ACTIVITY BASED LEARNING: AN EFFECTIVE APPROACH FOR SELF REGULATED LEARNING PRACTICES

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Abstract

The study examines the effectiveness of the activity based learning approaches used for Post Graduate Diploma in Education (PGDE) Programme conducted by the Faculty of Education of the Open University of Sri Lanka (OUSL). Population of the study consisted the student teachers who followed PGDE programme in Tamil medium at OUSL in 2011/2012 academic year. Among them, 104 student teachers who followed PGDE programme at the Colombo Regional Centre were purposively sampled for this study. A self-developed questionnaire, built up by reviewing related literature was used for data collection. The data obtained were tabulated and analyzed by applying elementary quantitative techniques such as frequencies and percentages. The responses to the open ended questions were analyzed qualitatively. The findings of the study indicated that 96% of the student teachers liked to search more information themselves for their own learning and they stated that the activities given in the PGDE have motivated them to do self-learning and search more relevant information for their learning. Findings clearly showed that activity based learning sessions have developed higher level cognitive skills such as critical thinking, evaluation skills and analytical skills among the student teachers. Further, some problems that hindered the effective participation in activity based sessions including lack of preparation, lack of time, less support from peers etc were also identified by the student teachers.

Major Key words: Activity based learning, graduate teachers, Self-regulated learning practices

INTRODUCTION

There are many teaching strategies that can be employed to actively engage students in the learning process, including group discussions, problem solving, case studies, role plays, journal writing, learning activities, and structured learning groups. The benefits of using such activities improve critical thinking skills, increase retention and transfer of new information, increase motivation and improve interpersonal skills. Students should be encouraged to do things by themselves in order to identify problems, to fill gaps and find solutions in a collaborative way. There were expressions of optimism that such independent approaches could lead to success, and teachers could be surprised by students’ performance.

Students are more likely to feel confident about themselves as learners if they can rely on their own resources for completing assignments, studying for tests, and achieving success in school. At the core of successful and lifelong learning, is self-regulation. Self-regulation requires a student to be meta-cognitively, motivationally, and behaviourally active in regulating his/her own thinking and learning. It involves awareness of personal goals, and of strengths, weaknesses, and interests given instructional goals, environmental expectations, and conditions of learning and performance.

In a sense, a student’s ability to regulate his/her own learning demands the ultimate integration of neuro developmental abilities. Self-regulated learners are attentive, focused, and productive. They set goals for themselves, and use a planned approach to learning. Self-regulated learners keep track of their understanding and their progress, and reward themselves for their successes. They use problem-solving strategies and memory techniques when appropriate. They learn to think critically about the demands of the task at hand and the availability of time, resources, etc. In short, self-regulated learners are intentional, active, and reflective.
Pedagogy, the science of teaching, involves instructional methods, materials and learning activities directed by these. Traditionally, the lecture methods of teaching were in use at all stages of schooling where the teacher was considered as the provider of information and students as the passive recipients of information. The major instructional materials were textbooks that were written for specified age groups and for particular subjects. The major learning activity was listening and writing from the textbook or from the blackboard. This paradigm has been changed in the newer methodology of activity – based learning. Here the teacher is considered as the facilitator and the students are self-learning through the medium of a detailed array of learning cards (Anandalakshmi, 2007). Other methods such as cooperative learning have also been suggested as alternatives to lecture method (Sirohi, 2006). Insights into the developing brain's learning processes and the growing child's learning needs provides great potential to create effective pedagogical practices.

The process of learning comprises of three components – information input, information processing and expression of information or knowledge. In each of these components, students show differences. For example, in information input, which also means the way students receive information to be learnt, some students could be visual learners while others could be auditory or kinesthetic learners. In terms of information processing, some students may use top-down processing or bottom-up processing. This depends both on the learner as well as the nature of skill or knowledge to be learned. With respect to expression of knowledge or skill learned, some students may be better at writing, some at drawing or verbalizing (Rose, Meyer, Strangman & Dalton, 2002). It is important that the instructional methodology proactively plans for such differences to achieve high quality educational experiences and learning outcomes for all students.

