciences and engineering/technology considered e platform either useful or extremely useful. In contrast, only 5 out of 14 participants who belong to the humanities discipline found it useful with others in this discipline finding it either un-useful or extremely un-useful. This suggests that it is important that the issue of differentiation, which has been identified as crucial in the use of technology in tutoring (Dewey and Cannon, 2006) might be significant here. The significance of discipline in the participants' disposition towards the use of an E-platform is further accentuated through the Chi-Square tests analysis. As indicated in table 8 below, the correlation between

disciplines and views on E-platform is significant with the likelihood ratio figure showing a 2- sided significance figure of .000 and a Pearson Chi-square significance figure of .000. (N= .000)

**Research question 2: What are the dispositions of trainee teachers towards peer- tutoring and what factors are responsible for these dispositions?**

Participants were required to present their disposition towards engaging with PT as a model of learning. In addition, they were also requested to offer reasons for their dispositions. The tables below present participants' responses to these questions in a quantitative form.

**Table 9 Participants' dispositions towards Peer- tutoring**

	Frequency	Percent	Valid Percent	Cumulative Percent
	useful	26	40.6	43.3
	not useful	4	6.3	50.0
Valid	extremely useful	25	39.1	91.7
	not sure	5	7.8	100.0
	Total	60	93.8	100.0
Missing	System	4	6.3	
Total		64	100.0	

Participants were given four options; useful, not useful, extremely useful and not sure. Table 9 above shows that 80% of participants considered PT as either useful or extremely useful. This suggests that the vast majority of participants were positively disposed towards the use of PT in their learning. 6.3% considered the approach as not useful while 7.8 were not sure of their disposition towards it. Given the multiplier effect of these figures in the larger context of learners overall, it is important to explore the drivers behind these dispositions. While responses to the questionnaire provide some insight into this, these issues were further explored through participants' logs and interview data. Tables 10 and 11 below give an indication of the range of reasons why participants hold the two central dispositions to PT as reflected in table 9 above.

**Table 10 Reasons for holding a positive disposition towards PT**

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Stops loneliness	12	18.8	20.0	20.0
	frequent access	10	15.6	16.7	36.7
	multiple support sources	11	17.2	18.3	55.0
	Breaks down teacher/tutor barrier	11	17.2	18.3	73.3
	Raises confidence	12	18.8	20.0	93.3
	not relevant as not useful	4	6.3	6.7	100.0
	Total	60	93.8	100.0	
Missing	System	4	6.3		
Total		64	100.0		

Five almost equally distributed themes emerged as drivers for having a positive disposition towards PT; it stops loneliness (18.8%), offers multiple support sources (17.2%), breaks down barriers between tutor and tutees (17.2%) and it raises confidence (18.8%). A much smaller percentage of participants (6.3%) offered no reasons as they did not agree that the approach was a useful one. One interesting finding from this part of the study was the fact that participants who were not sure about their disposition towards the approach found reasons for considering it useful. While this offers a clear pattern in terms of the driving factors for a positive disposition, they are limited in terms of a clear understanding of their true significance. As such, these factors were further explored through the logs and interviews.

**Table 11 Reasons for a negative disposition towards PT**

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Not sufficient knowledge	13	20.3	21.7	21.7
	Not the same as my teacher	14	21.9	23.3	45.0
	Not paid for that role	13	20.3	21.7	66.7
	Encourages teachers' laziness	20	31.3	33.3	100.0
	Total	60	93.8	100.0	
Missing	System	4	6.3		
Total		64	100.0		

In the framing of the question leading to the findings presented in table 11 above, participants who held a positive disposition towards peer –tutoring were also encouraged to highlight what they consider to be potential limitations of its use. As such, some of the reasons behind a potential negative disposition were offered by participants who held a positive disposition towards the approach. Four main themes, encouraging teachers' laziness, not the same as my teacher, not paid for that role and lack of sufficient knowledge, emerged from the analysis. These themes were subsequently used as a kind of grounded theory in the analysis of logs and implementation and analysis of interview data.

### Qualitative data

In a general sense, the logs corroborated the findings from the analysis of questionnaires with many entries generally fitting semantically with the themes identified above. Many participants highlighted personal gains to participant tutors and tutees as the driver for their positive perception of the approach while the focus of the reasons for a negative disposition towards it was largely based on the roles and responsibilities of being a tutor. Illustrating entries in the logs that fit into the four themes identified above are the following. In emphasising the usefulness of PT, one participant's log entry after six weeks noted;

'Hey, it is fantastic. You know, it is so much better when you know that you are not alone with these problems. Everyone else have them too and that is why this group interaction is fantastic' (Participant 16, cohort 2). This appears to fit with the theme of PT stopping loneliness that emerged from the questionnaire.

