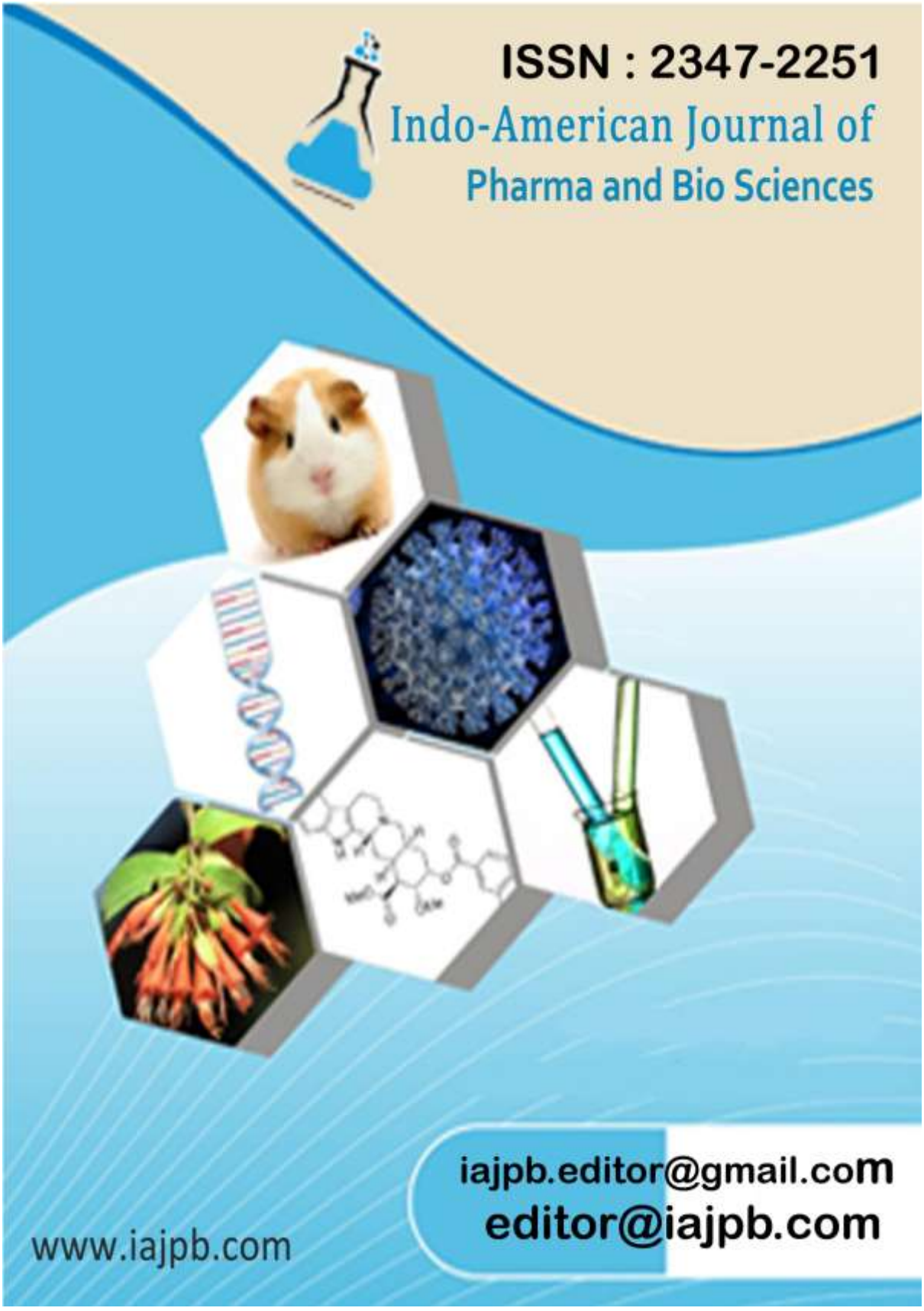
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# Activating Self-regulation Behaviour towards Developing Teacher Competencies among B.Ed. Student-Teachers