In order to maintain and develop the effectiveness of classroom processes the education and professional development of every teacher needs to be seen as a lifelong task, and be structured and resourced accordingly. To equip the teaching body with the skills and competences needed for its ever changing roles, it is necessary to have both quality initial teacher education and a coherent process of continuous professional development to keep teachers up to date with the skills required in a knowledge based society (Barber and Mourshed, 2007).

Lecturers who use activity based learning strategies pause frequently during the period once every fifteen minutes or so to give students a few minutes to work with the information they are providing. They may ask students to respond to a question, to summarize important concepts in writing, or to compare notes with a partner. For some lecture-based classes, using active learning may be a bit more challenging because of class size or room limitations such as fixed seating. Breaking students into groups under these circumstances may not be possible, but other strategies such as individual writing or balancing activities are quite possible and lead to good results.

The Open University of Sri Lanka (OUSL) is the only recognized national university in Sri Lanka, where students are able to follow further education by open distance mode. The student-centered study system is designed to support a distance learner through multiple modes including self-study print and Audio Visual (AV) materials, contact sessions, e-mail and internet. The Faculty of Education of the OUSL realizes the importance of quality teachers for quality education. Therefore, the faculty has introduced several teacher education programmes using innovative approaches to increase self learning abilities and higher level cognitive skills among the student teachers. Post Graduate Diploma in Education (PGDE) programme is one of the major teacher education programme conducted by OUSL which provides the basic professional qualification for graduate teachers working in the school system.

The main objective of this study is to examine the effectiveness of the activity based learning approaches used for Post Graduate Diploma in Education (PGDE) Programme conducted by the Faculty of Education. The specific objectives of this study are as follows:

1. To examine to what extent the Activity Based Learning approaches increase self-learning practices among student teachers;
2. To identify the higher order cognitive skills achieved by the student teachers through the activity based learning approaches;
3. To evaluate the problems and issues faced by the student teachers to engage effectively in the activity based learning sessions; and
4. To make appropriate suggestions and recommendations to improve the effectiveness of the activity based learning approach.

LITERATURE REVIEW

Related literature on activity based learning, self-regulated learning and higher order cognitive skills are analysed and presented in this part.

Activity Based Learning

Learning is acquiring new knowledge, behaviour, skills, values, preferences or understanding, and may involve synthesizing different types of information. Further, it is a process that brings together cognitive, emotional and environmental influences and experiences for acquiring, enhancing or making changes to one’s knowledge, skills and world view (Illeris, 2000). For learning to take place, it is necessary that the student understands and engages with the information to be learnt. It is also important that the student processes the information with higher order thinking such as comprehension, analysis, synthesis, application, and metacognition. When this happens, the student is able to relate the information to any life situation, connect it with past learning, build his or her own knowledge (Garner, 1987) and become a knowledgeable and contributing citizen as an adult. One important method of facilitating such engagement with information is through activity.

The dictionary definition of ‘activity’ is ‘work that involves direct experience by the student rather than textbook study’. Thus, activity-based learning, should allow students to engage with and process information in such a way that he/she understands and builds his/her knowledge about a particular subject. An outcome of successful learning would be that the student has acquired the basic literacy skills and is able to apply this knowledge or skill learnt in a relevant situation. The idea of activity-based learning follows the constructivist educational theory and is child-centered pedagogy. Activity-based learning may be defined as a method of instruction, where activities of different types, suitable and relevant to specific subjects are integrated seamlessly into the regular instructional materials and methods to involve students in the teaching–learning or instructional processes and engage them fruitfully (Suydam & Higgins, 1977). The main purpose of the method is making the classroom more student-friendly and reduce the intimidation and domination of the teacher.

