Abstract

The major goal of self-regulated learning is to create lifelong learners who can create, share and sustain their knowledge at the global village. Sense of self, intellectual ability, behavioural management and skill development are essential requirement for self-regulated learning. The present study highlights how life skills training help the students to become a self-regulated learner. The major objective of the study was to investigate the effectiveness of life skills training on self-regulated learning of eleventh standard students. Modules on Genetics based on Life skills and Motivated Strategies for Learning Questionnaire were adopted for investigation. The sample consisted of 65 biology group eleventh standard students from Government higher secondary schools. Experimental group was taught by Life skills treatment and control group followed normal method. Post – test was applied for both the groups simultaneously. The result showed that the ‘treated group’ have scored higher level of self-regulated learning than the control group.
1. INTRODUCTION

Self-regulated learning is an individual learning process which makes the students as a proficient learner. It is a mental process that insist multiple activities namely, planning, goal setting, innovative thinking, self-monitoring and evaluation in the learning process. Self-regulated learning needs attention and concentration, self-awareness and introspection, honest self-assessment, openness to change, genuine self-discipline, and acceptance of responsibility for one’s learning (Pintrich, 2000; Zimmerman & Schunk, 2001). Literatures of self-regulated learning suggest that cognitive, metacognitive and skilful learning make the learners to learn on their own way (Ericsson, 1994; Abar, Carter and Winsler, 2009).

Self-regulated learning is being associated with 21st century skills. Communication, decision making, critical, creative thinking and problem solving skills are basic conditions for self-regulated learners to strengthen the cognitive and metacognitive ability. Life skills education enriches the skills and positive attitudes to learn the content in detail. Life skills are the ability for adopting positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life (World Health Organization, 1999). Life skills education is important for adolescence to reduce their complications. It creates curiosity and active learning among the learners. Students can control and make confidence about their learning, collaborate with their peers, share their knowledge and prepare their own strategy. It can lead to high contribution of self-regulation in the learning process.

2. PREVIOUS STUDIES

Lazakidou et al (2010) suggested that teaching problem-solving skills enhanced decision making, transmission, and self-governance and responsibility in the students. Kuiper and Pesut (2004) found that self-regulated learning strategies increase the development of critical and reflective thinking within the clinical reasoning context. Higgins et al (2005) stated that thinking skills programmes have a greater impact on attainment when they include an explicit focus on metacognitive skills which encourages for research into self-regulated learning. Friesenhahn (1999) confirmed that there is significant difference in the self-esteem of adolescents after Life skills treatment. Ahghar, G. (2012) found that the level of self-regulated learning of students who have received problem-solving skills is significantly higher than the self-regulated learning level of students who have not received this training. Stetanou (2001) suggested that the learners could select their learning goals and try to regulate, control and monitor their cognition, motivation and behaviour.

3. NEED AND SIGNIFICANCE

Adolescence period is a crucial stage of students due to hormonal changes and they need concrete support from themselves as well as others when they are taking self-regulation in their learning process. Different teaching and learning methodology, peer and family support and activity based learning make them fully engaged with their learning process.
According to Mangrulkar (2001) in varied situations, adolescent needs to practice new skills with peers and other individuals outside the family. When teaching with different methodology, they can easily understand the concept, frame the questions and find the answers, monitor their work to avoid mistakes and verify their process if they need any correction or not. All these positive activities make them as a good academic achiever. Hence teaching the content with different methodology using life skills can create motivation, divergent thinking, self-interest, good behaviour and self-discipline among the learners who turned into self-regulated learner.

4. RESEARCH QUESTIONS, OBJECTIVES & HYPOTHESES

The present study attempted to answer the following questions.

- Does training in Life skills improve Self-regulated learning using concept mapping of students from eleventh standard?
- Is there any significant difference between gender and self-regulated learning using concept mapping of students from eleventh standard?

Objectives

- To investigate the effectiveness of life skills training on self-regulated learning using concept mapping among eleventh standard students.
- To find out the significance difference between gender and self-regulated learning using concept mapping of eleventh standard students.

Hypotheses

- H1: There is no significant difference in Self-regulated learning using concept mapping among the pupils given ‘Life-skills’ training and who were not given the life skills training.
- H2: There is no significant difference in self-regulated learning using concept mapping of eleventh standard students owing to gender.

5. METHODOLOGY

5.1 Research Design

Two group post-test comparison designs were applied to investigate self-regulated learning of students from eleventh standard.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Treatment</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>X</td>
<td>O₁</td>
</tr>
<tr>
<td>Control</td>
<td>-</td>
<td>O₂</td>
</tr>
</tbody>
</table>

X-Intervention; O₁ and O₂: post-test

5.2 Sample

The sample consisted of 65 biology group eleventh standard students from Government Higher Secondary Schools in Chennai.
5.3 Tools
- Paul Pintrich’s Motivated Strategies Learning Questionnaire (1991) and concept map has been used to measure self-regulated learning.
- Modules on Genetics based on Life skills was developed and standardized by the investigators. The reliability of the tools found to be 0.52 to 0.93 respectively.

5.4 Experimental Design
Two groups post-test comparison design has been followed to investigate the effectiveness of life skills on self-regulated learning using concept mapping. The present study consisted of one experimental and one control group and no pre-test was given for two groups. At the end of the training, post-test was applied for both groups simultaneously. The data for the present study have been collected from Government schools. Modules were prepared using the lesson ‘Genetics’ taken from the text book. The contents were designed by selecting life skills namely, communication, critical thinking, creative thinking and problem solving. Life skills are taught with different methodologies.