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**Abstract:** The study's goal was to see how B.Ed. student-teachers who used self-regulation behavioural methods fared in the field of professional development for educators. Experiment design – Pre test – Post test – control group is used by the researcher in his investigation. Sixty B.Ed. science student-teachers participated in the research, with 30 in the experimental group and 30 in the control. The treatment plan comprises of encouraging students to use self-regulation behavioural tools in the classroom. To help B.Ed. student-teachers improve their teaching abilities, the lesson plans call for the use of self-regulation tools in each transaction. Self-regulation and teacher competency scales were used to gather the data for this study. It was decided to use statistical methods of descriptive, differential, and relational analysis to examine the acquired data. A modest degree of self-regulation and teacher competence was found in the findings of the descriptive analysis conducted on the B.Ed. student-teachers. Post-test scores from the control and experimental B.Ed. science student-teachers were significantly different in their self-regulation behaviour and teacher competences, according to an independent t-test. Teachers' abilities to regulate their own behaviour were shown to be positively correlated with self-regulation. As a result, B.Ed. student-teachers' ability to regulate their own emotions was improved.

**Keywords**: Self-regulation Behaviour, Teacher Competencies, Teacher Training, and Student-Teachers

## INTRODUCTION

In the process of passing on knowledge, teachers play an important role. There has been a tremendous advancement in the sectors of science and technology, health care, administration and management, human connections, defence, and the globalisation of the globe. The responsibilities of a teacher have shifted in this way in order to satisfy the requirements of students all around the world. To do their job well and efficiently, teachers must have a combination of education, experience, and a positive outlook. Through the teacher's own self-regulation, it is achievable. Internal state of mind is triggered by the self-regulation process to - teachers is activated. The development of teacher competences leads to high-quality instructors and meaningful students for the advancement of society and the country.

## SELF-REGULATION

Having self-generated ideas and emotions, as well as self-control over those emotions, is what is meant by self-regulation. Students that are self-regulated think about and respond to their internal and external environments in a meaningful manner. Additionally, self-regulation improves the kids' problem solving, motivation and decision-making abilities. Individuals may form plans, pick among different options, manage urges and suppress undesired ideas by using self-regulation (Heatherton 2011).

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Mental health is associated with the ability to self-regulate one's conduct; individuals who are less
self-controlling have a higher risk of health and interpersonal difficulties (Duckworth & Seligman 2005, Tangney et al. 2004).
According to self-regulation, there is a fundamental balance between an individual's capacity to control their impulses and their ability to control their actions. Individuals' behaviour becomes more goal-oriented as a result.It was the student-teacher self-regulation that stimulated their awareness, management, and analysis of their own self-awareness. It honed their ability to think critically about their own strengths and

**TEACHER COMPETENCIES**

Educators must perform a variety of responsibilities in the teaching-learning process, as well as meet the needs of the community. In this sense, teachers are required to possess a wide range of skills because of the diverse nature of their work. Teacher competencies, as defined by Lizzio and Wilson (2004), are a set of abilities a teacher must have in order to be a successful educator in a variety of settings. There should be a focus on the development of teachers' competencies with a willingness to perform, along with the transformation of a young person into a committed and devoted functionary not only to children, but also to the society and the country, which ultimately contributes toward a better quality of life for all (NCTE, 1998).

