

# Establishing Effective e-Learning Communities within the Teaching Profession: Comparing Two Projects to Discover the Necessary Ingredients.

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**Abstract:** This article sets out to compare and contrast two different projects, aimed to get primary teachers collaborating online, with respect to advice from research on how to engage participants. The first project tried to encourage teachers in small rural schools to share ideas for the implementation of the National Numeracy Strategy. The second was intended to provide a platform for teachers to develop materials for the teaching of religious education in the classroom. There appears to be four 'necessary ingredients' for the successful establishment of e-learning communities within practising teachers. These include: face-to-face meetings; high quality IT support; outcomes, which are of real benefit to participants; adequate funding. The outcome of the comparison is felt to add to the knowledge of how to encourage participation in online forums within a context outside those normally researched. As such it should help those trying to design similar projects in the future.

**Keywords:** Online collaboration, online forums, face to face meetings, project ownership, Religious Education, National Numeracy Strategy, mixed age classes

## 1. Introduction

Online collaboration between schoolteachers has the potential to improve practice by providing peer support, facilitating the sharing of expertise and reducing the planning workload of those involved. A number of governmental, local education authority (LEA) and commercial websites are available which provide resources for hard pressed teachers to access. However, whilst extremely useful, these do not always provide materials which are tailor-made for particular contexts. Two projects, which set out to encourage online collaboration between primary teachers in the north of England, aimed to do just that. The first focused on the sharing of ideas to enable teachers in small rural primary schools to better cater for the wide range of needs within their mixed age classes during the daily mathematics lessons prescribed by the National Numeracy Strategy (NNS), a teaching framework introduced in 1999 which advocated the increased use of whole class teaching and differentiation of work at three levels. The second project brought together a group of primary teachers, who were subject co-ordinators for religious education (RE) within their schools, with the aim of preparing teaching materials, which could be used by themselves and others. In both projects the intention was for communication to be through the medium of online discussion boards, yet the outcomes were very different.

This paper outlines the research that was carried out to investigate the outcomes of these two

projects in order to find out what conditions are needed to encourage teachers to participate in online collaboration. Much time and effort was invested in both projects with very different results and it was felt that if the reasons for the differing levels of success could be uncovered, and a list of 'dos' and 'don'ts' be built up, then this would provide useful advice to those who might be considering embarking on similar ventures in the future. Consequently the question that needed addressing by the researchers was: What are the necessary steps that need to be taken to encourage online collaboration between busy primary teachers?

The paper first discusses some of the general issues that need to be taken into consideration when setting up systems for online collaboration within the teaching profession. It then outlines the methodology of the research undertaken before moving on to comparing and contrasting the outcomes of the two projects and discussing the possible reasons for any differences. The paper concludes by making some suggestions to facilitate successful outcomes of such projects in the future.

## 2. Encouraging online collaboration between practising teachers

Much research (McConnell 2000; Annison, J. 2002; Vrasidas and Mclsaac1999) has been carried out on the levels of participation of students in online discussion boards as part of

their further or higher education courses. Although such research can provide us with some useful information it may not be possible to directly transfer this to such a different context as practising teachers. The majority of students engage in courses in order to gain further qualifications and, if online collaboration is a requirement, there is some incentive to participate. Although recent advice (DfES 2003:78) encourages teachers to collaborate, sharing ideas and jointly preparing materials with colleagues from other schools is not a requirement. They could carry out their job without the added complication of having to collaborate. In the experience of the researchers few teachers seem to implement a collaborative approach. Where there is collaboration this tends to be within, and not across, schools. In this section only the advice from research, which seems most pertinent to the setting up of an e-learning community of full time practising teachers will be discussed.

There are a number of studies providing reasons for people meant to be engaging in online forums not wanting to become involved. Clouder and Deepwell (2004) found that many in their study of student participation in online forums were hesitant in starting off a discussion for fear of being thought to be too keen, and Latch and Zimring reported 'evaluation apprehension' arising from students thinking '...that others in the group know more than they do or that the group is being judged' (2000:4). Wegerif argues that failures in online courses develop where students are not able to 'cross the threshold from feeling like outsiders to feeling like insiders' (1998:34). Cramphorn suggests that to overcome this sort of problem the instructor must develop an environment that is 'democratic, respectful, open to challenges, prepared to give grounds for statements and seeking critically grounded consensus' (2004:48). The sending in of encouraging 'seed' messages to get the forums started could be one way of ensuring participants do not feel that they look pushy or are having to break the ice, something advocated by Tenby (2003). Salmon (2000) listed training participants in the use of the technologies that were to be used as being of particular importance and, later (2002), that the purposes and benefits of the tasks to be carried out online should be made clear in order to motivate participants to carry them out. This would appear to be sound advice for anyone intent upon organizing an online learning community. Likewise Insung Jung et al (2002), The Open University (2002) and Moore and Kearsley (1996) all highlighted the importance of providing feedback to participants in online forums in order to motivate them, the OU suggesting that

there should at least be a response to all first postings (2002:112). Vonderwell (2003) reported negative student feedback in a project where the moderator was not consistent in timing when responding to postings. It appears then that speedy feedback is important.