5.5 Assessment of self-regulated learning

![Concept Mapping Diagram]

Figure 1: Concept mapping
The level of self-regulated learning of the students was measured by Concept mapping. The dimensions of self-regulated learning namely, Elaboration, Organization, Critical Thinking and Metacognitive self-regulation were adopted to draw concept mapping. The scoring for concept mapping of Genetics has been taken to measure self-regulated learning before and after treatment.

6. DATA ANALYSIS AND INTERPRETATION

6.1 Statistical Techniques

Mean, Standard Deviation and t-test are used to verify the hypotheses.

Table- 1: Mean scores of self-regulated learning and concept- mapping of experimental and control groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-regulated learning</td>
<td>Experimental</td>
<td>33</td>
<td>468.24</td>
<td>51.054</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>32</td>
<td>447.34</td>
<td>61.963</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>65</td>
<td>457.95</td>
<td>57.217</td>
</tr>
<tr>
<td>Concept mapping</td>
<td>Experimental</td>
<td>33</td>
<td>7.12</td>
<td>1.193</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>32</td>
<td>3.09</td>
<td>0.995</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>65</td>
<td>5.14</td>
<td>2.304</td>
</tr>
</tbody>
</table>

6.2 Dependent Variable: Self-Regulated Learning Using Concept Mapping

The above table showed that the mean scores of Self-regulated learning and Concept mapping indicated that the ‘experimental group’ treated by life skills has scored better than the ‘control group’ treated by traditional method. It is concluded that life skills treatment is effective methodology for enhancing self-regulated learning among the students at all levels.

Table 2 Critical Ratio of Gender in relation to Self-regulated learning using Concept mapping

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Er</th>
<th>df</th>
<th>t- value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>32</td>
<td>5.88</td>
<td>1.963</td>
<td>0.347</td>
<td>63</td>
<td>2.655</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
<td>4.42</td>
<td>2.411</td>
<td>0.420</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 exhibited that there is significant difference among the students in self-regulated learning using concept mapping. The mean scores in self-regulated learning using concept mapping is found to be higher in males than female students where t-value is 2.655 with degrees of freedom 63 at 0.05 level.

6.3 Major Findings:

★ There is a significant difference in Self-regulated learning using concept mapping among the pupils given ‘Life-skills’ training and who are not given the life skills training.
There is a significant difference in self-regulated learning using concept mapping of eleventh standard students owing to gender. Male students secured higher level of self-regulated learning than female students.

7. EDUCATIONAL IMPLICATIONS:
The result of the present study emphasized that active engagement and life skills training promote self-regulated learning among the students. The role of teacher is important for enhancing self-involvement of the learners. Activity based teaching and learning can be used by the teachers to develop self-regulation and it creates motivation to learn the content. Teachers should bring awareness about the importance of life skills and how it will be useful to reduce the negative aspects such as stress, confusion, exam anxiety and emotional imbalance on their learning process. Elimination of negative aspects leads to confidence, proper planning, control of emotion, monitor, active participation, curiosity and in their learning which turns into self-regulation. Management should encourage activity oriented learning which brings deviation from exam anxiety and make the students to learn in their own way. The roles of learners are the most important part to make self-regulation on their learning process. First they have to understand what is self-regulated learning and its benefits? how it is important for 21st century classroom? They have to deviate from usual type learning and whatever they are learning, plan and make innovative strategy themselves with the help of the teachers. It will reduce obstacles in self-learning. Students may also use some methodology to learn the content such as discuss with their peers and teachers, use some puzzles and odd words related to the subjects, make some questions and problems and find the answers, draw some pictures to know the key points from the lessons. When they learn themselves, they can shape their behaviour, avoid their bad habits, reduce their exam anxiety, develop their skills and time management to score good marks. They can also find their mistakes and analyse the reason to find the solution. These factors are necessary requirements for students to make them as a self-regulated learner who can easily achieve their academic success.

8. DISCUSSIONS AND CONCLUSION
The result of the present study showed that the students of experimental group students have scored better level of self-regulated learning than the students of control groups which agreed with (Adodo, 2013) who found that mind-mapping strategy as a Self-regulated Learning helped to improve students’ performance in Biology. (Abbasi et al., 2014) addressed the use of concept maps in chemistry teaching which have a positive impact on the academic achievement and self-regulation learning. (Welch, 2009) examined that training of problem-solving skills is effective in self learning, self-monitoring, and self-discipline of students. (Khera, 2012) found that there is a positive correlation between Core Affective Life Skill and Self-Concept of adolescents which means that those who possessed these essential skills have confidence in all aspects.
The present study found that the male students have better level of self-regulated learning using concept mapping than female students which contradicted with (Morgan, 2013) who found that there was no significant difference in the extent of self-regulation, degree of cultural orientation and level of academic achievement due to gender. It may be concluded that self-regulated learning is an active and engagement process that requires a lot of practice, cognitive skills, training and different teaching and learning methodology. Life skills training have proved an appropriate methodology for reducing difficulties among the students in their learning process in order to develop self-regulated learning in the learning process.

9. REFERENCES:


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