**INTERACTIVE TEACHER TRAINING**

The ever-changing nature of society necessitates that each person possess certain competencies in order to function at their best in work. Today's instructors must fill several roles, such as teaching, demonstrating, managing relationships with others, directing, facilitating, answering questions, and overseeing courses while also exhibiting social awareness in learning communities, in order to be effective in this situation. Only a curriculum based on teacher weaknesses in competence growth. They become competent instructors via self-regulation training. Students' cognitive abilities were honed via the use of automatic ideas, implicit memories, and mental practise in this study. Using this method, students are better able to comprehend the subject and develop their teaching and learning skills. A person's capacity to solve problems might help him or her have high cognitive abilities. Critical thinking, innovative ideas, and logical analysis are all regulated by this method. Students who have mastered these skills may put them to use in a variety of contexts, including the classroom, the workplace, and personal relationships.
competency can foster the development of all of these characteristics in future educators. Educational institutions and educational authorities have acknowledged the value of teacher preparation that is competency-based. The new curriculum in many nations also restructures teacher education programmes to focus on competency-based learning. There is a link between the abilities of teachers and the knowledge of students. Education that is competency-based has a direct impact on the quality of teaching and learning and the national economy.In a relevant learning environment (preferable the professional practise), competency-based teacher education provides possibilities for student teachers and teacher educators to acquire integrated, performance-oriented capacities to deal with challenges in practise. This set of talents is made up of a combination of knowledge structures and attitudes and values that are required to carry out duties and solve issues in the teaching profession, organisation, position, and role successfully. (Biemans et al., 2004).
A framework for evaluating the contribution of competency-based teacher education to the ongoing challenges for curriculum planners and implementers, such as the inclusion of links between theory and professional practise that allow practitioners

to practise theory and theorise practise, is needed for a critical consideration (Korthagen 2001, Verloop et al. 2001, Darling-Hammond 2006). Supporting the Teaching Profession for Better Learning Outcomes, a 2012 European Commission Staff Working Document, had the following conclusion:

A new set of competencies is needed in the teaching professions because of the fast changes in the needs of students.

High-quality teaching is essential to students' success, and this necessitates well-educated and experienced instructors who are always learning and improving their skills.

Quality school education can only be provided by teachers who are competent and committed, according to the National Council for Teacher Education (NCTE) (1998). Accomplished instructors must possess the following 10 inter-related abilities.

(ii) Competencies in the context in which they are used

(iii) The ability to think critically

(iii) Content Knowledge

In addition, (iv) transactional skills

Related to other educational endeavours: (v)

(vi) Capabilities to Create Instructional Materials

(viii) Analytical and Critical Thinking

Competencies for Management in Organizations

ix) Working with Parents Competencies

Related to Working with the Community and Other Agencies: (x)

It is essential that the pre-service teachers be trained in their competencies of self-awareness, professional development, goal-oriented subject matter, methods of teaching, understanding the learners and their contribution to their development, values and child rearing in the competence-based teacher education programme.'

**RESEARCH REVIEWS**

Short summaries are provided below for the following studies on teacher self-regulation and teacher competency. Teachers' self-regulation methods and teacher competences are important in the area of education.

When Kremer-Hayon and Tillema (1999) looked at the expectations of both teacher educators and student teachers, they found that both groups believed that implementing SRL in teacher education would help students become more self-sufficient and capable of performing professional roles at a high level. There was a substantial positive association between self-regulation and work satisfaction, and the indirect impact of self-regulation on job satisfaction through emotional weariness was considerable.Teachers and student teachers use a variety of self-regulation strategies in both their teaching and learning, according to studies by Maaike D. Endedijk, Mieke Brekelmans, Nico Verloop, Peter J.C. Sleegers, and Jan D. Vermunt (2014), Isil Tanriseven (2014), Zeki Arsal (2010), and Yesim Capa-Aydin, Semra Sungu, and Esen Uzuntiryaki (2009). Many different self-regulation strategies were used by student instructors in a wide range of learning situations.The pre-service science teachers who used a combination of cognition, metacognition, and motivation techniques had the greatest scores on professional progress, according to Tova Michalsky's (2012) findings.A study conducted by Natas Pantic and Theo Wubbels (2010) indicated that most instructors believe teacher education should be centred on the skills and knowledge they need to succeed in the classroom. The authors speculated on the implications of this finding for teacher preparation programmes. Research on competence-based teacher education by Katrien Struyven & Marijke De Meyste (2010), Natasa Pantic & Theo Wubbels (2012) showed a need for change in teacher education and the core skills needed to form teaching practise. Competence-based education (CBE) in higher education is characterised by the role of teachers and students, self-regulation

