GOOGLING THE GROUP: TEACHER EDUCATION THROUGH ICT

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Abstract

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Information and Communication Technology (ICT) has evolved as one of the major tools for improvising education in general and teaching-learning process in particular, at present. It, along with all its various dimensions, has proved to be indispensable for better teaching-learning approach from lowest level of learning to highest level of learning (Gagne, 1965, Patsula, 1999) and from nursery level to higher education level. As far as higher education is concerned it has, not only, boosted up the process of learning but also provided better opportunities for learners to construct, acquire, consolidate, share and expand their knowledge.

Web 2.0 tools (Scott, 2008, 2011), some of the prominent tools of ICT, have provided the learner the facility for developing, actively contributing and collaborating, user created content, customizing technology and content along with playing a leading role for expressing his/her ideas more democratically and initiatively, especially in higher education, for the individual and the community. One of such tools is Google-group (Google, 2010). It provides learner/user the opportunities to raise and discuss a topic, invite new members, create pages, upload and share files.

The current study talks of implications, made through Google-group, among learners at a teacher training course, in learning process, planning for activities, academic discussions on various issues, discussion about assignments and holding a debate on Continuous and Comprehensive Evaluation (CBSE, 2009). It throws light on the democratic (Shukla, 2004), scholarly, professional values (Pilichowski, Arnould, OECD, 2007) and leadership qualities (Meyer, 2008) developed among the learners of teacher training course during this pursue, and hence, the implication of ICT in general and Google group in particular, for better learning.
Introduction

Technology, a translucent term, by virtue of knowledge about it, has crept in almost every sphere of human day to day life. His routine work, more or less, are dependent upon technology. While tunnelling, through these work, human, learns a lot and creates a base for further learning. So, technology is helping in learning process through day to day activities. It has entered in formal as well as informal system of education, which are major platforms for learning process.

For running the system of education, teachers are being developed and which, in turn, again are created through system of education. These teachers are being equipped, academically, through various sorts of courses which come under periphery of teacher education course or teacher training course. In a similar course, by looking at using technology in daily routine by the learners, it was thought to incorporate the use of technology for pre-service teachers for their learning. Hence, a technology tool, which could be easier while using, learner-user-friendly, providing easier access, requiring less technical skills, available irrespective of time and space and needing no cost while using, was sought. Exploring for such a tool, the search was ended in finding Google group, a web 2.0 tool.

Google group application was, then, applied in various activities, giving major share for acting by learners. It was amazing to find that after a little orientation for this tool and its applications, learners’ participation was just boosted up through various learning activities. They, themselves, explored and evolved plethora of ways and strategies for using and applying it in various learning processes. This developed and inculcated, not only democratic, but also, professional qualities among them. The current paper makes an endeavour to present a brief scenario of the entire process.

Conceptual Framework

Information and Communication Technologies (ICT) is an umbrella term. As quoted by BECTA (2002), ‘ICT is a means of accessing, storing, sharing, processing, editing, selecting, presenting and communicating information through a variety of media. It involves finding, sharing and restructuring information in its diverse forms.’. Several major forms of ICT, as illustrated by Cohen, Manion and Morrison (2005), may be given as word processing e.g. MS Word, spreadsheets e.g. MS Excel, databases e.g. MS Access, graphing e.g. SPSS, graphics packages e.g. Corel draw, clipart and sound packages e.g. Flash Player, desktop publishing e.g. PageMaker, multimedia e.g. MS Powerpoint, internet e.g. Windows Internet Explorer, e-mail e.g. Gmail, games e.g. solitaire and simulations e.g. packages for air-pilot training and chemistry practicals.

Use of ICT, now-a-days, in the process of teaching-learning, is being thought of as advancement in this field. Alexander and Potter (2005) expressed it as ‘ICT makes possible new and more flexible learning environment.’ They further added, ‘it opens up fresh communications between pupils and educators, parents and the local and wider community.’ Wragg (2005), while discussing about the art and science of teaching and learning, talks of ‘virtual reality’ and ‘interactive technology’ and gives a message about the use of current and as yet unimagined new technology which include ‘people will be even more liberated than they are at present from dependence on a teacher as the single source of
knowledge and the huge memory and the highly interactive nature of many of the newer forms of educational technology permit many different forms of teaching and learning.’ Hence, it cannot be denied that ICT has many faces and masks, in turn, for various aspects of teaching and learning.

