Enhancing The Learning Of Students Of Higher Education Through Innovative Communication Modes Of Knowledge: Educator’s Support Mode

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Abstract—Learning is not a spectator sport. Students do not learn much just by sitting in classes listening to teachers, memorizing pre-packaged assignments and spitting out answers (Arthur W. Chickering and Zelda F. Gamson,1987). The educators should transfer their knowledge in a way that students should engross and should be able to apply it in the relevant fields to solve the practical problems in life or in their respective professional fields. This study assess different ways of disseminating knowledge in higher education and on the basis of the conducted survey, an Educator’s Support Model is proposed to enhance the capability of the educator to decide his/her teaching methodology and hence the students learning.

A 88-item survey was conducted through well structured questionnaire. A field test concluded that the instrument was reliable (97%) and content was validated by a panel of experts. The survey was conducted on the students of higher educational institutions. 125 students responded out of which 100 replies were considered for the study. Statistical tools were used to analyze the data. Student’s learning capability depends not only on intelligence and prior education but also his/her learning style preference. In the era of Information and Communications Technologies(ICT), many new teaching methods and tools have evolved. The educator should very circumspectly decide the approach and tools which complements to transfer of knowledge. This paper suggests a dynamic model which assists the educator’s of higher education to decide his/her approach for the specific course which will realize the task to its maximum, of transferring knowledge and learning. The eight aspects of learning and skills acquired during a course have been identified which are: Knowledge Acquisition, Understanding Logic, Problem Solving Strategies, Individual work, Research Capability, Doubt Clarification, Communication Skill, Interest/Attentiveness. A survey was conducted on the learners to find out which teaching mode tends the most to the above respective aspects which served as a basis for designing an educator’s support model.

Keywords: Knowledge management, Knowledge Acquisition, Information and Communications Technologies(ICT)

I. INTRODUCTION

Over the years, an institution’s educators attain knowledge while performing their specific tasks which resides in their minds and that has not been put in structured and documented based form. That knowledge been acquired along the years doing research and solving problems and spending numerous hours in studying. It is one of the most difficult task to transfer this knowledge to others but on the other hand its one of the most valuable asset for any organization/society to lose.

Kidwell et. al. (2000) have described that Knowledge is classified mainly in two kinds: Explicit and Tacit. Knowledge is classified mainly in two kinds: Explicit and Tacit. Explicit knowledge (sometimes referred to as formal knowledge) can be articulated in language and transmitted among individuals. It is relatively easy to communicate to others in words. Explicit knowledge is:

- It can be expressed in formal, shared language (Kidwell et al. 2000). Examples include formulas, equations, rules, and best practices.
- Tacit knowledge (also, informal knowledge), personal knowledge rooted in individual experience and involving personal belief, perspective, and values. It accumulates primarily from ones experience and is difficult to codify or express in words. It is often viewed as the real key of getting things done and creating new value. Tacit knowledge is:
  - Personal
  - Context-specific Difficult to formalize Difficult to communicate More difficult to transfer.

There is a difference in ranking in two universities with identical numbers of faculty, degree programs, expenditures, and enrollment as those surveys conducted by U.S. News and World Report. The difference is probably made by the standard of learning of students who pass out, how learned/efficient they are and how do they perform in the industry, how they resolve/tackle the challenges. The amount of knowledge attained by the students is the test of the educational quality. Educational Institutes endeavor is to transfer both explicit and tacit knowledge since both kinds of knowledge is important for the intellectual growth of the students.
II. TEACHING AN ART OF KNOWLEDGE COMMUNICATION

Leo P.K. Yam (1986) has mentioned that Aristotle (384-322 B.C.), a great Greek philosopher, once remarked that successful human interaction depends on rhetoric communication. He suggested that three major modes of proof be studied (Scheidel, 1967):

A. Logos

The speaker must be able to provide accurate evidence to substantiate his argument, and the theme of the presentation must meet the objectives of the planned message in a logical manner — deductively or inductively. All facts, ideas and supporting statements stem from a well-organised plot.

B. Ethos

The speaker must believe what he says. His personality should be congruent with what he instructs, verbally or and nonverbally. In order to be effective, the speakers should speak in "good-will" terms and possess a refined and distinct character, respecting himself and others. In other words, he must be trustworthy.

C. Pathos

The speaker should be emotionally stable, however. Virtually, pathos is an emotional drive and disposition. The message being conveyed should appeal to the hearts and minds of the audience.

