

Effectiveness of 'blogging in learning' in higher education

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ABSTRACT

Blogs are new tools into the hands of the teacher, learner as well as communicator. Like all other web 2.0 tools Blogs have also caught attention of educators. Could it be used for teaching learning purpose? Could we help our learners to learn collaboratively through blogging?

Williams and Jacobs (2004) in their paper conclude that 'blogging has the potential to be a transformational technology for teaching and learning, and universities ought to give strong consideration to the setting up blog facilities within their learning management system (LMS)."

While teaching Master level students of Instructional Design in the SNDT Women's university, Mumbai, India we used constructivist approach as we strongly believe in cooperative and collaborative learning. Blog, with its openness, sharing as well as possibility of using many visual inputs, was thought of useful tool for this approach. The present study explored effectiveness of the blogging for Master level students. The study was conducted on 18 students. Achievement tests, Evaluation Rubrics as well as

opinionnaire were used to test the Usage of blogs and learners' Opinions about blogs (both as students and as Instructional Designers).

The researchers created a blog to teach concept and procedure of "Sampling" from the Research methodology course. All 18 students created their blogs. The researchers used link lists for attaching everyone to the blog. Variety of features of Blog were explored and utilized for teaching. Data analysis showed significant gain in the achievement of students which implies that the blogging is an effective tool. Number of posts and the comments made by each student were studied (Usage of Blog). This showed individual usage, but the collaborativeness, interaction among the learners was missing to some extent. It was found that learners explored many features of blog on their own (which were not discussed by the researchers). 94% learners thought that blogging has helped them see others perspective and think about them.

The findings of this action research study helped us to further use blogs in our teaching learning process to greater extent. Other action taken was inclusion of the topic Blogging in the course as this was a Master level programme aiming at developing Instructional Designers.

Keywords: Blog, edublog, rubrics, Instructional Designer

I. INTRODUCTION

Department of Educational Technology of SNDT Women's University, India offers a two-year (4 Semesters) Master Degree Programme in Instructional Design. As a part of the third semester on Instructional Design for Online Learning (or e-learning), some web 2.0 tools are introduced. Since there are many tools available and many of them have potential to involve the learners in cooperative and collaborative learning, their usability, as well as effectiveness in terms of teaching learning tool need to be studied. Blogs and Groups were found suitable for this purpose after doing some review. Williams and Jacobs (2004) in their paper conclude that "blogging has the potential to be a transformational technology for teaching and learning, and universities ought to give strong consideration to the setting up blog facilities within their learning management system (LMS)." Features of Blog were found more appropriate and hence a participatory study of exploring effectiveness of blog in teaching-learning process.

Richardson (2006) puts together the meaning of blogs as "an easily created, easily updateable Website that allows an author (or authors) to publish instantly to the internet from any internet connection". Here the authors are the owners of the blogs who write and edit the text in the blog and whatever is published (i.e. out up on the internet) may be the author's own thoughts or personal opinion on a particular topic which are displayed in a reverse chronological order on the blog. Blog is a term which was coined by Peter Merholz incidentally a contracted form of the term "Web-Log" coined by Jorn Barger.

From the sound of posting and replying in the form of comments blogs might seem like discussion boards. But Hadden (2005) thinks that what differs in blogs as opposed to discussion boards is that individuals can own them, unlike discussion boards where many people are connected to it and have a say in the thread. Blogs provide unique uniform resource locators (URLs) for each individual log—so each individual has their own 'website'.

II. BLOGS AND BLOGGING

(Blood, 2000) Rebecca blood in her article weblogs history and perspective says that early blogging started with a few website designers who created their own sites with HTML coding etc. but later due to advent of companies like Pitas and Pyra who launched easy to use blog software knowledge of HTML coding was no longer needed, all one had to do to make a blog of ones own was to go to a free blog hosting site, follow the given instructions and a blog would be created instantly right there and then without any accessory knowledge about HTML. In her article Rebecca basically points out that the evolution happened from blogs being limited to a few people who knew the skill with specific things to share to people who did

not really need to skills and had their daily events to share on their blogs, this she says is thanks to the invention of blogger, a user friendly site that did not instruct or demand skills but just provided everything a novice blogger could ask for. Based on this article, Blockstar has prepared a self made timeline that summarizes what Blood talks about in her article. (Blockstar, 2002-2006). The history of blogs goes back to the 90's where blogs emerged from list links and other such sites which led to information and news.

III. FEATURES OF A BLOG

Holzschlag (2005) feels that the blogging software that one chooses should not make a big difference. Here are few of the features she thinks are common with many blog soft wares, the ones which are uncommon almost always present themselves in some form or the other. Many of the features she quoted look like they are for hardcore blogging; the ones listed here are the related to general beginner blogging.

- **Browser-based Editing:** Holzschlag feels that most of the time of a blogger is spent in posting or commenting which leads one to the fact that the text editing options of a blog hold an important place in the blog. Most blog soft wares allow one to enter and format text and even edit it if required, all this while the user is online.
- **Categorization:** Many blog soft wares allow one to categorize posts according to one's own wish. This allows for easy searching by prospective blog readers.
- **Built-in Archiving Systems:** One of the common features of a blog software is its ability to archive or store posts without other people having to go through them when they become too many. Archiving of posts may be done on the basis of when it was created or on the basis of the category in which it falls in. The common type one may come across in blogs is week-wise, month-wise, or yearly archiving of the blog posts along with their comments. This facilitates maintenance for the blog author as well as reading by a blog reader.
- **Comments:** This feature is the foundation of any group blog where interaction and communication is sought. It gives a new direction to every post allowing exchange of information both ways. This feature can be manipulated by the blog author post wise whether s/he requires any comments on a post or from invited readers or from anyone. Use of this feature can be quite tricky sometimes. One has to be careful of undesirable people posting unwanted comments on the blog. Spam as one calls unwanted commenting is now controlled by many spam filters, spamblocks.
- **Pingback:** This is a facility not very common but nevertheless useful when discussion is sought outside one blog, i.e. across two or more blogs. Trackback (and Pingback, an emerging standard for Trackback) is a means of sending a notification from one blog to another. If the trackback feature is enabled in two blogs then if one writes a post based on the other a ping will show up in the comment section of the post that it was based on. Thus discussion extends beyond the boundaries of a single blog.
- **Notification:** Email notification is a simple feature that notifies users connected to a blog via email every time a blog is updated by blog author/s.
- **Search:** This is a feature most helpful for a blog author who has generated many pages for easy maintenance or a blog reader who is sifting through information on his/her favorite blog for instant information. It allows one to type in the search keyword to show up the related posts in that blog, much like typing a keyword in Google and getting search results.
- **Date & time of posts:** An important aspect of blogs is that the date and time of posting a particular comment or post is invariably recorded by the blogging software and displayed below or above a statement.

IV. TYPES OF BLOGS

If one thinks of categorizing blogs, it can be done in many ways. Blog content could be used as a characteristic feature to classify the blogs.