Active learning is a crucial element of the new thrust toward what is now commonly called “learner-centered” or “learning-centered” teaching (Weimer, 2002). Most definitions of active learning focus on two key components: “doing” and “reflecting.” The most commonly cited definition of active learning comes from Bonwell and Eison (1991): “Involving students in doing things and thinking about what they are doing.” The overall quality of teaching and learning is improved when students have ample opportunities to clarify, question, apply, and consolidate new knowledge. In this case, instructors create opportunities for students to engage new material, serving as guides to help them understand and apply information.

Self-Regulated Learning

Self-directed study is a purposeful mental process, usually accompanied and supported by behavioural activities involved in finding and identifying information. The student accepts the responsibility of making decisions about the goals and the effort to be done, becoming, therefore, his own change agent for learning (Long, 1990). Self-directed study is critical, according to Fischer and Scharff (1998), when it becomes an integral part of people’s lives, based on the desire and need to understand something or to perform some activity. But Long (1990) comments that it is not reasonable to expect that people who have been used to receive ready-made and formatted information during all their years of school life, now will be instantly
transformed into independent learners. If we want students to be empowered, teachers need to be empowered as well (Wehmeyer et al., 2000). As teacher empowerment does not just happen, schools will need to deliberately create an environment and structure in which teachers are encouraged to reflect on and take responsibility for their learning and teaching (Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004; Van Eekelen et al., 2005).

**High-order cognitive skills**

Development of higher order cognitive skill is a component of education reforms based on the learning taxonomies of Bloom's Taxonomy. This includes critical, logical, reflective, metacognitive, and creative thinking etc. A dominant component in current reforms in education is the effort to train students to develop higher order cognitive skills. This requires changes in teaching-learning processes, encouraging students to acquire analytical, critical and reflective thinking, learning how to make decisions, solve problems, learning to learn independently and to ask questions, combating the notion that every problem has a unique and correct solution (Zoller & Pushkin, 2007). According to VanLehn (1995), the acquisition of cognitive skills means to develop the ability to solve problems in intellectual tasks, where success is determined more by knowledge and by knowledge processing than by the physical fitness of the individual.

The labour market requires professionals with higher order cognitive skills, which means professionals who know how to think in analytical, critical and reflective ways, how to ask questions, make decisions, solve problems, and know how to learn independently (Zoller & Pushkin, 2007). They are also skills for lifelong learning. In order to meet the market demand, the focus of education should target the development of skills of critical thinking and of autonomous and organized study. These skills will be useful to individuals because success in university courses and in also most professions require such skills (Cottrell, 2005; Garrison & Anderson, 2003). Although there is consensus on the need to develop these skills, what is not so clear is how they can be developed in students in university courses (McLoughlin & Luca, 2003) and this is much more difficult in the Open and Distance Learning (ODL) system of learning. Saba (2003) suggests that one of the main characteristics that differentiates distance education from other forms of education is the central focus on the student and on their independence in the learning process. He further argues whether distance learning successfully helps to develop autonomous and organized study skills and other higher order cognitive skills learning at distance.

**RESEARCH METHODOLOGY**

**Research Design**

Quantitative and qualitative research approaches were used in this study within a framework of a survey research design.

**Population and Sample**

The study was conducted on the student teachers who followed PGDE programme in Tamil medium at the Colombo Regional Center of the OUSL in the 2011/2012 academic year. The total number of Tamil medium student teachers enrolled for the programme was 1054. Among them 104 student teachers who followed PGDE programme at the Colombo Regional Centre were purposively sampled for this study. Data were gathered only from student teachers who were physically present at the Colombo Regional Centre for the activity based contact session on the day of visit by the researcher. Out of 104 student teachers 56 responded to the questionnaire.

**Instrument for Data Collection**

The data were collected using questionnaire. The questionnaire was structured type and focused on collecting data on three identified key areas namely;

(i) the extent to which activity based learning approaches facilitate to increase self-learning practices,
(ii) the higher order cognitive skills achieved by the student teachers through activity based learning approaches and

(iii) the problems and issues faced by the student teachers to engage effectively in the activity based contact sessions.