Apart from availability of means and modes, a better approach is required for ICT and its various aspects in education. A reflection has been made for applying and incorporating ICT, in teaching and learning, in particular. As far as educational field is concerned, we, on major basis, talk about web 1.0 and web 2.0 tools, which are developed forms of ICT.

Before moving ahead, let us have a brief look at web 1.0, web 2.0 and web 3.0. Web 1.0 was all about static HTML websites and read-only content. Nobody except contributor or owner could make any changes on the website. Users preferred navigating the web through link directories of websites. Here, users were just consumers, not contributors.

Web 2.0 is about user-generated content and the read-write web. The significant characteristic of Web 2.0 is people are consuming as well as contributing information through blogs or sites or site applications like Facebook, Orkut, Flickr, YouTube, identi.ca, Digg, Google Groups etc. In the era of Web 2.0, the dividing line between a consumer and content publisher is getting blurred, gradually. And, in some of the cases like wiki, this gap has been almost diminished. As revealed from various resources, Web 2.0 has some of the prominent aspects as being the read-write web, reaching one billion plus global users(2006), focusing on communities, blogs (weblogs), sharing content, grand use of Wikipedia, XML, RSS, incorporating a vast number of web applications, facilitating tagging (“folksonomy”), making Google more user friendly, reducing cost per click and valuing word of mouth etc.

Web 3.0 - This will be about semantic web (or the meaning of data), personalization (e.g. iGoogle), intelligent search and behavioural advertising among other things. Experts believe that the Web 3.0 browser will act like a personal assistant. As you search the Web, the browser learns what you are interested in. The more you use the Web, the more your browser learns about you and the less specific you'll need to be with your questions. Eventually you might be able to ask your browser open questions like 'where should I go for lunch?' Your browser would consult its records of what you like and dislike, take into account your current location and then suggest a list of restaurants. The Semantic Web is a “web of data” that enables machines to understand the semantics, or meaning, of information on the World Wide Web. It extends the network of hyperlinked human-readable web pages by inserting machine-readable metadata about pages and how they are related to each other, enabling automated agents to access the Web more intelligently and perform tasks on behalf of users. The term was coined by Tim Berners-Lee, the inventor of the World Wide Web and director of the World Wide Web Consortium, which oversees the development of proposed Semantic Web standards. He defines the Semantic Web as "a web of data that can be processed directly and indirectly by machines.”

Google group is one of the Google applications which provide to users to interact and connecting in several ways. For associating with a Google group, one must have a Google account. Google account can be understood as the key to all Google applications. Google group, in the current study, helped in learning of pre-service teachers, in many ways.

Robert M Gagne in his book Conditions of Learning developed a hierarchy of learning moving from simple stimulus response pairings to more complex forms of learning. He identified eight types of learning processes which he ordered in the following manner: 1 Signal learning, 2 Stimulus-response
learning, 3 Chaining (this requires 1 and 2), 4 Verbal association, 5 Discrimination learning (this requires processes 3 and 4), 6 Concept learning (this requires 5), 7 Rule learning (this require 6), 8 Problem solving (this require 7). Robert M. Gagne's book *Conditions of Learning*, originally published in 1965 by Holt, Rinehart and Winston, describes eight kinds of learning and nine events of instruction.

As a whole, the current paper endeavours to present a brief scenario of using Google groups in learning and interaction of pre-service teachers.

**Need of the Study**

Information and Communication Technologies (ICT) has touched and influenced every aspect of human life including education. ICT has not merely proved as the means and tool, but a way of thinking and living now-a-days for common people. Google group, one of the applications of ICT and web 2.0 tools seems to be easy to apply in the field of education in general and pre-service teacher education in particular. It came into mind of the researcher, how to apply Google groups, how learners can participate, what are the benefits of using Google group, in pre-service teacher training. Hence, the result arose in the form of the current research paper.