Another entry in week four noted;

'You can't beat it. How many times could you discuss with your personal tutor? Twice a term? I have so far interacted with as many as six colleagues at least four times each. My answers just keep coming from various sources' (Participant 3, cohort 1). This entry echoes the theme of frequent access which emerged from the questionnaire analysis and reflects the theme of multiple sources of support which emerged from questionnaire analysis. The reference to the availability of support and the multiple opportunities it presents echoes the perceived strength inherent in the availability of multiple support. A further illustration of this perception is reflected in two other entries;

'I just feel like I have many tutors all willing to help' (Participant 27, cohort 1) and 'If one had no answer for you, others did. If one was busy, others were not. At the end of the day, the ideas just keep coming from all the sources' (participant 15, cohort 2).

Other entries appear to have converged with the theme of breaking down of the barrier between teacher and tutor. One entry reflecting this noted;

'The great thing is that I have been able to talk to people without fear. I have contributed answers to their own problems too, so I am not afraid to ask them questions?' (Participant 60, cohort 2).

By far the most dominant themes that emerged from the interviews in terms of a negative disposition were the notions of teachers' laziness and students not paid to be tutors. Typifying the former, one participant, who had entered a negative comment in their logs commented; 'I think it is just another way for teachers to avoid their responsibility ... I mean, isn't that one of the things they are paid to do? Why fob it off on students?' (Participant 42, cohort 2). When the potential for alternating roles between being a tutor and a tutee was raised, the same participant indicated that this was not significant noting; 'If teachers did what they were supposed to do, I would still benefit as a learner'. Responses to the issue of paid roles appear to be related to the on-going. One respondent commented; 'I pay a fee to be taught, but I am not paid to teach. Why should I teach? I don't care whether it is called tutoring or teaching. I am still not paid to do it' (Participant 35, cohort 1).

### Discussion

The pattern of responses in respect of this research question highlights a number of issues that need to be considered. First, in respect of the positive disposition expressed towards the use of PT, the reasons offered for such positive dispositions; stops loneliness, frequent access, multiple support sources, breaks down teacher/tutor barrier, raises confidence, can all be associated with the established andragogical principles of learning. Ensle (1998) highlights some of these issues and suggests that in teaching adults, issues such as breaking down barriers and peer support can be crucial. Similarly, Brookfield, (1995) noted; 'That adult educational themes of empowerment, critical reflection, experience and collaboration can inform distance learning activities is evident from case studies of practice that are emerging' and that 'adult education practice affirms the importance of experiential methods such as games, simulations, case studies, psychodrama, role play and internships' It would seem that these identified drivers of adult learning have surreptitiously manifested in the disposition of the participants in this study towards the use of PT, which is in essence, a reflection of collaboration and experimentation. To promote it, therefore, is to promote adult learning in essence.

Another significant issue developing from this finding is the emergence of what Katz, Lazer, Arrow and Contractor (2004) describe as 'the network perspective' in group interaction (p.312). Katz et al offer explanations on why people within groups create, maintain and dissolve networks and suggest that issues of 'self interest, social exchange or dependency, mutual or collective interest and homophily' can be crucial in this

respect (P.313). It would seem that these issues were reflected in the disposition of participants in this study. The notion of ‘not being alone, access and confidence-raising appeared to have combined to develop a norm which thrives on interdependency. Although each participant might be acting out of self interest, there is an ultimate ‘emergence of a social system’ (P.313).

Another factor emerging here relates to what has been described as symbolic convergence (Sunwolf and Frey, 2001 and Frey and Sunwolf, 2004). In this context, it would seem that some form of tutoring narratives emerged, which helped participants to achieve a form of symbolic convergence through the communication of group norms and values and the coordination of activities of members towards common goals (Frey and Sunwolf, 2004:289). In implementing a PT model, therefore, it seems crucial that common goals are set and norms and values agreed before hand. The positive disposition of participants in this study towards PT, therefore, can be assumed to be induced, at least in part, by the convergence of its underpinning values to the common goal of the group of participants.