Leo P.K. Yam (1967) has explained that communication within the teaching learning process is further complicated by the fact that the teacher, as a person, is in many respects different from the student. There are factors which affect the fidelity of the teaching learning communication process; for example, the teacher may use different ways to elicit responses (communication skills); the teacher’s own attitude may influence the viewpoint of the student (attitude); the teacher must teach something which is based on the student’s past experiences and perception (knowledge level); the teacher must pay attention to the environment and background in which the student learns, i.e. (social-cultural systems) because the student may not be able to understand things derived from foreign cultures. The teacher, when planning the lesson and communicating with the student, must evaluate these elements in communication before, he selects materials and teaching media. In university teaching, and learning situation, the art of communication must not be overlooked.

II. TEACHING AND LEARNING

As discussed, there are different types of learners in a same class and they prefer different kinds of mode of knowledge transfer. In this age of Information Communication Technology (ICT), educators are overwhelmed by the different tools available for teaching. However they are faced with equally myriad types of learners who come from diverse backgrounds and respond to different learning stimuli very differently. The challenge for the educator is to select the optimal set of knowledge delivery techniques and seamlessly integrate them in a manner which maximizes on each of the learning objectives that he/ she has set. This state is depicted in the Fig 1.

Fig. 1 Various options available to the educator

In any form of teaching and learning situations, learning cannot take place unless objectives are clearly stated and defined. Bloom’s taxonomy and the three domains of instructional objectives (Bloom, 1956) should be studied when a lecturer plans his lectures:

The Cognitive Domain- The students are expected to:
- interpret and understand the lectures;
- analyze the content critically;
- reproduce the content deductively or inductively, or modify it;
- synthesize or summarize what has been taught, from general to specific.

The Affective Domain- The students are expected to:
- receive, respond, appreciate and evaluate what has been learned based on their attitudes and beliefs,
- make their own value judgments,
- feel the impact of the message.

The Psycho-motor Domain- The students are expected to acquire, act and perform movement skills e.g. to: be able to write, read and speak, to dance, to walk and to move about through their sensory motors;

Research has been done on the question “How is it that the very same curriculum, classroom activities, or teaching behaviors can leave some learners feeling excited and their needs well met, while others feel deserted or lost?” by Eleanor Drago- Severson, Deborah Helsing, Nancy Popp & É Robert Kegan, Maria Broderick, Kathryn Porthnow. They have explained the reason behind this fact is that in such cases, teachers may unknowingly be using materials or teaching strategies attuned to one way of knowing while neglecting others.

III. EDUCATOR’S SUPPORT MODEL

To enhance the capability of the educator to support every student in the class an Educator’s Support Model has been proposed. An educator can employ two or three modes of teaching a course to augment the learning of majority of students. Eight foremost aspects of learning and skills acquired by the learner during a course have been identified which are:
Knowledge Acquisition
- Understanding Logic
- Problem Solving Strategies
- Individual work
- Research Capability
- Doubt Clarification
- Communication Skill
- Interest/Attentiveness

A survey was conducted on the learners to find out according to them which teaching modes supports the most to the above mentioned criteria. There are many ways/modes through which an educator can transfer his/her knowledge. The following choices were given to the learners to rate them according to their effectiveness corresponding to the particular criteria:

- Lecture
- Lecture with discussion
- Brainstorming
- Videotapes
- Class Discussion
- Small Group Discussion
- Case Study
- Laboratory/Practical Classes

Role Playing

The overall reliability of the questionnaire was 0.973 and for the different factors shown below:

<table>
<thead>
<tr>
<th>No.</th>
<th>Factors</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Lecture</td>
<td>0.921</td>
</tr>
<tr>
<td>2.</td>
<td>Lecture with Discussion</td>
<td>0.945</td>
</tr>
<tr>
<td>3.</td>
<td>Brainstorming</td>
<td>0.890</td>
</tr>
<tr>
<td>4.</td>
<td>Video Tapes</td>
<td>0.905</td>
</tr>
<tr>
<td>5.</td>
<td>Class Discussion</td>
<td>0.907</td>
</tr>
<tr>
<td>6.</td>
<td>Small Group Discussion</td>
<td>0.915</td>
</tr>
<tr>
<td>7.</td>
<td>Case Studies</td>
<td>0.887</td>
</tr>
<tr>
<td>8.</td>
<td>Lab./Practical</td>
<td>0.873</td>
</tr>
<tr>
<td>9.</td>
<td>Role Playing</td>
<td>0.795</td>
</tr>
<tr>
<td>10.</td>
<td>PBL</td>
<td>0.866</td>
</tr>
<tr>
<td>11.</td>
<td>Work Sheets</td>
<td>0.886</td>
</tr>
</tbody>
</table>

Table 1: Reliability of the questionnaire

- Problem Based Learning
- Worksheet/Assignment

An educator should be clear about the objectives before taking the course i.e. student should not only listen, memorize and write the principles, theories, related text in the exam but he/she should be ready to take the challenges of a particular field in the real world e.g.