Tolmie and Boyle (2000:122-3) list a number of factors associated with successful computer mediated communication (CMC), which appear directly relevant to the projects under discussion. The first of these is the need to keep the size of the participating group small to allow for a more balanced use of a forum. This advice was followed by the instructor in Vonderwell's study in order to 'prevent information overload and to ensure that students read each other's responses and engaged in interaction' (2003:80). Tolmie and Boyle also advocate participants knowing each other, something that Vonderwell agrees with having found that some of the students in her study were reluctant to get involved, seemingly 'uncomfortable about interacting with the students who they did not know beforehand' (2003:82). Tolmie and Boyle (2000) also suggest that participants in online forums need to have had some experience in CMC in order for the venture to be successful. This would appear to be a 'catch 22' situation unless 'experience in CMC' can mean as little as being able to use email. Their suggestions for participants to have ownership of the task and an understanding that there is a clear need for the communication to be computer mediated appear to be far more straightforward. The two projects under review appeared to follow some of the above advice with varying degrees of success. The following section outlines the methodology used to compare the two in order to ascertain what the necessary ingredients for successful online collaboration between practising teachers might be.

### **3. Methodology**

The first step in answering the research question set was for the researchers to look at each of the projects in turn and understand the different contexts. Next those pieces of advice discussed above which each of the projects appeared to follow were listed to allow a comparison to be made. In order to judge whether or not the projects were successful a set of criteria were devised and applied to each project in turn. It was decided that two possible measures of success would be the number of teachers agreeing to participate and the number of postings they sent into the discussion boards; whilst recognising that quantity does not necessarily mean quality this would provide a simple way of judging the degree to which online communication took place. A third

measure of success was identified as being the number of prompts needed from the project leaders to maintain the impetus of the projects; the fewer the prompts the more motivated the participants were likely to be. Finally the end results needed to be looked at to find out exactly what the projects achieved. The production of teaching resources, which could be utilised by others, would be seen as a successful outcome. So too would online interactions which showed that an idea from one individual was being utilised in some way to improve practice by another. Ideally both projects would have been fully evaluated by the participants themselves and the results of these evaluations would have provided a rich source of data. Whilst this was done with one of the projects, due to the lack of participation within the other it was not possible to carry out such an evaluation. The results of the comparison of the two projects will now be outlined and analysed within the next section of the paper.

## 4. Results

### 4.1 Overviews of each project

#### 4.1.1 Project 1 - The 'mathematics in small schools' project

This project was an extension of a previous investigation into the implementation of the NNS in small rural schools. Two questions raised in the original study (Evans 2001:73) as being of particular significance in such a context were:

- a) How can very young reception children in a mixed age Foundation Stage / Key Stage 1 (F/KS1 or 4-7) class be given an appropriate mathematical experience?
- b) How can particularly able mathematicians be appropriately challenged in whole KS classes if teachers follow NNS guidance that advocates differentiation at only three levels?

The project involved setting up a web-based discussion board, for invited colleagues in small schools within an Initial Teacher Training (ITT) provider/schools partnership, to share and discuss strategies used to deal with these two groups of children. The aim was two-fold. In particular the hope was that the discussions would provide planning advice for students working within such contexts during their school experience placements. However, it was also the intention that by engaging in this type of discussion the teachers would be able to improve their own practice when implementing NNS style daily mathematics lessons in the context of a mixed age class. The project leader set up the discussion board in November 2001 on the

JISCmail site and sent out a circular to all 100 small schools within the partnership informing them of the newly set-up forum and inviting them to join and send in a response to the initial discussion prompts within the circular.

#### 4.1.2 Project 2 - The 'Culham Trust' project

This project was set up to allow an RE adviser and an Information Technology (IT) consultant to work with a group of primary school RE co-ordinators to develop learning materials for the primary age phase in which ICT was an integral and authentic part of the learning process. This type of initiative, according to Sutherland (2005) will help teachers '...start to embed ICT into classroom practices' something that, according to OfSTED (2004) is still needed across the curriculum. Most of the communication between participants was done through the medium of an online php discussion board.