- **Photoblogs** - A popular type being the Photoblogs - where one can upload pictures and photos on their blogs.
- **Video-blogs** - A blog where many videos are uploaded is called a video-blog or v-blogs or more conveniently vlogs!
- **Audioblogs** Similarly blogs with audio in it are called podcasts or audioblogs
- **Mobile Blogging** - Bryant (2006) talks about 'moblogging' a shortened term for mobile blogging, where the user can blog even through mobiles. This though only reemphasizes the already existing fact that blogs allow users to post from anywhere, provided the medium one uses allows access to internet. Infact it's the advancement in media as well as the mode that allows users flexibility to such an extent. Though Bryant insists that mobile blogging, is popular not only because it allows people to blog from anywhere but also because where the blogger is posting from can be relevant. He also adds that Bloggers writing about natural disasters, geology, or political protests can now post from anywhere and mark their location, which can then be used by readers to view satellite photos of the area from Google maps or Microsoft's new service, TerraServer.
- **Knowledge management blogs** - Blogs on knowledge management are called K-logs. (Roberts, 2003) says that the 'spontaneous transmission of ideas, analysis, knowledge' proves to be a valuable technique of preserving information for the research community. Users who express themselves on these powerful tools unknowingly create repositories of valuable information which otherwise might never have been captured. Stone (2002) however thinks that knowledge management is an application of blog more than a type. According to him, blogs work as good knowledge management tools because they are scalable, fast, can be archived, and provide a network of links and other blogs.
- **Edublogs** Another type of blogs is those used in education called edublogs. These are mainly the venture of a University or a class or a school or a group of students dedicated to some area of learning. This just goes to say that extent of edublogs depends on what one defines as education. Blogs that talk about just personal life experiences but which influence others in their own lives may be considered educational in a way. Thus there is a need to define at least a faint definition of edublogs. Mainly it helps when one limits learning to formal settings making it easier to analyze and document. A thought by "Educause learning initiative" may help in defining edublogs or give an idea of what could go on in edublogging - while talking about implications of blogging to teaching and learning Educause learning initiative (2005) write that in class it could be used to reflect on career interests, current events or classes or to capture and disseminate user (in this case teacher/student) generated info

In an article published by The Australian Flexible Learning Network (2005) outlines how bogs could be integrated into classroom environment. Following are some aspects to be aware about when integrating blogs with learning:

- **Plan and design:** one should decide as to how a blog fits into a learning program. This meaning whether the use of blog will be beneficial and whether it is required or can be applied in the learning one is interested in.
- **Decide blog host:** as mentioned earlier by the researcher there are many blog soft wares which host blogs, it is up to oneself to choose the appropriate blog host.

- Be prepared: According to this article, if one decides of integrating blogs with learning then one should be prepared with the blog through which learning is going to occur. This meaning setting up the initial posts that will kick the learning process into action. This could also mean uploading all content and keeping it hidden from student view. For this study, the researcher went through all these steps before commencement of treatment.
- Negotiate or define with your students how the blog will be used. This could include:
 - purpose of the blog in the learning program
 - acceptable use and guidelines for posting
 - frequency of updates required.
- Remind learners that blogs are designed to be publicly accessible. Learners do not need to login to view materials. Discretion should be used when publishing private and confidential materials. There is no control over intellectual property.
- Clearly define the purpose, expected outcomes and assessment requirements (if applicable).
- Provide guidance to learners on the type of work that should be included in the blog. Consider using the inbuilt commenting feature to provide individualized feedback.
- Following these guidelines one realizes that integrating blogging in learning indeed requires a lot of planning and this goes without saying that larger the scale of blogging more the required planning.

V. ADVANTAGES

Sanchez (2005) thinks that according to his personal opinion blogs are:

- Easy to create
- Easy to maintain
- Search-engine-friendly
- Free
-

The researchers had the following advantages from their own experience:

- Providing **Feedback** to participants. When there was a query by any of the participants the researcher found it convenient to just click on the comments link in that participant's blog and leave the answer there. Thus it helped in giving individualized feedback.
- Blogs also provided the convenience to link every participant's blog with each other. The feature called '**link list**' eased this process. It allowed the author of the blog to store URLs of group members' blogs and show it on their own blogs as a list of contributors. This feature hence allows the author to store and display on the blog his/her favorite pages on the internet. The facility to link features on the blog was also useful. Pictures and text in the posts can be hyperlinked to related resources seen fit by the author.
- **Labeling posts** helped categorizing them according to days or topics. However to make use of this feature the author needs to enable display of labels on the blog.
- **Creating a poll** was another feature that was newly added by Blogger in their list of page elements. Though the researcher could not implement this feature, it could definitely be used to motivate the learners and bring an element of variety in the learning process. Polls about opinions

on the learning process, some questions on main topics of content, or as an introductory activity for a debate, this feature could be of great advantage in making the learning process interesting.

- **Adding resources** from Google books was yet another advantage that the researcher came across. In this feature, the researcher did not have to provide names, authors, or titles of books to learners all that needed to be done was to go to an accessory service of Google and get the code prepared. Putting this code on the blog enabled display of these books on the blog.
- **Editing of posts** was made easier due the provision of edit icon below the post. Thus editing posts in case there was a mistake or updation was made effortless.
- **Auto saving of posts** that occurred while writing posts. This feature helped the researcher retain posts that were written and could have been lost due to unexpected browser crash or other such problems.

VI. USES

Ray (2006) points out four uses for a blog in a classroom. From this it appears that one can look at blogs as a tool for many purposes, some of them are as follows:

- Communication** – indeed the posting and commenting features of blogs are good for asynchronous communication and give plenty of time to the blogger to think and formulate the posts and comments; a good advantage for discussion based learning. The communication power it provides the user is realized when one comes across the words of Roberts (2003) where she puts forth that an interesting class discussion cut short due to pre- scheduled timings can be continued on blogs where students may enhance and support their views by providing links of ideas or opinions that support theirs. The importance of asynchronous nature of blogging comes through when Roberts gives examples of researchers in different time zones or universities exchanging information.
- Instruction** – blog softwares that allow uploading of files and images on their server serve as great facilities to turn a blog into an educational resource and thereby carry out instruction
- Collaboration** – since group blogs are possible on blog softwares like Blogger.com, it serves as a good tool for collaborative projects.
- Store of Student Projects** – as mentioned earlier uploading of images and photos are also possible thus showcasing student drawings or other such work can motivate students. This can be useful for higher education students or professionals seeking jobs, where student portfolios could be uploaded on blogs or other servers and give those links in the blogs.

The researchers made use of blog posts to divide them according to their needs. Posts were divided as post for 'doubts' where participants could ask doubts to the researcher about the topic, 'connect' where the participants could write non academic comments to the researcher.

The link list feature was made use of by the researcher for listing down members of the group blog. This facilitated in going to any members blog and posting comments or read others posts.

After looking at all the features, uses and advantages mentioned above a very simple but important point is raised by Farmer (2003) where he says that "to assume personal publishing will meet people's needs and to assume that it'll be used just because it can do something doesn't really cut it. What matters is what it does better than anything else and far more importantly the degree to which it does what people want to do." According to the researcher what a blog does best is to present one's opinions as one wants it. This aspect is what needs to be utilized to the optimum. It provides a personalized medium of discussion which could definitely be used in the educational scenario. The only challenge lies in initiating,

maintaining and making a discussion successful on a blog which was realized by the researcher during her study.

VII. RESEARCH REVIEW

Fang and Wang (2004) explored the benefits of cooperative learning in weblog networks in the writing class among University students in Taiwan. They found that two thirds of learners agreed that using asynchronous communication improved the students' academic development. Also from the study benefits of collaborative learning in weblog networks was identified and illustrated as follows: learner autonomy, co operative learning and time management.

Xie and Sharma (2004) carried out a phenomenological study in which nine participants, who maintained Weblogs in a graduate course, were interviewed. Initial data analysis indicated that participants found Weblogs helpful for learning, reflecting, and building a sense of community.

A study done by Gumbrecht (2004) interviewed bloggers in and around the Stanford University on their blogging habits, use and thoughts on blogging. One of the 3 results in the study stated that users exercised self control while writing anything to avoid any future repercussions. This leads us to the fact that as bloggers can control their writing, content in an edublog can also be controlled in an extent that will help the instructional process, like certain procedures that should be known only after the preliminary processes in an experiment. The 2nd result states that users sometimes preferred blogging over instant messaging as they liked the continuity in which their monologue and their train of thoughts was not disturbed. These 2 aspects are very important with reference to edublogging meaning if a discussion is to continue between a group about a topic, then each one gets plenty of time to think and write as their thought processes run uninterrupted, as there is no one to counter their viewpoint until someone comments on their posts. As all of the participants of the group can contribute as much as possible (they also take inputs when they read others comments) due to this nature of the blog, the advantages of group discussion and reflective thinking can be taken. Such a setting may also make the shy ones speak up which they would rather not in a face-to-face or synchronous setting. The 3rd result focuses on importance of feedback for the bloggers and showed that individual bloggers preferred no comments as they would not be able to control others' responses whereas group bloggers or community bloggers held comments as central to their blog. It was also found that Educational blogs aren't created to share deep, private revelations about oneself, they clearly had a purpose of honing the students' writing skills.