**Research Questions**

Google group is a learner friendly web 2.0 tool. It can be easily used in teaching learning process at school level. Whether it is constructivist perspective of Piaget (1971) or social constructionism of Vygotsky, as suggested by Duran and Syzmanski (1995), it is equally important how this tool can be applied to teaching learning process. If we have an in-depth understanding towards vision of Albert Bandura (1977), popularly known as social-cognitive perspective, it is important that a teacher should prove to be role model, which is not less important even now-a-days. Hence, it is important that teachers must be well acquainted with using this tool in their pre-service teacher training. And, the best method can be applying this tool in pre-service teacher training of teachers. And therefore, the first research question can be framed as:

1. How Google group can be applied in the pre-service teacher training?

Google group tool can be used in teaching learning process in multiple numbers of ways. The learners (here pre-service teachers) needs to be free to explore various ways of participating in teaching learning process. Here, sometimes, teacher, too, is a participant alongwith being facilitator to create social environment (Vygotsky, 1997) for linking the two. But, again, the various ways of participation of learners are of greater value. Hence, the second research question is:

2. How learners participate in various ways using Google group?

In the heart of democratic pedagogy, there lie democratic values. Since the method adopted was highly dependent upon collaborative experiences of learning (Crook, 1994), it was important to throw light upon the democratic values developed, if any, among the learners. Thus, the third research question is:

3. Whether democratic values are developed among learners while using Google group? If yes, what sort of democratic values are developed?

The ultimate aim of applying Google group tool in pre-service teacher training was to inculcate professional values among to-be teachers. Professional development envisages professional attitude.
Though being peers, there exists a professional relation, too, among learners of the same stage. And, this provided an opportunity to study about professional values developed. Hence, the fourth research question is:

4. Whether professional qualities are developed among learners while using Google group? What professional qualities can be developed using Google group?

Whenever a new tool or practice is applied in a certain formal setup, it is certain that the participants or members, being new to the novel situations, face various sorts of problems. And, if application of a new tool is to be studied, it is incomplete without throwing light upon and discussing about various problems faced by the learners. The enlistment of these problems will help in paving a way for further application of the tool and approaching towards suggestive solutions to the problems arisen. But, again, it has to be kept in the mind that there is no universal solution to any problem. Therefore, the fifth, and the last, research question is:

5. What problems do learners face while using Google group? In other sense, what aspects must be taken care of from learners’ point of view in order to apply Google group in more efficient way in teaching-learning process?

So, the current research paper endeavours to find answers to the above enlisted research questions.

Statement

GOOGLING THE GROUP: TEACHER TRAINING THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY

Objectives

The study has the following objectives:

1. To orient pre-service teachers to use Google group.
2. To motivate learners to actively participate in the Google group activities.
3. To observe activities of the learners on Google group.
4. To analyze the activities on Google group and infer about the democratic and professional qualities among learners.
5. To discuss the problems faced by the learners during the entire pursual.

Methodology

Sampling

Students studying under Bachelor of Education programme of University of Delhi were observed as the sample. Though use of computers for educational purposes is not a new concept, but the accessibility and availability of computers is still a big problem. Moreover, even computers are available; internet facility is another big problem. For applying Google group tool in teaching learning for pre-service teacher training course requires internet facility alongwith computer systems and, that
too, for a long period. Moreover, since none of the pre-service teachers, being part of the specific course, could be left from learning applying such a web 2.0 tool, thus, keeping in mind all these factors, Purposive non-random sampling technique was applied. Adding to this sort of sampling, Denscombe (2008; p 17) quote, “the advantage of purposive sampling is that it allows the researcher to home in on people or events which there are good grounds for believing will be critical for the research”.