The project ran over the academic year 2004-05 and consisted of three phases. During the first of these (autumn term 2004) the project team was established – the group included representatives from a range of dioceses, LEAs and schools. The emphasis in phase one was on planning and development, consideration being given to the feasibility of identifying existing appropriate units of work either from LEA/Diocesan syllabuses or Qualification and Curriculum Authority (QCA) guidelines or the developing National Framework for RE and the enhancement of these through ICT and /or the creation of new units of work with an integrated ICT element. An initial face-to-face (F2F) meeting allowed for planning and training in the use of an online php discussion board. Further planning was facilitated through the discussion board hosted by the online RE centre of a local ITT provider. During phase two (spring term 2005) materials developed in phase 1 were trialed by members of the project group within their own school contexts. On line professional exchange/discussion and evaluation continued on the discussion board. The group also met on 2 occasions for F2F discussion and ongoing evaluation. Phase three (summer term 2005) involved reflection on their experiences and revision of the materials produced.

### 4.2 Comparing the projects against the advice from research and the success criteria

In order to make the comparison of the two projects easier, the advice arising from research has been tabulated in table 1 below.

**Table 1:** Advice from research followed when setting up the projects.

<b>Advice from research followed:</b>	<b>Project 1 Mathematics in small schools project</b>	<b>Project 2 Culham Trust Project</b>
Send in 'seed' messages to encourage participation.	This was done.	This was done.
Provide training in the IT systems to be used.	Provision of very basic, paper based, training in the use of the JISCmail system in the form of an explanatory leaflet sent to schools invited to participate.	Provision of hands on, F2F training in the use of the php discussion boards at the very start of the project (and continued online support from the ICT project leader throughout).
Make the purposes and benefits of the project clear.	Done within a letter sent out to invite teachers from selected schools to participate.	Done within a letter inviting teachers from selected schools to participate and during the initial F2F meeting.
Moderator should respond quickly to all messages posted.	This was done.	This was done.
Keep the group small to ensure that participants get to know each other.	Invitation to participate was sent to 100 schools in the North Yorkshire area.	Group size limited to 11 school RE co-ordinators plus two project leaders.
Participants should know each other.	This was not possible.	Available funding used to arrange four F2F meetings throughout the project at mutually convenient venues ensured all participants knew each other and the two project co-ordinators.
Participants should be experienced in CMC.	This could not be guaranteed. The teachers needed to be working in small rural schools within the college partnership. To insist on this requirement may well have limited the number of participants in the project.	This could only be followed with the five group members involved in the earlier project. It could not be guaranteed in the new group members.
Participants should have ownership of the task.	This was not feasible, as the project had been specifically set up to answer a pedagogical research question for the benefit of the students within the institution running the project.	It was the participants themselves who decided, during the initial planning period, on what the focus for the collaborative work should be.
There should be a clear need for CMC.	This was the case - teachers involved would not otherwise meet unless they belonged to the same LEA 'cluster' of schools. No funding was available to bring the participants in to a central location for a F2F meeting	This was the case - teachers involved would not otherwise meet. Limited funding was available to bring the participants in to a central location for face-to-face meetings. The project itself was funded as part of a scheme to improve teachers' ICT skills so there was an additional need for CMC.

**Table 2:** Comparison of the two projects against the success criteria

<b>Success criteria</b>	<b>Project 1 Mathematics in small schools project</b>	<b>Project 2 Culham Trust Project</b>
Number of active participants	The response to the initial invitation to participate was poor, with only 3 colleagues asking to join the forum by the end of January 2002. A second mail-shot was sent out to the same schools in February 2002 in an attempt to boost both the membership and discussion participation. This had limited success – a further 2 colleagues requested to join the list giving a total of 5 in all.	All of the teachers contacted by the project leaders agreed to participate. These consisted of a core group of five RE subject leaders from a previous project and six new members giving an overall group size of 11 excluding the two project leaders.
Number of postings	Those that did agree to participate engaged minimally. None sent in any response to the initial discussion suggestions within the welcome message. A second prompt eventually initiated posting of two messages by two participants. It is important to note that both messages were sent directly to the moderator not to the board which meant that	530 postings were made about 119 topics by all involved. About one third of these were from moderators but this left a sizable number of messages posted by participants, seven of who were particularly prolific posting well over 20 messages each (one or two over three times that many). The other participants took a lesser part, posting fewer than 10 messages.