In terms of the findings which reflect a negative disposition towards PT, a first interesting issue is the focus on roles and responsibility. It is instructive in this context to note that the reasons offered for a negative disposition had nothing to do with the instrument itself or the perceptions of its potential efficacy. Rather, the focus has been attitudinal in terms of the perceived role of teachers and tutees. This immediately raises issues about assumptions that we are often times quick to make about the effectiveness of strategies in learning. It would seem that this is a reminder that the attitude of learners towards the role they are invited to play can be crucial and can determine the difference between a positive and a negative disposition. Frey and Sunwolf (2004:295) reminds us that groups are best viewed ‘as interdependent with their relevant contexts, being affected by those contexts, and in turn, affecting those contexts’ and that as such, ‘group members create and recreate their perceived relevant contexts through the messages they exchange’. In essence, the expression of a negative disposition by some participants can and should be seen as their perception of their role within their social context. A challenge, therefore, for those who would want to employ a PT model would be how to help members of their group to re-create ‘their perceived relevant social contexts’. Could the perception of tutee role in the social context be recreated such that they now perceive themselves as tutors as well?

### Correlational analysis

Given the disparity in dispositions towards PT, it is important to explore whether there are significant variables that could be significant for each of the dispositions. As such, a further quantitative analysis was carried out to see if variables such as experience, discipline and role –tutor tutee- could be significant for participants’ disposition. The findings from these analyses are shown in tables 12 to 17 below.

**Table 12 Distributional pattern of experience and attitude**

Count

		viewsonptutoring				Total
		useful	not useful	extremely useful	not sure	
experience	With previous experience of teaching	9	2	3	1	15
	No previous experience of teaching	17	2	22	4	45
Total		26	4	25	5	60

Table 12 above shows that there is an even distribution in terms of the relationship between experience and attitude towards PT. Each attitudinal position appears to be represented within both experience groupings of participants in the study. This is further borne out through a chi-square tests analysis shown in table 13 below in

which both the Chi-square and the likelihood ratio both returned figures that are not significant (N= .177 and N=.169) respectively.

**Table 13 Chi-Square Tests of experience and attitudes towards PT**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.935 <sup>a</sup>	3	.177
Likelihood Ratio	5.043	3	.169
Linear-by-Linear Association	2.941	1	.086
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

**Table 14 Crosstabulation of role and attitudes towards PT \***

Count

		viewsonptutoring				Total
		useful	not useful	extremely useful	not sure	
role	group 1 tutor	7	1	7	3	18
	group 1 student	11	0	7	0	18
	group 2 tutor and student	8	3	11	2	24
Total		26	4	25	5	60

Table 13 above shows that there is an even distribution in terms of the relationship between participants' roles in the project and attitude towards PT. Each attitudinal position appears to be represented within both role groupings of participants. This is further borne out through a chi-square tests analysis shown in table 14 below in which both the Chi-square and the likelihood ratio both returned figures that are not significant (N= .271 and N=.143) respectively.

**Table 15 Chi-Square Tests analyses between role and attitudes towards PT**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.574 <sup>a</sup>	6	.271
Likelihood Ratio	9.581	6	.143
Linear-by-Linear Association	.000	1	.989
N of Valid Cases	60		

a. 6 cells (50.0%) have expected count less than 5. The minimum expected count is 1.20.

**Table 16 Crosstabulation of disciplines and attitudes towards PT \***

Count

		viewsonptutoring				Total
		useful	not useful	extremely useful	not sure	
Disciplines	sciences	9	1	3	0	13
	social sciences	2	0	7	0	9
	Engineering technology	9	0	11	0	20
	Humanities	3	3	2	5	13
	Vocational	3	0	2	0	5
Total		26	4	25	5	60

Table 16 above shows that the distribution in terms of the relationship between participants' disciplines and attitude towards PT is not even. The expressions of a negative disposition are all concentrated in two disciplines – humanities and vocational studies. This suggests that discipline might be particularly significant in the implementation of this approach. That significance is further borne out through a chi-square tests analysis shown in table 17 below in which both the Chi-square and the likelihood ratio both returned figures that are both significant (N= .000 and N=.001) respectively.

**Table 17 Chi-Square Tests analysis of disciplines and attitude towards PT**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.024 <sup>a</sup>	12	.000
Likelihood Ratio	34.796	12	.001
Linear-by-Linear Association	2.309	1	.129
N of Valid Cases	60		

a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .33.