Though blogs by Indian authors and blogs dedicated to educational scenario in India were observed no studies of Indian origin were observed on the same. But the existing studies might reflect that blogs as of now is in its exploratory stage in India where people may just be discovering its facets which is when the stress on use of blogs for learning should be emphasized.

Looking at all these aspects of blogs it can be seen that blogging is such tool that could be explored and used as innovatively as possible, the challenge lies in using one's creativity to use it well so that it does not become just another content rendering tool but contributes towards the learning process.

VIII. PRIMARY QUESTION FOR THE STUDY

The primary research question explored by this study is: how can an understanding of the use of blogs by the students be integrated into the Master level curriculum on Instructional Design? The second question was to explore if the blogging is an effective tool for learning cooperatively at Master level.

IX. RESEARCH METHODOLOGY

The solution to the research questions were explored through participatory action research. A study was set up with the Semester II students of Master of Educational Technology-Computer Applications (METCA) which aims at developing Instructional Designers for e-learning. This programme is offered by the SNDT Women's University where only female students are offered Degrees. Blogging was used to

teach the METCA (Semester II) students one section of Course on Research Methodology. Action research was selected as the problem was not universal in nature also the process involved working with students of specific Programme for finding out specific answers.

X. SAMPLE

The sample consisted of 15 female students. Age range of the participants was 21-24 years. All the participants had very high to moderate inclination toward computers and computer related learning. Most of the participants had a background of science as most of them had completed their graduation in either, early childhood care, chemistry or food science, whereas a few had degrees in commerce and mass media.

The initial sample size was 18. Two of them were absent for the pre-test and one more apart from the two, was absent for the post-test. Hence the sample size on which the actual study results were interpreted was reduced to 15.

XI. DATA GATHERING TOOLS

a. Achievement tests:

Two parallel tests were prepared to measure the academic achievement of the participants. They were prepared on the content that was taught through blogs i.e. 'sampling' from research methodology course of METCA. Two parallel sets of questions were prepared: one as pretest, and the other post test.

b. Opinionnaire:

Opinionnaire is a tool that helps in collecting people's opinions about a particular topic. It contains statements that usually the reader has to give opinions on and the range of opinions is pre-decided within certain levels e.g. strongly agree, strongly disagree, agree, disagree, can't say. The range of opinions could be levels of certainty, frequency, agreement etc. This tool helped in collecting the opinions of the participants about the blogging treatment. To prepare this opinionnaire, two areas were decided; one area where participants would give opinions as learners learning through blogging and the other where they would give their opinions as Instructional Designers. This tool has a range of opinions in decreasing levels of agreement starting from strongly agree (SA), agree(A), disagree(D) and strongly disagree(SD). While scoring responses of participants to the opinionnaire, the researchers assigned scores to each level as follows:

SA – 4, A – 3, D – 2, SD – 1 for positive statements and

SA –1, A –2, D –3, SD – 4 for negative statements.

c. Evaluation rubric:

A rubric is a two dimensional tool where one dimension consists of aspects and the other dimension consists of degrees of fulfillment of that aspect. It can be called an observation tool as the aforementioned aspects are usually observed against the corresponding levels or degrees. It can also be called an evaluation tool as it helps evaluate the performance of participants against certain criteria. An evaluation rubric was prepared to evaluate individual participant blogs. Three areas were defined while preparing this rubric: use of blog in the learning process, use of blog features and individual commenting on other blogs. Individual aspects under each of these areas were defined. A range of points for each of these aspects was assigned as 1, 3 and 5, 1 being the lowest and 5 being the highest. While scoring, these points were assigned according to the degree of fulfillment of each aspect. Sometimes intermediate scores like 4 and 2 were given when the performance fell between the tow levels. Scores for all aspects were added to obtain a total score for each participant.

Data collected from this tool helped in evaluating the usage of blogs by the participants during the study.

XII. THE STUDY

The study started with a short orientation of the participants to blogs and blogging. It was conducted by the second author under the guidance of the first author.

A. Part I – Creating a blog and linking it

The students were given a short presentation on blogs and blogging. They were guided to make their own blogger accounts. The software portal chosen to host this treatment was the new version of ‘Blogger’ as it was relatively simpler and free of cost to use.

The researcher had made a blog as well, for the purpose of teaching/discussing the topic for the treatment, ‘sampling’. Participants were introduced to this blog and were welcomed with a welcome note as the first post. The rest of the session involved solving participants’ doubts that they encountered while making their own blogs. Everyone’s blog addresses, blog names and roll numbers were listed so that each participant’s blog could be connected to the researcher’s blog. The researcher used a feature of Blogger – link lists for attaching everyone to her blog. The link list feature is present in the settings, customize option of Blogger. This feature allows the user to add a number of Web addresses (a URL) which could be named. These web addresses would then be shown on that user’s blog at all times. Hence the researcher added every participant’s blog addresses to the link list and named each one by their names. This link list was named as ‘contributors’ and looked as follows on the researcher’s blog:

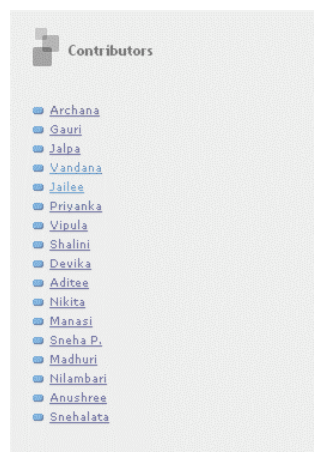


Figure 1. Link list used to make a Contributor’s list

The participants had to similarly connect their blogs to each other by repeating the process with their blogs. The result was every participant’s blog showed a list of all the members or contributors that were involved in the treatment including the researcher’s. With these initial measures the participants were ready to explore their own blogs and the atmosphere of blogging. The researcher started the treatment with a few posts that helped the participants get used to blogging, giving them links to access in case they needed help. The initial posts of the blogging treatment were not related to the topic of treatment and were given with the aim of acclimatizing the participants to blogging. Not only were they provided with posts but were also given link lists on the blog. Thus 6 days were spent to allow learners to use blogs and explore it.

B. Part II – Teaching through blog:

The topic for treatment was initiated from March 29. The general trend of the treatment was as follows:

- i. A post was uploaded by the researcher about a small topic.
- ii. This would be followed by a question for the learners to answer in their blogs or on the researcher's blog itself.
- iii. The frequency of uploading posts ranged from everyday to alternate or 2 days. The uploading of next post by the researcher depended on when the participants responded.
- iv. After the participants responded the researcher would build on the participants' responses.
- v. Participants were encouraged to ask doubts or questions on the blog. Such doubts and questions were solved by the researcher by communicating with that person. These responses of the researcher were accessible to other participants as well. Thus the researcher could have asked other participants to refer those solutions or better still offer their thoughts about the doubt, but due to time constraints it could not be achieved.