**Tools and Techniques**

The major part of the research depends upon ‘what learners do’, while undergoing the process of applying Google group in their teaching learning process. Being a continuous process, one has to constantly observe, what learners are doing, how they are doing, what are the ways in which they are applying the tool, etc. So, the data can be best collected through an observation system (Wiersma, 1969; Holliday, 2007). The work done by the learners results into a form of content. The efficiency of the research depends upon how effectively the content is gone thoroughly. According to Cargan (2007), content analysis utilizes available data, with no effect on the material as it has already been written and is helpful in avoiding possibility of biasness. Thus, the first tool and technique is:

1. Observation and content analysis.

The current research is following participatory paradigm (Creswell, 2007, p 21), which says, “research should contain an action agenda for reform that may change the lives of participants, the institutions in which they live and work, or even the researchers’ lives”. And, the participants acted as active collaborators (Kemmis and Wilkinson, 1998). So, there can be several issues, which would not be visible just through the content created by participants. It would require a discourse (Gillen and Petersen, 2007) with the learners, here active collaborators. Hence, for the furtherance of the fruitfulness of the study, the second tool and technique is:

2. Discourse and discourse analysis.

Learners, while acting as active collaborators, might have developed several values including democratic and professional values. They have faced various sorts of problems, too, while applying a tool which is new for them and undergoing novel situations through the chain of situations. And, group interview and anecdotes of the learners can throw light in a critical manner on these issues. And, hence, the third tool and technique is:

3. Structured group interview and anecdotes.

The entire study was interwoven through abovementioned tools and techniques.

**Design**

While it is the case of bounded system to study or day-by-day rendering of activities, the one of the best approach may be the case study approach. If a case study is intended for generalizability, just one, two or five cases would not work. In that situation a small group case study design would endeavour to solve the purpose. Hence, small group case study design was followed.

**Statistical Techniques**

Graphical representation and simple descriptive analysis was used.

**Procedure**
Students were oriented about Google group and Gmail account, their creation and operating. They were oriented to explore using these for discussion forum, attaching files, sharing views, ideas and documents. Thereafter, they were consistently suggested to use Google group for continuing various academic aspects. Their use of this application for various academic aspects were observed and analysed. Finally, they were discoursed and interviewed about problems faced by them.

**Observation**

As a whole, total 114 topics and 390 posts were created by nineteen members, including the teacher, of the group. There were two other members, too, who were not part of pre-service teachers and they never participated in any activity throughout the session. A number of activities were pursued using Google group. Glimpses of those activities are given as next.
Fig 7. Discussing a Topic

Fig 8. Inviting New Members

Fig 9. Uploading and Sharing Files

Fig 10. Assignment and Feedback

Fig 11. Google Group Debate

Fig 12. Planning for Organizing Activity

Fig 13. Summarizing and Reporting

Fig 14. There is many more
Discussion, Analysis and Interpretation

Group members participated through posts from August, 2010 to April, 2011. There were total 114 topics, 390 posts, 19 active users and 9 months duration. So, as an average there was around 21 posts per user and 6 topics initiated per user.

The chart depicts that there is a gradual increase in the posts by users. Users are increasing posting in successive months. Role of teacher is really crucial for ensuring participation of learners. In the beginning phase, in the month of September, participation of teacher was nil and when it continued in next month too, participation of users, too, came to no post. The chart clearly depicts coherence between trend of posting of teacher and users. Most of the posts by the teacher were written for motivation and feedback purposes only.
Fig 17. Chart depicting total posts created in various months

This chart points towards time for adopting a new technology into teaching-learning interaction. Participation by users increased successively with reaching the peak number in the month of March, 2011. It is a wonderful observation that, though the formal academic session was ended in March, 2011 but, users continued posting in spite of their exam preparation and exams.

Fig 18. Chart depicting top ten posters and no. of posts
It is wondering to see, while looking at top posters in the entire session, that it came to be a mixed group of those who were computer savvy and those who were not, before learning using Google groups. None of these top posters, except the teacher and one learner, had laptop at his/her place.

Throughout the session users participated in various activities like raising a question, discussing a topic, inviting a new member, uploading and sharing files, searching for alternatives, assignment submission and feedback, group debate, planning for organizing activities, summarizing and many more (Fig. 1 to 15). It was worth noting that almost all the activities were initiated by learners themselves. They created, shared, collaborated, agreed, disagreed, argued, rationalized, debated, explored, preserved, expanded, triggered, transmitted, conceptualized, transferred, assimilated the information, knowledge and conceptual understanding.