and didactical teaching methods, the function of evaluation, and a variety of assessment methods, according to a study by Anne-Katrien Koenen, Filip Dochy, and Inneke Berghmans. Findings from Rerngrit Yuayai, Pacharawit Chansirisira, and Kochaporn Numnaphol (2015) show that instructors in basic education institutions are competent.

**IMPORTANCE OF THE RESEARCH**

Young people these days are self-taught thanks to technology. Self-regulation will allow them to engage in activities that are in line with their vision. Elders aren't taken seriously by them. As a result of this learner-centered approach, students are empowered to make their own choices in the classroom. Their thoughts on self-regulation should be streamlined by instructors. This study's treatment plan for student-teachers consists of exercising self-regulation and developing their teaching skills. It is hoped that this therapy approach would serve as a model for future educators.

Teachers need to be professionally prepared, which is why we have teacher education programmes. Teachers' abilities are improved when self-regulation behavioural strategy training is properly included in their training programmes. Teachers benefit from this training because it gives them the tools they need to grow as educators and better fulfil the educational requirements of their pupils. B.Ed. science student-teachers' self-regulation development is stimulated by this research. Awareness of one's learning and cognition, as well as the capacity to govern one's cognition, is often referred to as self-regulation. For the purpose of achieving personal objectives, it produces a state of concentrated attention, emotions, thoughts and behaviours. The kids' mental activity increases as a result of this process of self-regulation. At this point, one's personal aspirations are focused on enhancing one's ability to teach. As a result of this study, NCFTE's (2010) goal of training teachers who are both professional and compassionate will be achieved.

**FORMAT OF THE RESEARCH**

The following are the study's goals, as outlined by the investigator.

Self-regulation behaviour among B.Ed. science student-teachers is the primary goal of this study

Determine the degree of Teacher Competency of Science and Mathematics B.Ed. Teacher Candidates

Self-regulation therapy for B.Ed. science student-teachers is to be implemented in accordance with its design.

Finding the amount of self-regulation behaviour in B.Ed. science instructors after activating self-regulation

after triggering self-regulation behaviour in B.Ed. science student-teachers, to determine the degree of their teacher competences

• To examine the relationship between B.Ed. science student-teachers' self-regulation behaviour and their teaching skills.

The study's nil hypothesesIt is expected that the pre-test scores of control group and experimental group B. Ed. science student-teachers would not vary significantly in their 'Self-regulation Behavior'.

2. There will be no significant difference in the 'Teacher Competencies' pre-test scores between the control group and the experimental group B. Ed. science student-teachers.

Control group B. Ed. science student-teachers' 'Self-regulation Behaviour' will not alter significantly between pre- and post-test scores.

4. The experimental group B. Ed. science-student teachers' 'Self-regulation Behaviour' scores will not alter significantly between pre- and post-tests.

No significant difference will be seen between the pre- and post-test scores of B.Ed science student-teachers in their 'Teacher Competencies.'

5. 'Teacher Competencies' scores of experimental group B. Ed. science student-teachers will not change significantly between pre-test and post-test results. 6.

The 'Self-regulation Behaviour' post-test scores of B. Ed. science student-teachers in the control and experimental groups will not change significantly.

'Teacher Competencies' scores will not vary significantly between the two groups of science student-teachers in the control group and the experimental group B.Ed. science student-teachers.

Among the experimental group of B.Ed. science student-teachers, there will be no significant association between Self-regulation Behavior and Teacher Competencies.