Success criteria	Project 1 Mathematics in small schools project	Project 2 Culham Trust Project
	they then had to be posted under the moderator's name.	
Number of prompts needed	An initial prompt was sent to the original members of the list asking them for some thoughts on the discussion issues at the time of the second mail shot (February 2002). Two weeks later a second prompt had to be sent out as there was still no activity on the forum.	The discussions maintained their own momentum with very few gentle reminders from moderators.
End result	The outcome of the project was a very limited number of single postings briefly outlining how the teachers involved ran their daily mathematics lessons. There was no further interaction after the moderator answered each post.	During the first two phases there was evidence of some innovative practice and a developing ability, on the part of participants, to engage in increasingly analytical and reflective self-evaluation, using the discussion board to promote professional interchange and enhance professional development. Postings (and the end of project evaluation) evidenced an increasing confidence in planning work in RE with ICT as an integral part of the planning process. Teachers were able to provide training support for each other in the use of power point, interactive white boards and digital photography. Learning materials were then launched as web based materials through an ITT provider's RE centre web site and, where possible, linked to other appropriate sites. See also the outcomes of the evaluation process listed separately below.

Some additional information is available from the outcomes of the evaluation of project two by participants where a questionnaire of open questions was distributed during the final F2F evaluation meeting (see appendix 1). Eight of the eleven participants were able to attend and complete the form. Responses to the questions often highlighted the benefits of using the discussion board and show just how useful this type of project can be when it is planned and implemented well. Comments, which exemplify this, included views such as:

- Liasing with other teachers using the forum was very beneficial (3\*).
- It allowed me to share resources (1), work with colleagues who share a passion for RE (1), are more knowledgeable (1) and were able to increase awareness of RE websites (1).
- Dialogue and interaction with other participants and the project leaders was helpful and encouraging (5).
- Reading others' lesson evaluations on the forum allowed me to amend my own plans (2).
- Being accountable to other colleagues made me persevere (1).

\* Numbers in brackets indicate the numbers of respondents voicing this opinion.

## 5. Analysis of the results

With regard to following advice from research figure 1 shows that the two projects had some common ground. However, in spite of this the outcomes, listed in figure 2, were very different and by looking at the differences, rather than the similarities lessons can be learned. There were three main areas where the two projects differed a good deal; these were to do with the inclusion of F2F sessions, the provision of IT support and establishing ownership of the project. Each of these will now be looked at in turn.

### 5.1 Inclusion of F2F sessions

It appears that the introduction of some F2F sessions may well have had the big impact on the success of the 'Culham Trust' project. Through these the participants were able to meet the two project leaders and get to know them on a personal level. Both were the kinds of people who were very likeable, would instil confidence and motivate participants to become involved. Because of this any 'seed messages' were being sown to good effect, unlike the 'Maths in Small Schools' project where the project leader was unknown to the teachers and, therefore, likely to be of little importance to those being invited to participate. Here the 'seed' messages were of little use in encouraging participation. Likewise any responses to postings by the moderator did

little to encourage further debate, unlike similar responses within the 'Culham Trust' project. The teachers involved in the 'Culham Trust' project enjoyed their days out of school, meeting colleagues and getting to know the project leaders well. This gave them motivation to make sure that the project succeeded, as they did not want to let their colleagues down. The postings on the forum tended to be very friendly and it was apparent that the participants were enjoying the experience. The two messages to the 'Maths in Small Schools' forum tended to be far more formal and definite 'one offs'. There was no cause for them to be otherwise; although the number of eventual participants was half that of the 'Culham Trust' project there was no way that the teachers could get to know who else was involved and this could well have affected their level of participation. This echoes Vonderwell's findings (2003) mentioned earlier.

## **5.2 Provision of IT support**

The F2F training session which allowed participants to register for and find out how to use the discussion board contributed to the success of the 'Culham Trust' project as only one reported having difficulties with this. The session also allowed the original project members to share their expertise and personal experiences of online communication much more meaningfully with newer participants. Once participants were aware of who they could ask when they ran into problems a mutual support system developed naturally. This type of mutual support was not available in the 'Maths in Small Schools' project as the participants did not know each other at all. The paper-based information leaflets, although simple and explicit, did not appear to be sufficient to help teachers overcome their difficulties in the 'Maths in Small Schools' project as evidenced in their emailing the postings directly to the moderator. According to OfSTED (2004) the training provided for teachers by the Government funded programme in recent years (New Opportunities Fund training in the use of ICT for teaching and learning) has been variable and it could well be that those invited to participate in the 'Maths in Small Schools' project were lacking in ICT skills. Although paper based information leaflets are useful as 'aide memoirs' once someone is conversant with a system, they are not sufficient to provide the support needed to get started.