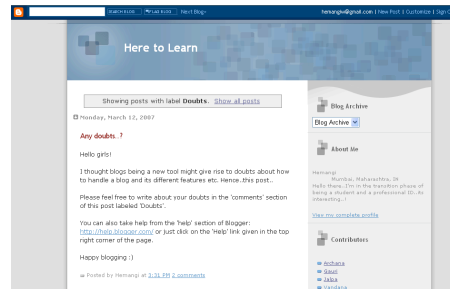


Figure 2. Post for students to ask their doubts

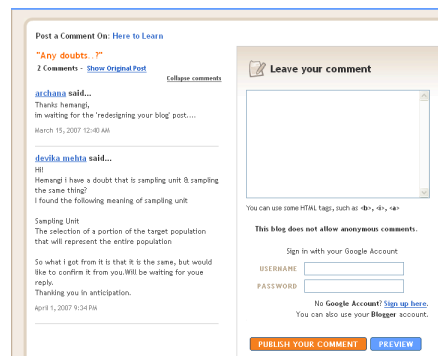


Figure 3. Doubts asked by participants in the doubts post

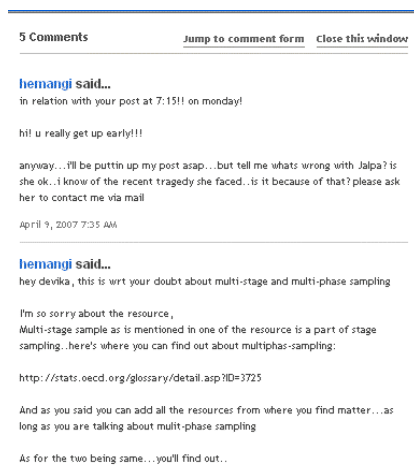


Figure 4. Responses to doubts asked by participants

The teaching learning process through the blog continued for 38 days.

After the completion of teaching-learning, the posttest was administered to the students. The participants were administered with the opinionnaire as well. The researchers also evaluated each participant's blog according to the evaluation rubric.

XIII. DATA ANALYSIS

A. *Achievement of students:*

Pre and post tests scores on the topic "Sampling" showed that the students have gained significantly from this interaction on the blogs. The average pre test score was 4.7 whereas the posttest score went upto 14.87. Figure 5 shows the graph related to the prep and post test scores.

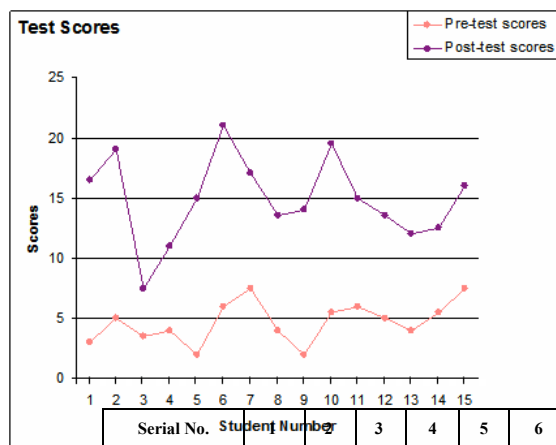


Figure 5. Graph of pre and post test scores

Serial No.	Student Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Scores out of a maximum score of 75		26	34	18	31	35	33	43	34	30	29	36	35	19	36	26

The t-ratio which was 9.75 was significant at 0.01 level. The results show that there is a significant increase in the scores. This significant gain implies that the blogging was effective for teaching a course from the Master level programme. This also gave us confidence in introducing Blogging as a tool for teaching course further as well as include it in the METCA programme as a “content”.

B. Assessment of the usage of blogs during the study by the students

For assessing the use of blogs by the students, a rubric specially developed for the same was used. Table 1 shows total scores of each student. The maximum score was 75.

TABLE I. EVALUATION RUBRIC SCORES OF PARTICIPANTS

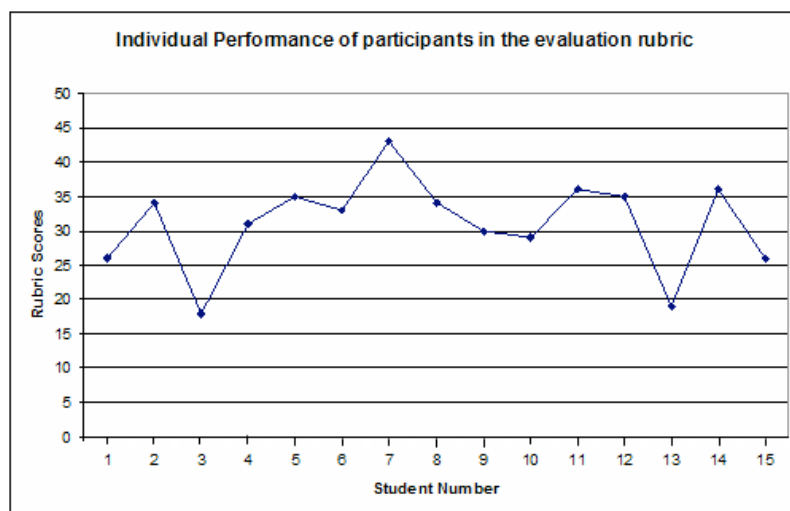


Figure 6. Scores on the blog rubric

From the above graph it can be observed that student 7 has obtained the highest score in the rubric. This participant showed highest level of interaction with highest number of comments on the facilitator's blog. She has a particularly substantial contribution to the total number of comments in the group. It was also seen that this participant made an effort towards putting up posts even though they were not related to the topic. At the same time contribution towards posts related to the content was as required by the researcher. Her blog was different from the rest with highest number of posts on her blog and lots of images. This performance may however relate to her previously limited exposure and knowledge about blogs.

There are 5 students who have below average scores and 10 with above average scores. This distinction is satisfactory for first time users of blogs as only two out of 10 above average students had previous knowledge about blogs.

None of the comments observed were rude or unsupportive, all were supportive of the doubts and responses posted. Most of them had put up relevant links and pictures.

If the detailed rubric is observed, it can be noted that all of the participants have scored zero in interaction with other participants (aspect A1 and A3) and in group discussion (aspect C1). This shows that group interaction should have been encouraged by the researchers during the study. One of the reasons for low group interaction among participants on their blogs maybe the fact that they met everyday face to face as they attended classes. Even then, the researchers could have provided a scenario where they would need to write to each others blogs. This emphasizes the fact that while using blogs with blended learning, the facilitators of blogs need to ask learners to do something significant to their learning that may extend the classroom activities, which will give the learners a feeling of working beyond the classroom as well as keep them motivated.

Another observation was that most of the learners were not motivated enough. This reflects through the fact that very few learners put up posts without being asked to do so. It was observed that most of the participants used the features taught when they were oriented about blogs.

C. *Opinion of participants about blogging in learning*

Each row shows the statement number and how many students strongly agreed with the statement, how many disagreed and so on.

TABLE II. OPINION OF PARTICIPANTS ABOUT THE TREATMENT (BLOGGING) IN THE STUDY

Statement no.	SA	A	D	SD
Part I				
I knew nothing about blogs before this treatment.	10	2	2	1
I explored many features of blogs other than the ones shown during the treatment.	3	9	3	0
Posting comments is a difficult task.	0	0	5	10
Unlike chat typing out thoughts uninterrupted helped me to write good posts and comments.	2	13	0	0
I like the time spent while blogging.	5	10	0	0
I liked the commenting feature of blogs.	5	10	0	0
One needs more than a week to get used to blogs and blogging.	0	3	10	2
This blogging activity has helped me polish my communication skills.	5	6	4	0
I was careful of choosing my words while writing posts or comments.	4	11	0	0
I have edited my posts during this treatment.	6	6	1	2
I used the 'edit post' feature often to revise my posts.	4	5	5	1
This treatment has added to my knowledge about the use of blogs for education.	12	3	0	0
Creating a blog is very easy	8	6	1	0
It is exciting to read comments written by others on one's posts.	12	3	0	0
Images uploaded in the posts of the facilitator helped the learning process.	9	6	0	0
I would continue using my blog even after this study is over.	6	8	1	0
Blogging has helped me see others' perspectives and think about them.	7	7	1	0

I commented on others' posts very often.