Learners developed various democratic values among them. They shared, co-operated, rationalized, respected others’ views and learned enjoying individual freedom. There were learners who used Google group for posting at late night, while there were others, too, who posted in early morning. There were users working in odd hours as well as in normal routine too.

Apart from these qualities, learners found themselves developing more professional qualities, as compared to their counterparts in the course. They oriented themselves towards empirical approach, cause-effect relationship understanding, and using technology for other purposes too, exploring for newer things, collaboration, planning and execution of various academic activities.

Learners faced a number of problems for using Google group in their routine work. Some of the problems, which they shared, are like less knowledge of MS Office and Internet, time and distance management, lack of computer system and infrastructure, needing more time for becoming comfortable with new technology, overburdened with other subjects’ practicums and assignments, more dependence upon other users for learning and use, reluctant behaviour, lack of English communication skill, laziness, slow typing speed, less comfortable with computer mediated work than working on hard copy and traditional orientation for teaching-learning. If, somehow, these hurdles can be overcome then we can ensure better use of Google group and other ICT tools for better teaching and learning.

**Findings**

The findings of the study can be listed as:

1. Google group can be effectively applied in the pre-service teacher training after proper orientation to the learners. There were learners which were not computer savvy but, after orienting, specifically, for the process of creating Google account and using Google groups, they applied in an appreciative manner various activities on Google group. Google group provided really a good platform for academic activities.

2. Learners participate in various ways using Google group through discussing topics, sharing information, collaborating in projects, submitting the assignments, raising issues, debating over a point, accepting and arguing others’ ideas and planning for activities. It helps in technology integration (Pierson, 2001)

3. Various democratic values were developed among learners while using Google group like freedom to express, respect for others’ views, co-operation, collaboration, appraising individual freedom.
4. Various professional qualities were developed among learners while using Google group like skills for using internet, learning technicalities of discussion, rationalizing the thinking, planning for activities, summarizing the discussion, debating over an issue, arguing academically.

5. Learners face various problems while using Google group like unavailability of computers, overburdened time schedule, medium of writing and reluctance towards using new technology. But, again, as Lambert, Gong and Cuper (2008), here, too, prior technology experience has a positive influence on pre-service teachers’ ability to understand the usefulness of integrating technology.

**Educational Implications**

Google group is a very important web 2.0 tool which can be used effectively and that too with ease in pre-service teacher training. Based upon above analysis and discussion, the Google group has several educational implications. It is suggested that:

1. Google group should be used in pre-service teacher training for effective communication and interaction.

2. Teachers, who wish to provide a temporal-free and spatial-free interactive environment to pre-service teachers should use Google group.

3. Democratic values can be inculcated among teachers using Google group.

4. Professional values can be developed among teachers using Google group.

5. Availability of computer systems and availability of internet connection are some of the major problems, which should be dealt efficiently in advance to use Google group for providing better learning platform.

**Conclusion**

Google group application can be used for effective learning through discussion, collaboration, cooperation, sharing, planning, execution, and summarizing, threading, emphasizing, enhancing, submitting, debating, apprehending and raising queries over content, knowledge, pedagogy and technology in teacher training course by pre-service teachers. Pre-service teachers develop democratic and professional values, among them, using Google group in various teaching-learning activities. Factors, like availability of computers and availability of time, as perceived by pre-service teachers, if dealt efficiently, can help in participation, and hence, in effective learning on the part of pre-service teachers.
References

Print Resources

Web Resources
Web 2.0 http://en.wikipedia.org/wiki/Web_2.0 (last browsed on 04/2011)
Google Groups http://groups.google.com/groups/overview.html (last browsed on 02/2011)
Hierarchy of Learning http://psychology.wikia.com/wiki/Gagn%C3%A9's_hierarchy_of_learning (last browsed in 02/2011)
Web 1.0 v/s Web 2.0 v/s Web 3.0
http://www.megasoftwares.com/articles/?Web-1.0-v-s-Web-2.0-v-s-Web-3.0  (last browsed in 04/2011)
Learning Theories
SOCRATES 2010-11
https://groups.google.com/forum/?hl=en#!forum/socrates201011  (last browsed in 04/2011)