While this study was unable to specifically identify the influential factor behind the relationship pattern between disciplines and attitudes, it is probable that the point raised earlier in respect of disposition towards an electronic platform, which shows that science and engineering students are more positively disposed towards its use could also be at play here. The fact that the platform through which participants were introduced to PT was electronic could be significant. More importantly, the message here is that it is worth exploring the potential impact of disciplines on this approach before its implementation.



**Research question 3: what are the dispositions of trainee teachers towards adopting either a voluntary or mandatory use of an E-PT model and why:**

The goal here was to find out if the positive learning experience of participants would serve as a driver for them adopting it? Would they only adopt it if they were compelled to? Tables 18 and 19 show responses towards adopting the voluntary and mandatory models respectively.

**Table 18 Attitudes towards the use of a voluntary PT model**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes will use	23	35.9	38.3
	No will not use	26	40.6	81.7
	Only occasionally	11	17.2	100.0
	Total	60	93.8	100.0
Missing	System	4	6.3	
Total		64	100.0	

The table shows that the disposition of participants towards voluntarily engaging with E-PT is largely negative. Less than half, (35.9%) of participants confirmed that they would voluntarily engage with the use of PT. Close to half, (40.6%) were emphatic that they would not voluntarily use the model while another 17.2% confirmed that they would only be willing to use the model occasionally indicating that, in spite of the positives that have been associated with the model in the course of this project, participants are not likely to voluntarily engage with it. In contrast, table 19 below shows that the vast majority of participants would use this approach if it was mandatory. In other words, they would engage with it if it was compulsory and possibly made part of their study programme. 84.4% confirmed their willingness to participate if it was compulsory while only 1.6% said they would resent being made to engage with it mandatorily. Another 7.8% indicated that they were not sure where they stand in this context.

**Table 19 Attitude towards the use of a mandatory PT model**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	54	84.4	90.0
	No	1	1.6	91.7
	don't know	5	7.8	100.0
	Total	60	93.8	100.0
Missing	System	4	6.3	
Total		64	100.0	

### Qualitative data

The pattern of response to the option between a mandatory and voluntary use of an E-PT model was rather surprising, particularly as it confirms that in spite of the overwhelming positive views held by participants, only very few participants agreed that they would voluntarily engage with it. This finding was consciously explored during the interview sessions. For participants who will be unwilling to voluntarily engage with the approach, two themes emerged. The first was centred on a previously identified issue, it is not my role / I am not paid to do it'. Virtually all the participants interviewed suggested that using the model might simply be a ploy to maximise resources and to reduce the workload of teachers who are paid to carry out this role. In essence, participants' perceptions appeared to be conditioned by the underpinning principles of resource management and norm-defined roles and responsibilities. Encapsulating this is a response by a participant who commented 'It is natural to assume that this will reduce the workload of teachers, but what is in it for students?' (Participant 5, cohort 1) When it was pointed out that additional learning and support are natural benefits to students, the participant commented that, 'If students do not do it, teachers are responsible for doing it.... I mean, it is part of a teacher's responsibility to do it anyway,... so either way, students would still benefit'. Another noted, 'I just feel that those who are paid to carry out a role should be responsible for executing the role' Participant 38, cohort 1). A similar message emerged from another participant who said, 'Teachers get paid but we do the work, which is hardly fair' (participant 52, cohort 2).

For participants who were positive about using the approach, the central driver appeared to be the positive learning experience they got from the project. One participant noted, 'It was enjoyable and I benefitted immensely from it. So, why not do it as many times as I am able to?' (Participant 37, cohort 1). Another commented, 'I found my assignments relatively easier and that is down to the support I got through the project. So, why not do it again?' (Participant 57, Cohort 2). A final relevant comment was mainly centred on the fun aspect of it and noted 'It was fun for me and I'd do it again and again' (Participant 27, cohort 1).

A further exploration of attitudes towards a mandatory form was then explored with participants. Overall, there appeared to be a consensus that if it was mandatory and part of their course, they would engage with it. One participant observed that, 'You have always decided what students learn and what activities they have to be involved in. If this was one of them, we would not have any choice, would we?' (Participant 49, cohort 2). Another noted, 'If I need to do it in order to pass, then so be it'.