0

6

8

1

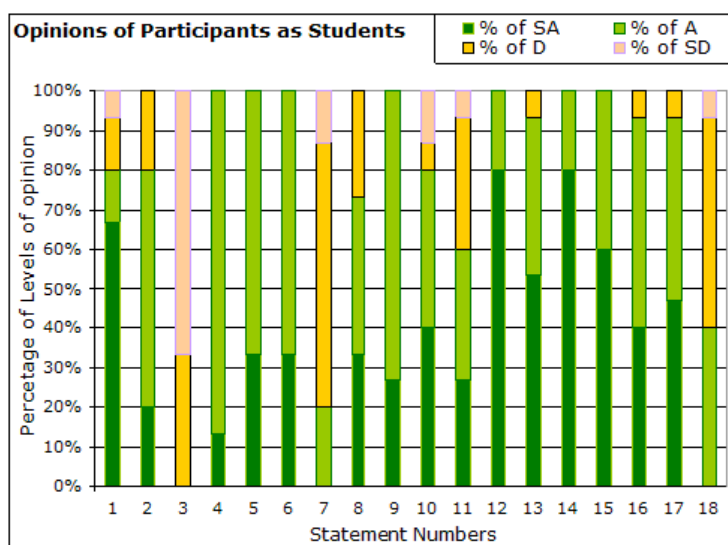


Figure 7. Opinions of participants as students

D. Opinion of participants on the treatment (blogging) in the study

1. 80 % of the participants knew nothing about blogs before this treatment.
2. 80 % explored many features of blogs other than the ones shown in the treatment.
3. All the participants felt that posting comments is not a difficult task.
4. All the participants felt that typing out thoughts uninterrupted helps them write good posts and comments unlike chat.
5. All the participants liked the time spent while blogging.
6. All of the participants liked the commenting feature of blogs.
7. 80% disagreed with the fact that blogging requires more than a weeks time to get adjusted to.
8. 73% felt that this blogging activity has helped them polish their communication skills whereas 27% felt that this activity had not influenced their blogging skills.
9. 83% were careful of choosing their words while writing posts or comments.
10. 80% have edited their posts during this treatment.
11. 60% say they have not used the edit post feature to revise their posts.
12. All the participants feel that this treatment has added to their knowledge about blogging.
13. 93% felt that creating a blog is very easy.
14. All the participants thought it was exciting to read other's comments on their posts.
15. All of them felt that images uploaded during the treatment in the posts of the facilitator helped the learning process.
16. 93% were planning to continue using their blogs even after the treatment is over.

17. 94% thought that blogging has helped them see others perspective and think about them.
18. 40% agreed that others posts were less commented by them.

TABLE III. OPINION OF PARTICIPANTS OF USING BLOGS AS A LEARNING TOOL FROM THE POINT OF VIEW OF AN ID

Statement no.	SA	A	D	SD
Part 2				
Blogging will support group discussions.	4	11	0	0
Blogs can be used in combination with F2F sessions.	2	11	1	0
Blogs can be used as evaluative tools.	2	12	1	0
In case of absence of F2F settings, blogs can be used to a moderate extent to deliver content.	7	8	0	0
Blogging makes the shy learners speak up.	8	6	0	1
Blogs allow learners to think about the learning process (<i>e.g. what was today's learning outcome? etc.</i>)	6	8	1	0
Blogging increases interaction among group members.	4	8	3	0
Blogs help learners to think about their own learning. (<i>E.g. how much did I contribute? etc.</i>)	4	11	0	0
The categorizing of posts (labeling posts) helps in group discussions.	10	5	0	0
Providing links in the posts is a good way of distributing information or resources.	11	4	0	0

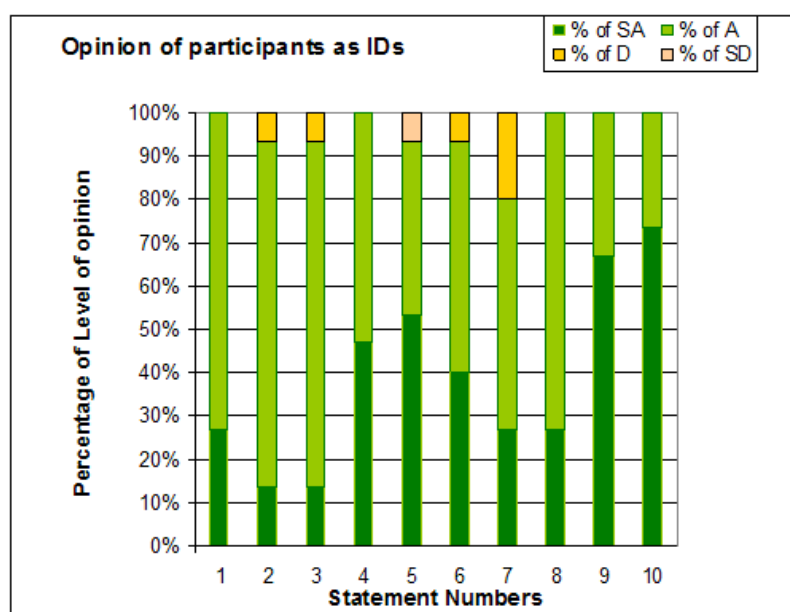


Figure 8. Opinions of participants as Instructional Designers

E. Opinion of participants of using blogs as a learning tool from the point of view of an ID:

1. All the participants felt that blogging will support a group discussion, but the same does not reflect in the evaluation rubric. Group discussion should have been initiated by the researcher. This fact emphasizes the importance of the role of facilitator or moderator in learning through group blogging. That the moderator or facilitator must constantly motivate participants to blog and discuss through blogs.
2. 93% felt that blogs could be used in combination with face to face sessions.

3. 93% felt that blogs can be used as evaluative tools.
4. All of the participants felt that in case of absence of F2F settings, blogs can be used to a moderate extent to deliver content.
5. 93% felt that blogging made shy learners speak up.
6. 93% felt that blogs allowed learners to think about the learning process.
7. 80% agreed that blogging helped interaction among group members.
8. All of them felt that blogs help learners to think about their own learning.
9. All felt that categorization of posts helped in group discussions.
10. All of them felt that providing link is good way of providing resources.

XIV. RESEARCH IMPLICATIONS

A. Study Recommendations

The study findings revealed that blogs can be used for Master level students for teaching learning process. Based on the research findings, several recommendations were identified to help other educators use blogs in online environment. The recommendations include the following:

1. Understand the benefits of blogs in cooperative and collaborative learning environment
2. Provide training to students to create and use blogs creatively and enhance interaction in learning process.
3. Use Blogs as a technique in instructional design
4. Include blog as a content for Instructional Designers programme
5. Create activities that promote interaction and involve students in cooperative and collaborative learning environment

These recommendations are made on the basis of the findings of the study conducted on Master level students.

Topics for blogging should be discussion oriented as opposed to theoretical concepts. If some sort of discussion is expected from the learners, they must be guided towards having that kind of a discussion, for e.g some guidelines for discussion etc.

Blogging activity needs a lot of time. To get a response from participant, s/he should be given some time to access blogs, read through what is being given and then formulate a response, this is especially important when the learners and facilitator may be geographically distant from each other.

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APPENDIX A

OPINIONAIRE ON "BLOGGING IN LEARNING"

Personal information:

Name: _____

Email: 1. _____ 2. _____

Graduation degree in: _____

Inclination towards computers and computer related learning (tick the option most applicable to you):

☐ Very High ☐ High ☐ Moderate ☐ Low ☐ Very Low

Instructions: Please tick in the appropriate boxes below:

Opinion of participants about the treatment (blogging) in the study

SA=Strongly Agree

A=Agree

D=Disagree

SD=Strongly Disagree

29/5/07 4:34 PM

Formatted: Bullets and Numbering

Statements	SA	A	D	SD
1. I knew nothing about blogs before this treatment.				
2. I explored many features of blogs other than the ones shown during the treatment.				
3. Posting comments is a difficult task.				
4. Unlike chat typing out thoughts uninterrupted helped me to write good posts and comments.				
5. I like the time spent while blogging.				
6. I liked the commenting feature of blogs.				
7. One needs more than a week to get used to blogs and blogging.				
8. This blogging activity has helped me polish my communication skills.				
9. I was careful of choosing my words while writing posts or comments.				
10. I have edited my posts during this treatment.				
11. I used the 'edit post' feature often to revise my posts.				
12. This treatment has added to my knowledge about the use of blogs for education.				
13. Creating a blog is very easy				

14. It is exciting to read comments written by others on one's posts.				
15. Images uploaded in the posts of the facilitator helped the learning process.				
16. I would continue using my blog even after this study is over.				
17. Blogging has helped me see others' perspectives and think about them.				
18. I commented on others' posts very often.				