There were eleven main items in the whole questionnaire, and the number of questions in each key area was varied. Also, under some of the main items there were several sub items, which were included to get a wider understanding on the aspects related to the main items. Rating scales, selection of the most appropriate answer, structured type questions as well as a few open-ended questions were included in the sub items. The data obtained were tabulated and analyzed by applying elementary quantitative techniques such as frequencies and percentages. Open ended questions were analyzed qualitatively.

RESULTS AND DISCUSSION

Increase self-learning practices

All the respondents were adult learners between the ages 30 to 45 years. The majority (86%) of the student teachers expressed that as adult learners, they did not expect all the information need to be given by their lecturers. Ninety six (96%) percent of the student teachers mentioned that they liked to search more information themselves for their own learning. This clearly shows that the lecturers should not give all the information related to the lessons, but at the same time the lecturers should give more activities to encourage student teachers to do self-learning practices related to the specific lessons. Student teachers expressed that the activities given for them in their PGDE programme such as group discussions (72%), group activities (87%), individual presentations (79%), group presentations (69%), peer discussions (86%), learning activities (91%) and research based assignments (83%) have motivated them to do self-learning and search more relevant information for their learning.

Group activities encourage students’ involvements in various ways. The following statements were given to examine how far activity based learning approaches increase student teachers’ involvement for self learning practices.

Table 1: Students’ Rating on Involvement of Self Learning Practices

<table>
<thead>
<tr>
<th>Statements</th>
<th>Greatly (%)</th>
<th>To Some Extent (%)</th>
<th>Moderately (%)</th>
<th>Little (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivating to attend the activity based contact sessions</td>
<td>57</td>
<td>43</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Searching more information for learning activities</td>
<td>21</td>
<td>64</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>Doing pre preparation for learning activities</td>
<td>17</td>
<td>71</td>
<td>07</td>
<td>05</td>
</tr>
<tr>
<td>Motivating to participate in group learning</td>
<td>36</td>
<td>57</td>
<td>07</td>
<td>-</td>
</tr>
<tr>
<td>Increasing participation in the group activities</td>
<td>50</td>
<td>41</td>
<td>07</td>
<td>02</td>
</tr>
<tr>
<td>Willing to take leadership positions in the group activities</td>
<td>43</td>
<td>43</td>
<td>14</td>
<td>-</td>
</tr>
<tr>
<td>Coming forward to do the presentations</td>
<td>14</td>
<td>71</td>
<td>14</td>
<td>01</td>
</tr>
<tr>
<td>Respecting the valuable presentations of peers</td>
<td>13</td>
<td>79</td>
<td>07</td>
<td>01</td>
</tr>
<tr>
<td>Creating opportunities for learning with peers</td>
<td>36</td>
<td>50</td>
<td>14</td>
<td>-</td>
</tr>
<tr>
<td>Coming forward to correct the incorrect answers of peers</td>
<td>21</td>
<td>64</td>
<td>14</td>
<td>01</td>
</tr>
<tr>
<td>Evaluating the presentations of the peers</td>
<td>28</td>
<td>57</td>
<td>14</td>
<td>01</td>
</tr>
<tr>
<td>Coming forward to give more information for insufficient explanation</td>
<td>28</td>
<td>57</td>
<td>14</td>
<td>01</td>
</tr>
</tbody>
</table>
As indicated in Table 1 the findings revealed that the majority of the student teachers have accepted that activity based learning contact sessions have increased their involvement for self learning practices. More than 90% of the teachers expressed that activity based learning contact sessions have motivated and increased their participation in group learning and group activities. Further, they stated these sessions enabled them to respect the valuable presentations of peers. From the findings, it is clearly shown that activity based learning approaches have improved the self-learning and peer learning practices among the PGDE student teachers.

**Higher Order Cognitive Skills**

The following list of skills was given to the student teachers and they were asked to identify the higher order cognitive skills they achieved through the activity based learning approaches.