- An objective of a programming language (C, C++ etc.) course should be to develop the abilities in the learner to design his own software rather than memorizing the rule and syntax of the language.
- A scientific student should understand the logic and should be able to solve the problem and must have attained the ability and attitude to conduct the future research at the completion of the course rather than listening or cramming the theories and formulae and writing them in to the exam.
- A management student should become proficient in communication skills and in solving problems practically while acquiring the knowledge about the subject.

An educator should emphasize on Active Learning so that the learner should not loose the interest in the course and remain attentive in the class. The educator should very circumspectly decide the approach and tools which complements to transfer of knowledge. This paper suggests a dynamic model which assists the educator’s of higher education to decide his/her approach for the specific course which will realize the task to its maximum, of transferring knowledge and learning. A survey was conducted on the learners to find out which teaching mode tenders the most to the identified criteria. This serves as a basis for designing an educator’s support model which will enhance the capability of the educator to decide his/her teaching methodology and can help learners to become power learner.

The learners want to discuss the more while acquiring knowledge with educators and peers. So the educator introduce more discussions in his/her curriculum.
The learners have shown the maximum interest in the following methods in case of knowledge acquisition as shown in Fig. 3:

- Lecture with Discussion
- Class discussion
- Group discussion
A. Understanding Logic

In a survey the following top three ways are chosen by the learners for understanding logic are:

- Case Studies
- Problem Based Learning
- Class Discussion

Fig. 4 Modes preference for Understanding Logic

The courses which are logic oriented, with lectures the educator can also introduce case studies in the curriculum and further can have class discussions for the same. Alternatively, learners can be given authentic problems or similar to those faced by professional in their respective fields e.g. a computer student can be given a code to debug or management student should be given a difficult office situation to resolve.

B. Problem Solving Strategies

The learners have chosen a conference technique of solving specific problems, amassing information, stimulating creative thinking, developing new ideas, etc., by unrestrained and spontaneous participation in discussion i.e. brainstorming as a best way for the development of problem solving strategies. The following modes can be helpful to cultivate problem solving skills in the students:

- Brainstorming
- Small Group Discussion and Class Discussion
- Case Study

Fig. 5 Modes preference for Problem Solving Strategies

C. Individual Work

In a course, students should be encouraged to involve independently not only in groups as they have to take the challenges of their own accord in the real world. The practices which can be helpful are as follows:

- Laboratory and Practical Classes
- Problem Based Learning
- Case Study

Fig. 7 Modes preference for Research capability

D. Doubt Clarification

While taking new course, learner can have doubts about some points about which they are uncertain or skeptical which can lead to wrong understanding or later lack of interest in the subject. A definite effort should be made to clarify the student’s doubts. The following ways can be helpful in the process:

- Laboratory and Practical Classes
- Class Discussion
- Lecture with Discussion
### Lecture with Discussion
- **Brainstorming**
- **Video Tapes**
- **Class Discussion**
- **Small Group Discussion**
- **Case Studies**
- **Lab/Practical**
- **Role Playing**
- **Problem Based Learning**
- **Worksheet/Assignment**

### Communication Skills
Communication is a basic trait to express oneself, building good business and having good relations with others in fact it affects every aspect of human interactions. This is one of important trait that should be developed in the students to be successful in their professional lives. He should be able to express himself, put his ideas in the meetings, able to explain solutions, give presentations and speeches. The involvement of the students in the following can be helpful to boost their communication skills:

- **Class Discussion**
- **Role Playing**
- **Lecture with Discussion**

### Interest/Attention
A learner’s state of curiosity or attention towards the topic/subject should be maintained throughout the lecture and course period. A learner’s interest can be maintained if the educator makes them to participate in activities and respond. The following can help:

- **Brainstorming**
- **Lecture with Discussion**
- **Small Group Discussion**

### Resources to Support Learning
In addition to the appropriate choices of teaching methods, the educators can direct the learners to the following resources of information and useful study material:

- **Direction to URLs**
- **Provision of Web-CT site**
- **Provision of other website**
- **Placing material on server or any shore resource**
- **Handouts/material provided on paper**
- **Bulletin boards/chat rooms**

### Conclusion
An educator has significant opportunity to use new concepts of innovation in education supported by ICT to optimize the transfer of knowledge. No matter which mode of instruction, and whether teaching takes place in elementary or secondary or higher education, interpersonal communication should be considered as the most essential factor.
with a view of achieving instructional objectives and helping our young people to become a "whole person" (Yam 1987). But implementing new ways wisely and according to the need of the learners and course objectives can make a big difference in the quality of education.

References


4) Leo PK Yam, The communication process in teaching and learning in higher education, 1986.