- Opinion of participants of using blogs as a learning tool from the point of view of an ID

SA=Strongly Agree

A =Agree

D=Disagree

SD=Strongly Disagree

Statements	SA	A	D	SD
1. Blogging will support group discussions.				
2. Blogs can be used in combination with F2F sessions.				
3. Blogs can be used as evaluative tools.				
4. In case of absence of F2F settings, blogs can be used to a moderate extent to deliver content.				
5. Blogging makes the shy learners speak up.				
6. Blogs allow learners to think about the learning process (<i>e.g. what was today's learning outcome? etc.</i>)				
7. Blogging increases interaction among group members.				
8. Blogs help learners to think about their own learning. (<i>E.g. how much did I contribute? etc.</i>)				
9. The categorizing of posts (labeling posts) helps in group discussions.				
10. Providing links in the posts is a good way of distributing information or resources.				

B. Appendix B

C. Evaluation rubric for individual blogs

	1	3	5
A. Individual commenting on other blogs			
1. <i>Number of blogs commented except facilitator's blog</i>	Comments are made only on 1-2 blogs	Comments are made on 3-4 blogs	Comments are made on 6 and more blogs
2. <i>Comments on facilitator's blog</i>	Less comments are made on the facilitator's blog	Equal number of commenting is done on the facilitator's blog	Most of the comments are on the facilitator's blog
3. <i>Comments on group members blogs</i>	Less comments are made on other group member's blog	Moderate comments are made on other member's blog	High comments are made on other member's blog
4. <i>Percentage of comments made individually out of the total comments made by the group</i>	Least percentage	Moderate percentage	Highest percentage
B. Use of blog features			
1. <i>Use of features like,</i> ❖ <i>Commenting</i> ❖ <i>Posting</i> ❖ <i>Uploading images</i> ❖ <i>Giving links</i>	No features are used except for posting	1 feature is used along with ones that were not introduced during the treatment	More than 1 features are used along with ones that were not introduced during the treatment
2. <i>Justified use of link lists</i>	only the link lists asked to be made are present in the blog	An Extra Link list is made with some of them being vague and random and some relating to topic	Most of the link lists are relevant to topics of discussion, some of which also increase group interaction
C. Use of blog in the learning process			
1. <i>Discussion across posts/comments</i>	Less than 30 % of posts/comments show discussion among group members	30 - 60 % of posts/comments show discussion among group members	61 - 90 % of posts/comments show discussion among group members
2. <i>Relevance of uploaded links or pictures to the topic of</i>	Very few of the links and pictures uploaded by the individual are	Some of the links and pictures uploaded by the individual are	Almost all of the links and pictures uploaded by the individual are

<i>the post</i>	relevant to the topic	relevant to the topic	relevant to the topic
<i>3.Introduction before giving a link or picture</i>	Gives the link without any instructions or summary about it	Gives instructions but no introduction/summary about the links OR vice versa	Gives instructions as well a brief introduction or summary about the link to be visited.
<i>4.Assurance that the links are given after going through the content in them</i>	Only links are provided. Nothing is written based on self understanding of the content in links	Links are provided with little understanding of the content in the them	Links are provided more as a support for what is written by self.
<i>5.Presentation of content in the posts</i>	Content is presented without any formatting, important points may easily be overlooked due to poor use of formatting	moderate amount of formatting is used	Content is presented with apt formatting. Use of colors to highlight important points or notices and other aspects of formatting are used correctly.
<i>6.Writing style of posts while presenting a topic</i>	Matter of presentation is put up in the post without making any dialogue with the reader	Content of topic is presented by making an attempt to make a dialogue with the reader, but this is not done throughout the whole blogging	Content of topic is presented by striking a dialogue with the reader; also ask questions in between to make reader think.
<i>7.Contribution to total % of uploaded links and pictures of all learner blogs</i>	Less contribution	Moderate contribution	Large contribution
<i>8.Nature of comments</i>	Strongly judgmental comments were made without any politeness	Comments were better however were still sarcastic	Comments were suggestive, supporting, matter-of-fact
<i>9.Self initiated posts</i>	Posts on the blog were only those that were	Self initiated posts were observed but with	Self initiated posts were observed and

	asked to be put up by the facilitator	no connection to the topic of treatment	were in relation to the topic of treatment
--	--	--	---

Education systems and governments, through a steady barrage of policies and reports (Ewing, Smith, Anderson, Gibson, & Manuel, 2004; McRae, Ainsworth, Groves, Rowland, & Zbar, 2001), have placed high priority on teachers continually learning and updating their skills and knowledge (Darling-Hammond, Chung-Wei, Andre, Richardson, & Orphanos, 2009; Doecke, et al., 2008). By engaging in ongoing professional learning it is argued (Hargreaves, Fullan and Senge, 2007) that teachers are better prepared to meet the challenges of teaching in the twenty-first century. However, as a profession we still do not have definitive information about what effective professional learning is. There is considerable openness about what constitutes effective professional learning.

Professional learning practices that provide opportunities for teachers to learn together in collaborative groups and address local needs have been shown to be extremely effective (Atweh, Kemmis, & Weeks, 1998; Groundwater-Smith & Mockler, 2009). Positive professional relationships which encourage collaborative practices and are based on trust enable a comfortable sharing of practice and collegial feedback (Campbell & Groundwater-Smith, 2007). Hargreaves (2007), Connor and Clawson (2004), and Loader (1997) have found collaborative, participatory professional learning is more likely to generate successful and sustainable change in schools. Stenhouse (as cited in Ruddock & Hopkins, 1985) advocates the cultivation of a professional learning culture in which teachers collaboratively research their practice with a view to improvement.

Action learning and action research are used widely for professional learning in schools to address identified school targets and issues. Sometimes action learning and action research projects are funded through government grants. I seek to identify the impact and sustainability of special program funding to determine whether this type of funding is a sound investment in the medium term and whether governments should continue to find ways to fund special programs which enable groups of teachers to carry out local projects that address locally identified needs.

XV. MY LIVING THEORY

There exist a number of factors that recur in relation to what strengthens or inhibits the success of action learning and action research projects (Aubusson, Ewing, & Hoban, 2009; Ewing, Smith, Anderson, Gibson, & Manuel, 2004; Fullan, 2010, 2009; Groundwater-Smith & Mockler, 2009). These factors play a role in determining whether action learning and action research are sustained as professional learning models in schools. The common approach to professional learning in schools is teachers being trained by others to introduce a new direction, although a change is increasingly evident in the literature (Doecke, et al., 2008; Ingvarson, Meiers, & Beavis, 2005; McRae, Ainsworth, Groves, Rowland, & Zbar, 2001). The change is a result of research indicating the most successful professional learning occurs when there is

“direction from the centre, but flexibility at the local level” (Hargreaves, Fullan, Senge, & Robinson, 2007) to ensure an innovation meets the particular needs of a school and its community.

Since 2006, I have led teams of teachers in improving their professional practice through action learning and action research. These approaches are sometimes funded by systems and governments as tools to implement new initiatives in schools, and often focus on the quality of teaching in classrooms. The teams and projects that I have led have been funded by the Australian Government Department of Education, Employment and Workplace relations as an initiative of the Australian Government Quality Teaching Program (AGQTP) through Quality Teaching Action Learning (QTAL). AGQTP “provides funds to strengthen the skills and understandings of the teaching profession” (New South Wales Department of Education and Training, 2003) and aims to improve teacher quality and ultimately student learning outcomes.

I am interested in the sustained impact of action learning on teacher professional learning in schools. School based approaches that encourage teachers to learn together in collaborative groups to address local needs, are usually effective professional learning practices. An important part of this ongoing process of improvement is building positive professional relationships based on trust in which teachers are comfortable sharing their practice and receiving feedback from their colleagues. Yet despite both my experience as a facilitator of action learning and a significant literature that advocates it, schools generally do not take up an action research mode of inquiry, even though they have school based professional learning funds that would enable them to do so.