### Discussion

Although many participants had highly positive outcomes from their engagement with the approach, they are not willing to voluntarily engage with it. Two crucial questions emerge from this. Is the clamour for the use of PT taking sufficient account of learners' disposition to it? Second, is the clamour merely driven by self-interest on the part of teachers and funders of education? While answers to these questions might not be readily available, it is important that they be considered. More importantly, what this finding highlight is the importance of attitudinal change that might be required of learners. It appears that in order for learners to really engage with the use of the approach, it is important to really ensure that the correct attitude is developed. The attitude displayed by participants can be related to the earlier identified notion of Katz et al (2004), who offer explanations on why people within groups create, maintain and dissolve networks and suggest that issues of 'self-interest, social exchange or dependency, mutual or collective interest' (P.313) can be crucial. It is probable that individual participants would naturally see themselves as a member of a group of learners, who stand out in contradistinction to another group in proximity to them, teachers. In essence, the potential tension induced by group boundaries and group and self-interest need to be positively resolved before learners are invited to engage with the approach.

### Conclusions

The aims of this research were to establish the disposition of trainee teachers towards the use of E-PT model and to establish the likelihood of take-up amongst this group. In exploring these aims, particular attention was paid to the use of an electronic platform as a medium and the willingness of this group to voluntarily take up the use of the model. These aims were integrated into the three research questions that informed the investigation, data collection and analysis. In respect of research question 1 which sought to find out the disposition of the group towards an electronic platform, there was a clear indication that the majority of the members of this group were positively disposed towards this platform. Although there were negative views about its use, this was very limited and appears to be mainly held by participants who have their background in the humanities. One issue that must be considered on the basis of this discipline-informed divergence is differentiation. The vast majority of the studies on the use of an E-platform have acknowledged its strength. A gap, however, exists in terms of the

disposition of the potential users. While the majority of users were happy with the platform, it is important that those who would want to utilise the medium consider learners who might not be positively disposed towards its use. Given that the subject group for this study are trainee teachers and, therefore, compel us to explore the notion of modelling practice, it is important that strategies for differentiation be identified and clearly demonstrated in the use of this platform. Though in the minority, learners who are not positively disposed to its use are likely to be represented within similar groups and must be taken care of.

In respect of the second research question, there was an overwhelming endorsement of the use of PT as a learning approach. As was the case with research question 1, there were indications of negativity. The correlation analysis carried out suggests that discipline might be a significant variable. As such, the issue of differentiation must again be considered in using this approach if some learners are not to be left behind

With respect to the possibility of voluntarily using the model, the finding is particularly surprising. Considering that the vast majority of participants were positive in their disposition towards the approach, citing several advantages, it is worrying that only very few would voluntarily take up its use. The crucial issue emerging from this, in my view, is the need for attitudinal learning. The major reason offered in respect of the low take up of a voluntary mode of PT is centred on the perceptions and attitude towards roles and responsibility. It becomes crucial, therefore, that trainee teachers' self-perceptions and perception of roles be explored before we make the assumption that they would buy into this model. This raises two possibilities. First, would be users of this approach must consider a pre-use attitudinal training which will seek to influence attitudes and perceptions of roles and responsibilities. In the implementation of this project, the fact that such attitudinal training did not occur made it extremely difficult to persuade trainees to be participants in the study. Second, teacher educators must consider the potential implication for curriculum development. Given the obvious and immense benefits that the approach is reported to have, consideration must be given to the development of a mandatory mode of this approach which will make it a part of the teacher education curriculum. That way, trainees might have the opportunity of experimenting with the approach as part of their training, and thus lay the foundation for modelling practice.

Finally, the findings of this research remind us that we cannot and must not make assumptions about novel approaches and strategies in teaching and learning. Approaches and strategies might be fantastic with some but not with others. More importantly, we cannot make assumptions about learners' disposition. As illustrated by the findings of this research, students might not necessarily buy into the use of some strategies even if they were proven to be good for their learning experience.