## **5.3 Establishing ownership of the project**

This was the second area where the two projects differed completely. In the 'Culham Trust' project it was the participants themselves who decided what the project should involve. This was a

deliberate decision by the project leaders as not having a sense of ownership of the task was something that had caused the initial 'Culham Trust' project to be less than successful. Previously the project leaders had imposed materials. The reason for this was that project leaders had identified reluctance within undergraduate students to criticise the work of peers online, something also found by Light and Light (1999 cited in Williams (2000)). They thought that if the participants were given material to critique then they would be more likely to do so as they were not commenting on their colleagues' ideas. However, evaluation of the first project had shown them that, unlike students, the teachers would have preferred to have had ownership of the materials, and would have been willing to be constructively critical so, for this second project the leaders made sure that this was the case. Task ownership within the 'Culham Trust' project meant that all participants ended the project with a set of useful resources, relevant and specific to their context, which could be utilised in future years. In the 'Maths in Small Schools' project this was not the case. The project leader decided on the purpose of the discussions i.e. to be able to gather advice for students on placement and the few short messages that were posted were unlikely to have added much to the knowledge of maths planning of the participants. The benefits to the teachers were few – namely that the students who might eventually arrive in their particular classrooms would be better prepared for their teaching placements. This was rather too long term and not necessarily seen as important, after all some on the spot advice could be given as it was needed.

In addition to the above, the 'Culham Trust' project participants were working to a tight timescale in order to produce the materials in time for a particular religious festival and were taking part in something, which was immediately relevant, as it would help them in their planning. In the 'Maths in Small Schools' project, although the aim of the project was made clear and the advantages of having better informed students on placements in the schools highlighted, there were no deadlines and participation was probably seen as a nuisance – something over and above what would normally have to be done.

## **6. Conclusion**

Whilst much of the advice given by previous research has been followed in both of the projects discussed it would appear that there are some 'necessary ingredients' for the successful establishment of online learning communities.

The real key to success appears in F2F meetings, which allow the participants to get to know each other on a personal level. Whilst other online communities within the teaching profession (the Times Educational Supplement forums being a prime example) may well function successfully without this it has certainly helped in the 'Culham Trust' project. The group gelled from the start and felt a sense of obligation to each other and to the project leaders. These meetings also allowed a good level of initial 'hands on' training to be given from which the benefits were reaped throughout the project. The provision of high quality support in the areas being developed would also seem to be an important issue. In the 'Culham Trust' project the two project leaders were accessible experts in RE and ICT and were able to give a great deal of advice. More experienced colleagues within the group were also able to provide support. In the 'Maths in Small Schools' project the leader was not an expert in the implementation of the NNS in small rural schools. This was made clear in the initial letter. The aim was simply to facilitate communication on the participants' and students' behalf.

Ensuring that the project arises from the participants themselves and is of real practical benefit to them is a third important aspect. The 'Culham Trust' project not only aimed to help participants in their normal RE planning process but also to improve their ICT skills. It was clearly worth getting involved. In contrast, the 'Maths in Small Schools' project was less enticing as it was

not providing any immediate benefits to participants. The first two of these 'ingredients' do not come cheap so a reasonably substantial budget could also be said to be necessary. Access to funding to pay for meeting venues, lunches, travel costs, supply cover, administration costs and the time of the project leaders enabled the 'Culham Trust' project to gain the benefits of F2F meetings, the 'Maths in Small Schools' project only had sufficient funding to cover administration costs and time out of teaching for the project leader so was at a disadvantage from the start. It is hoped that the sharing of the outcomes of these projects can add to the body of knowledge other prospective e-learning community project leaders can draw on when designing online communication systems. Having enthusiasm for the project is important but if full-time practising teachers are to be encouraged to participate then good design and financial support is vital if the venture is to succeed within a profession where time is a precious commodity.

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## Appendix 1

The 'Culham Trust' Project Evaluation Questionnaire

- a) From the point of view of RE, what did you do during the course of the project
- b) that you wouldn't have done had you not been involved?
- c) What parts were successful and which were not?
- d) From the point of view of ICT what did you do during the course of the project?
- e) that you wouldn't have done had you not been involved?
- f) What parts were successful and which were not?
- g) What have you done since the Easter period as a result of being involved in the
- h) project?
- i) What plans do you have for the future arising out of your involvement in the project?
- j) Is your confidence in RE teaching diminished/ the same / increased as a result of
- k) being involved? In what ways?
- l) Is your confidence in your use of ICT diminished/ the same / increased as a result of being involved? In what ways?