QTAL project funding began in 2003, and ceased in June 2010. Through QTAL, schools applied for funding to carry out local projects that incorporated the New South Wales Quality Teaching Framework and other national education priorities. Three factors distinguished QTAL from other professional learning programs:

- Teams of teachers (usually 6- 8 teachers) worked in an action learning model to address a local workplace issue and national education agenda.
- Learning was project based, and the team set the direction and pace of the learning.
- School based QTAL teams were supported in their learning by state coordinators and academic partners from Universities.

(New South Wales Department of Education and Training, 2009a)

Because the Government continues to invest large sums of money on school improvement and reforms, understanding the impact of and sustainability of special programs is important in order to inform policy and decision making in relation to government investment in professional learning.

The AGQTP, (which was formerly titled the Quality Teacher Programme over 2000- 2003), received total funding of \$A76.8 million over 2000-2003, with a further \$A82.4 million provided for 2003-2005. Of these amounts, \$97.2 million has so far been allocated to professional learning projects.

(Ingvarson, Meiers, & Beavis, 2005, p. 3).

The funding levels quoted by Ingvarson are significant, and QTAL evaluative studies (Ateliera Learning Solutions Pty Ltd, 2005; Ewing, et al., 2004; Hoban, Ewing, Kervin, Anderson, & Smith, 2005; Ingvarson, et al., 2005) are in agreement that action learning in schools positively impacts on teacher professional learning in the short term. Ewing (2004) found action learning is used most effectively in a school culture that supports learning through trust, support and collaboration- where leadership supports learning as the core business of the school, and resources are committed to ensure everyone learns “within a shared, collective mission” (Ewing, et al., 2004, p. 15). Hoban (2005) identified a number of ‘enabling factors’ as important in sustaining professional learning through action learning. In the Hoban study, it was found some schools focused on action learning in their QTAL projects, some schools focused on the

implementation of the QT Framework and some schools incorporated both action learning and Quality Teaching into their projects as was the intention of the funding body. By investigating schools that have participated in QTAL projects through AGQTP QTAL funding since its inception in 2003, I aim to determine the extent to which action learning has been sustained in the medium term. Existing evaluative studies of AGQTP QTAL projects have been of short term impact (six months or less) rather than medium term impact (since the introduction of the QT Framework in 2003).

XVI. REVIEW OF LITERATURE

Studies to determine sustainability have been undertaken in the short term (up to 6 months after funding ceases) but no data is available to determine the impact of this funding in the medium term. A gap in the literature currently exists as to whether this mode of inquiry is sustained in schools in the medium term-between 1 year and 6 years after funding ceases. It is difficult to determine the impact over a longer period of time (more than six years) because research suggests change requires consistent leadership and “most school leaders do not stay in the job long enough to achieve this” (Goodlab, as cited in Goldberg, 2000, p. 85). Sheppard, Brown and Dibben (2009) also found that change requires continuity in leadership and consistent leadership is a major determinant as to whether change is sustained in schools.

QTAL projects were a small part of the huge umbrella that constituted AGQTP activities across Australian education systems from 2003. The first major evaluative study of AGQTP QTAL projects was funded by the NSW DET in 2004 (Ewing et. al. 2004). It evaluated QTAL projects that occurred in schools from term 4 -2003 to term 2- 2004. This study investigated the conditions under which action learning is an appropriate and effective form of professional development for teachers in NSW public schools. A range of data was used in this evaluation:

- 50 project submissions
- 39 interim project reports
- 48 final project reports
- 8 case study schools
- Feedback from 20 academic partners

A number of findings in this study have relevance to the proposed study because it identifies the factors that are likely to make action learning succeed as a form of professional learning. It was found by Ewing et al. (2004) that action learning succeeds best in a school culture that supports learning, visible by:

- A trusting, collaborative working culture
- A school culture that supports risk taking and learning from mistakes
- The school leadership being actively committed to the learning of all the school community
- Resources are committed to support learning “within a shared collective mission that sees student and teacher learning as the core business of the school (Ewing, et al., 2004, p. 15)”.

The Ewing study did not address the question of whether the action learning was sustained after the cessation of the government funding. The following year, a second related report (Hoban et al., 2005) was released that specifically investigated whether the learning in QTAL was sustained six months after government funding ceased. It was a mixed methods study that consisted of a survey in conjunction with follow- up qualitative data gathering in 13 case study schools. Hoban et al. identified a number of “enabling factors (p. 7)” that are important in sustaining action learning, grouped under three headings:

- *Workplace conditions*- leadership, antecedents, school culture, funding, time
- *Content*- in QTAL this was the QT framework in relation to each teacher’s practice

- *Process*- the process of action learning which includes reflecting, sharing, action, planning, questioning, observing and facilitating.

The Hoban study was important because it addressed the issues of impact and sustainability of action learning in the short term- six months after funding ceased. The report specified future research should focus on schools that demonstrated all three enabling conditions to determine whether action learning initiated by QTAL is sustained in schools in the longer term.

In 2005 the Australian Council of Educational Research (ACER) published a comparative report based on 4 studies that investigated factors affecting the impact of professional development on teacher practice and student outcomes (Ingvarson et al. 2005) through the AGQTP. This report looked at projects from 2001- 2003 that were funded under the Quality Teacher Program (QTP). The QTP was the forerunner of QTAL, prior to the introduction of the QT framework into NSW government schools. The study surveyed 3 250 teachers who had participated in 80 professional development activities. The Ingvarson et al. (2005) study sought to identify characteristics of successful professional development programs and did not specifically target action learning as did the Ewing and Hoban reports. The process of action learning was described by Ingvarson as “active learning (p.8)” although it described a similar process in that it was referring to “teachers being actively engaged in reflecting on their practice, identifying specific areas of their practice they wish to improve, and reflecting on their, and their students learning outcomes (Ingvarson et al., p.8)”. Major findings in this study were:

- Opportunities for active learning, and reflection on practice was significant across all 4 studies.
- The level of professional community in a school is significant because it impacts on teacher knowledge and practice.
- Programs that built on opportunities for follow- up support were useful for teachers in trying out new skills. This variable includes time for teachers to jointly plan and reflect on their learning, and their students’ learning.
- Opportunities to learn or process variables had the largest effect on individual program outcomes.

As in the Ewing (2004) and Hoban (2005) studies, Ingvarson identified the importance of teachers collaboratively reflecting on their practice, and being supported in their learning by the wider school professional learning community.

Another study funded by the New South Wales Department of School Education in 2005 (Aubusson et al.) provides valuable background information on the conditions that support action learning in schools. This study investigated QTAL projects implemented in 2004- 2005 and focused on the conditions that influence teachers’ implementation of an inquiry based approach to changing teacher practice. This evaluative report surveyed 82 government schools, that participated in 50 QTAL projects. From these schools the research team selected 9 case studies. They also analysed a range of project related documents including school policies, minutes of team meetings, and records of procedures. It was found action learning promoted a school culture of collaboration, produced action and facilitated ongoing change. Aubusson et al. (2005) reported action learning cultivated Quality Teaching and stimulated change to teacher practice. The findings from this study supported previous findings that action learning enhances teacher learning outcomes (Ewing et al. 2004, Hoban et al. 2005, Ingvarson et al. 2005). The Aubusson et al. study (2005) did not address the issue of whether the learning from QTAL is sustained.