## References

- Brookfield, S. (1995) Adult Learning: An Overview in A. Tuinjmans (ed.) (1995). *International Encyclopedia of Education*. Oxford, Pergamon Press
- Check, J. and Schutt, R. (2012). *Research methods in education*. Sage: Los Angeles, London, New Delhi.
- Dewey, P. and Cannon, A. (2006) Supporting technology instruction through peer tutoring, discussion boards and electronic journals. *ALLT Journal of Language Technologies*, Vol 38, Issue 2, p17 –p33.
- Enslin, A., (1998) 'Important Issues in Teaching Adult Learners: Assessment' *Literacy Links*, Volume 3, No. 1,
- Frey, L. and Sunwolf, (2004) 'The symbolic interpretive perspective on group dynamics' In *Small Group Research*, Vol, 35, no 3, pp 247 – 306. Sage Publications, Thousand Oaks; London: New Delhi.
- Fuchs, D, Fuchs, L., Mathes, P. and Simmons, D. (1997) 'Peer-assisted learning strategies: making classrooms more responsive to diversity' *American Educational Research Journal*, 34, 174-206.
- Gooldard, S. and Hirst, B. (1989) *Peer tutoring: A guide to learning by teaching*. London: Kogan Page Ltd.

Herring-Harrison, T, Gardner III, R. and Lovelace, T. (2007) 'Adapting Peer Tutoring for Learners Who Are Deaf or Hard of Hearing'. *Intervention in School & Clinic*. Nov2007, Vol. 43 Issue 2, p82-87. 6p.

Hsiao, Y., Brouns, F., Kester, L. and Sloep, P. (2013) 'Cognitive load and knowledge sharing in Learning Networks'. *Interactive Learning Environments*. Vol. 21 Issue 1, p89-100. 12p

Johnson, B. and Turner, L. (2003) 'Data collection strategies in mixed methods research' In A. Tashakori and C Teddlie (Eds.) *Handbook of mixed methods in social & behavioural research*. Thousands Oak, CA: sage

Katz, N., Lazer, D., Arrow, H. and Contractor, N. (2004) Network theory and small groups. In *Small Group Research*, Vol, 35, no 3, pp 277 – 332. Sage Publications, thousand Oaks; London: New Delhi.

Maheady, L. and Gard, J. (2010) 'Classwide peer-tutoring: practice theory, research and personal narrative. *Intervention in School and Clinic*, 46, 71-78

Maheady, L., Mallette, B. and Harper, G. (2006) 'Four Classwide Peer Tutoring Models: Similarities, Differences, and Implications for Research and Practice'. *Reading & Writing Quarterly*. Vol. 22 Issue 1, p65-89. 25p.

McCroskey, J. (1977) 'Oral communication apprehension: A summary of recent theory and research'. *Human Communication Research*, 1, 78-96.

Odom, S., Zercher, C., Li, S., Marquart, J., sandal, S. and Brown, W. (2006) 'Social acceptance and rejection of school children with disabilities: A mixed-methods analysis. *Journal of Educational Psychology*, 98(4) 807-823.

Odonnell, A and King, A. (1999) *Cognitive perspectives on peer learning*. Mahwah, NJ: Lawrence Erlbaum

Rittschof, K.and Griffin, B. ((2001) 'Reciprocal peer tutoring: Re-examining the value of cooperative learning technique to college students and instructors'. *Educational Psychology*, 21, 313-331.

Ryan, J., Reid, R. and Epstein, M. (2004) 'Peer-mediate intervention studies in academic achievement for students with EBD: A review. *Remedial and Special Education*, 25, 330 – 341.

Slavin, R. (1996) 'Research on cooperative learning and achievement: what we know and what we need to know' *Contemporary Educational Psychology*, 21, 43-69.

Tashakori, A. and Teddlie, C. (2010) 'Putting the human back in 'Human Research Methodology': the researcher in mixed methods research' *Journal of mixed methods Research*, 4 (4), 271-277.

Topham P and Russell, G. (2012) 'Social anxiety in higher education'. *The Psychologist*, Vol. 25, part 4, Pp 280-283

Topping, K. and Ehly, S. (1998a) 'Introduction to peer-assisted learning' In Topping and Ehly (Eds) *Peer-assisted learning*. Mahwah, NJ: Lawrence Erlbaum.

Topping, K. and Ehly, S. (1998b) *Peer- assisted learning*. Mahwah, NJ:Lawrence Erlbaum

Van Rosmalen, P., Sloep, P., Brouns, F., Kester, L., Berlanga, A., Bitter, M. and Koper, R. (2008) 'A model for online learner support based on selecting appropriate peer tutors' *Journal of Computer Assisted Learning*., Vol. 24 Issue 6, p483-493. 11p

Westera, W., De Bakker, G. and Wagemans, L. (2009) 'Self-arrangement of fleeting student pairs: a Web 2.0 approach for peer tutoring' *Interactive Learning Environments*, Vol. 17 Issue 4, p341-349. 9p