<table>
<thead>
<tr>
<th>Skills</th>
<th>To a Great Extent (%)</th>
<th>To some Extent (%)</th>
<th>Moderately (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self motivation</td>
<td>28</td>
<td>64</td>
<td>8</td>
</tr>
<tr>
<td>Planning</td>
<td>14</td>
<td>79</td>
<td>7</td>
</tr>
<tr>
<td>Sharing</td>
<td>15</td>
<td>64</td>
<td>21</td>
</tr>
<tr>
<td>Creativity</td>
<td>8</td>
<td>71</td>
<td>21</td>
</tr>
<tr>
<td>Analytical skills</td>
<td>22</td>
<td>71</td>
<td>7</td>
</tr>
<tr>
<td>Evaluating skills</td>
<td>21</td>
<td>71</td>
<td>8</td>
</tr>
<tr>
<td>Self evaluation</td>
<td>14</td>
<td>79</td>
<td>7</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>28</td>
<td>60</td>
<td>12</td>
</tr>
<tr>
<td>Reflective skills</td>
<td>7</td>
<td>86</td>
<td>7</td>
</tr>
<tr>
<td>Criticizing</td>
<td>14</td>
<td>64</td>
<td>22</td>
</tr>
<tr>
<td>Self learning</td>
<td>21</td>
<td>71</td>
<td>8</td>
</tr>
<tr>
<td>Presentation skills</td>
<td>36</td>
<td>57</td>
<td>7</td>
</tr>
<tr>
<td>Leadership</td>
<td>21</td>
<td>71</td>
<td>8</td>
</tr>
<tr>
<td>Team spirit</td>
<td>43</td>
<td>50</td>
<td>7</td>
</tr>
</tbody>
</table>

According to Table 2 the findings revealed that activity based learning contact sessions have facilitated the student teachers to improve their higher order cognitive skills in a positive manner. More than twenty percentage of the teachers expressed that they have achieved higher order cognitive skills such as critical thinking, evaluation skills and analytical skills to a great extent through the activity based learning contact sessions. They also agreed activity based learning contact sessions have improved their self-learning, presentation skills, leadership skills and team spirit to a great extent. It clearly shows that activity based learning sessions have helped to develop not only the basic skills but also the higher level cognitive skills among the student teachers.

**Problems and Issues Faced by the Student Teachers**

Open ended questions in the questionnaire allowed the student teachers to mention the problems faced by them to involve in the activity based contact sessions effectively. The following constrains were indicated by some of the student teachers:

Among the respondents 36% of the student teachers expressed that they were unable to involve effectively due to lack of pre preparation and 56% indicated that time allocation for the activities was not enough. At the same time, 42% of them pointed out that the classroom facilities to formulate the groups and carry out the activities were not enough where as 37% said large numbers in the groups was a problem for them. 24% of the student teachers reported that they did not receive support from all the group members. Majority of the student teachers stated that the time allocated for instructors’ feedback was not enough (68%) and 49% of them indicated that the questions raised by the peers after the presentation were not enough. The results
revealed there are problems that exist in the planning and implementation of activity based learning contact sessions and the Faculty of Education need to give more attention to address the above problems.

CONCLUSIONS AND RECOMMENDATIONS

The study revealed that the activity based learning contact sessions have motivated the student teachers to attend the sessions and helped them to increase their involvement in self learning and peer learning practices. Activity based learning contact sessions have made all the student teachers as active learners and at the same time it has been very helpful to improve peer learning environment and team spirit among the student teachers. Effectiveness of the contact sessions has increased and it has helped to develop basic and higher order cognitive skills such as critical thinking, evaluation skills and analytical skills. Lack of time allocation for instructors’ feedback, insufficient time allocation for the activities, lack of classroom facilities to formulate the groups and to carry out the group activities were the main constrains faced by the student teachers during the activity based contact sessions.

Overall, the analysis appears to suggest that to increase the active participation of the student teachers in the PGDE programme, Faculty of Education of the OUSL and other relevant teacher education institutions should adopt activity based learning strategies. These activities based learning strategies help to increase the self-learning practices and to develop higher order cognitive skills among the student teachers. Further, faculty should give more attention to allocate the classrooms with adequate facilities, and to allocate enough time for the activities.

References