In 2005, the Australian Government commissioned a meta evaluation of AGQTP from its inception in 1999 to 2004 to determine the future direction of AGQTP in Australian schools (Ateliera Learning Solutions Pty Ltd (2005). The study made a number of recommendations, many of which have been followed and have set the direction for professional learning in schools both now and in the future. These recommendations were:

- AGQTP be continued for another 4 years.
- AGQTP focus on one objective- to increase teacher and school leader skills with clear links to the challenges identified in the Australian government reports “Teachers for the 21st Century (2003)” and “Australia’s Teachers Australia’s Future (2003)”.
- Outcome oriented performance indicators are needed to measure program achievements. This recommendation has been identified as important in all the QTAL evaluation studies (Ewing et al. 2004, Hoban et al. 2005, Aubusson et al. 2005, Ingvarson et al. 2005).
- Funding for state and territory projects be multiyear, and aligned to the school year, rather than begin and end mid- year which had been the case up to this point.
- AGQTP to address national emerging issues that require a national perspective to inform future effort. This recommendation had implications for teacher accreditation as education systems world-wide come to terms with “issues of teacher quality, accountability..... and professional standards (Groundwater- Smith & Mockler, 2009 pp. 60).
- Regular strategic forums of stakeholder groups be held to ensure AGQTP remains focused on its strategic directions against outcomes measures.
- Department of Science and Training (DEST) to liaise with the National Institute of Quality Teaching and School Leadership Directorate to facilitate the exchange of information gained through the program’s reporting process for the development of nationally agreed higher order standards of teacher and school leader professional practice.
- Where appropriate, commission national strategic initiatives through the Institute of Teachers.

(Ateliera Learning solutions Pty Ltd, 2005, pp. 123- 130)

A second meta evaluation, undertaken by Ewing and a team of educational researchers from the University of Sydney on AGQTP from 2004- 2009 was carried out in November 2009, the findings of which have not yet been published.

XVII. ACTION LEARNING IN AUSTRALIAN SCHOOLS

Many schools in Australia have informally engaged in teacher professional learning projects using action learning as a model in response to emerging issues in their schools (Atweh, et al., 1998; Ewing, et al., 2004; McRae, et al., 2001; New South Wales Department of Education and Training, 2008). In NSW state schools, the ‘Priority Schools Program’ formerly called the ‘Disadvantaged Schools Program’ has a history of using action learning and action research to engage teachers in researching and improving their practice in low socioeconomic status schools. The program aims to provide additional funding to reduce the achievement gap for students in schools with high concentrations of students from low socio-economic status backgrounds (NSW Department of Education and Training, 2008). The Federal Government has funded formal programs for professional development that use a collaborative participatory approach for some time (Grundy, 1998; Sachs, 1997). From 1993 to 1996 the Department of Education, Employment and Training (DEET) funded the National Professional Development Program which focused on improving teacher knowledge and competencies. From 1994- 1996 the Innovative Links Program partnered professional development with educational reform and school restructuring. It focused on developing schools as learning communities and linked schools and universities in professional partnerships. Action research was used to collaboratively address issues identified by the school. In the Innovative Links project, government funding bought teachers time to reflect, plan and evaluate their practice. In 2000, the Quality Teacher Program (QTP) began which continued to build upon collegial and collaborative professional learning practices that had been established in previous government funded programs (Doecke, et al., 2008; Esson, et al., 2002; McRae, et al., 2001).

The QTP funding was available from 2000- 2003 through the Australian Government Department of Education, Employment and Workplace relations (DEEWR) as an initiative of the Australian Government Quality Teacher Program (AGQTP). AGQTP “provides funds to strengthen the skills and understandings of the teaching profession” (New South Wales Department of Education and Training, 2009a), which aimed at improving teacher quality and ultimately student learning outcomes.

In 2003 the New South Wales Department of Education and Training (NSW DET) introduced the Quality Teaching Framework into NSW schools (NSW Department of School Education, 2003), which is a tool for pedagogical reform that focuses on improving the quality of teaching in classrooms. Following the introduction of the Quality Teaching (QT) Framework, AGQTP made competitive funds available to schools through the Quality Teaching Action Learning (QTAL) initiative. Under QTAL, schools applied for funding which enabled them to carry out locally identified projects to embed/ explore QT in their own sites in relation to specific aspects of their work. Funding specifically targeted teacher professional learning in an action learning model, through which teachers “learn with and from each other” (Revens, 1982, p. 65).

XVIII. FACTORS THAT CONTRIBUTE TO SUSTAINED TEACHER PROFESSIONAL LEARNING CULTURES

QTAL projects have been found to contribute to the creation of professional learning cultures in schools in which they were implemented in the short term (Ewing et al., 2004, Hoban, 2002, Ingvarson et al., 2005). Hoban (2005) investigated the sustainability of change and teacher learning that resulted from QTAL in the short term (up to six months after government funding ceased). He identified six factors that affect whether action learning is sustained based on thirteen case study schools:

- Teachers need to be up skilled in using the process of action learning.
- Time for action learning needs to be incorporated into professional learning components of school management plans.
- There needs to be continuity in the content focus for school based change projects.
- The sustainability of projects needs to be monitored over time in order to evaluate their effectiveness.
- A collaborative work culture exists that promotes school based teacher research.
- Enabling conditions for action learning need to be in place in schools.

(Hoban, et al., 2005, p. 8)

Based on the above factors, the authors (Hoban, et al., 2005) devised an emerging model of sustainable school based professional learning that elaborated on the enabling conditions that are important for sustaining professional learning through action learning. They organised these enabling conditions into three groups:

- *Content*- which included teachers’ practice in relation to the QT Framework, including need, ownership, control and affirmation.
- *Process*- how schools take up the AL process including reflecting, sharing, action, planning, questioning, observing and facilitating.
- *Workplace conditions*- those conditions specific to individual schools including leadership, antecedents (whether the school has been involved in other successful change projects), school culture, funding and time.

A diagram of the Hoban model can be seen below:

The Australian Council of Educational Research (Ingvarson et al., 2005) reported on four evaluative studies carried out in 2002- 2003 through the AGQTP. They used data from 3 250 teachers who had participated in eighty professional development activities. Teachers were surveyed three months after their participation in AGQTP. A focus of the study was to determine the impact of teacher professional learning projects funded by AGQTP on teacher practice. It was found significant positive effects of AGQTP projects in schools were identified in relation to:

- the inclusion of project content into classroom teaching.
- active learning. (It is unclear whether the researchers meant 'action learning' from this term).
- building professional community in schools.

Ingvarson argued that teachers rarely provided collegial feedback on observable classroom practice (2005). Data for this study was collected in 2002- 2003, prior to the implementation of the QT Framework into NSW schools in 2003, and three months after QTAL funding ceased in case study schools. A focus of the QT framework is providing collegial feedback to teachers in order to improve the quality of teaching in classrooms. In the Hoban (2005) study, providing collegial feedback by teachers to teachers was identified as a strength of the QTAL model. A study by Aubusson, Brady and Dineham (2005) were in agreement that peer observation and feedback on classroom practice could be a strength, but also a potential constraint to implementing action learning. Some case study schools in the Aubusson study (2005) chose not to participate in peer observation, although it was a focus of QTAL, because teachers were uncomfortable providing feedback on peers' classroom practice. They perceived the process as "judgemental" (p. 6). One of the recommendations of this study was that peer observation not be imposed but regarded as a valuable source of teacher feedback on classroom practice.

18.1 That peer observation and/ or direct sharing of classroom experience be encouraged gently, among well informed participants, conducted with sensitivity, and initiated by and among trusting colleagues- but not imposed

(Aubusson, Brady, & Dinham, 2005, p. 8)

As the Hoban (2005) and Ingvarson (2005) studies were carried out a short time after government funding ceased, and the Aubusson study (2005) was carried out whilst QTAL projects were actually being implemented in schools; it is difficult to determine whether action learning, QT and the professional learning cultures that are established during schools' participation in QTAL are sustained over the medium term. Hoban (2005) and Ingvarson (2005) both identified the need to monitor whether a professional learning culture developed through a school's involvement in QTAL is sustained over a longer timeframe.

There are enough parallels between QTAL and current professional learning programs that raise insights worthy of consideration in relation to schools receiving specific funding for targeted professional learning programs. Whether AGQTP QTAL government funding impacted on the professional learning cultures of schools, and whether the learning was sustained over the medium term has relevance for current and future professional learning programs.

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