**RESEARCH METHOD**

Self-regulation approach was used as a means to evaluate the teaching abilities of B.Ed. science student-teachers. Both an experimental and a control group were selected, each of which had been taught in the customary manner.

Pre-Test-Post-Test Control Group Design was used by the researcher in this study (Fraenkel, 2009).

SampleB.Ed. science student-teachers are the study's target audience. Students enrolled in the B.Ed. programme are the subject of this study. To do this, you'll need to do extensive research. As a result, the researcher devised a more practical sampling strategy. Tamil Nadu is the home state of the researcher. Students from Wisdom College of Education in Thiruvannamali, in keeping with the area's reachable population, comprised the sample. Students from Thellar College of Education served as the control group in the experiment. Sixty science student-teachers, 30 experimental and 30 control, participated in this research.

**THE DETAILS OF THE TOOLS ARE HERE.**

Scale for self-regulationThere are 72 items on the self-regulation scale created by the researcher. The B.Ed. student-teachers' self-regulation behaviour is assessed in each item. A Likert-type scale with five answers is used in this instrument. The following alternatives were shown to the participants, and they had to choose one. Affirmative: Disagree, Negative: Disagree Uncertainty or scepticism 4. We're all on the same page. 5. Completely AgreeStrongly Agree was given a score of 5, Agree got a 4, Uncertain got a 3, Disagree got a 2, and firmly disagree got a 1. Positive remarks abound in this resource.

Scale of Teaching Proficiency

The 56-item scale on Teacher Competencies was constrained by the researcher. The B.Ed. student-teachers' Teacher Competencies are measured by each item. A Likert-type scale with five answers is used in this instrument. The following alternatives were shown to the participants, and they had to choose one. In large part, 2. In a significant way 3.In a limited way 4.In a limited sense It's not that bad.Scores ranged from 5 for a lot, to 4 for a lot, to 3 for a lot, to 2 for a little, to 1 for not in the least. Positive remarks abound in this resource.

**PROCEDURE**

The experiment was broken down into the following three stages:-

Students enrolled in B.Ed. Science Programs were administered the Self-Regulation Behavior Scale and Teacher Competencies Scale (Pre-test) in Phase I of the study.

Both the control and the experimental groups were given questionnaires by the researcher before the intervention was given to those groups. Following the established procedures, scores were assigned to each group in order to determine the self-regulation skills and teaching abilities of B.Ed. student instructors within each group.

Phase II: Introducing the Self-regulation Behaviour Intervention to the Experimentation Group

The therapy was administered to the experimental group for 60 days by the researcher. Self-regulation skills were included into the teaching and learning process in the classroom throughout therapy. The B.Ed. student-teachers are encouraged to use self-regulation skills in every transaction in order to improve their teaching abilities.After administering the Self-regulation Behavior Scale and the Teacher Competencies Scale to B.Ed. Science Student-Teachers, Phase III will conclude.

\The post-test was given to both the experimental and control groups in order to evaluate the intervention's impact.

**DATA COLLECTION**

The experimental and control groups of B.Ed. student-teachers were given the Self-regulation Behaviour Scale and the Teacher

Competencies Scale before and after the tests were administered.

**Analysis of data**

As a result of the before and post-test data, statistical approaches such descriptive statistics, paired sample 't' tests, independent 't' tests, and correlation analysis were used to analyse the data.

Table 1. Mean and Standard Deviation of Pre-test and Post-test scores on Self-regulation behaviour among Control Group
(Maximum Score: 100)

| Subjects and Size | Mean | S.D | Low | Moderate | High |
|---|---|---|---|---|---|
| Control group Pre-test Size N = 30 | 78.76 | 7.87 | 6 (20%) | 22 (73.33%) | 2 (6.67%) |
| Control group Post-test Size N = 30 | 74.15 | 8.76 | 4 (13.33%) | 22 (73.33%) | 4 (13.33%) |

According to the data in this table, the mean and standard deviation of Self-regulation behaviour are 78.76 in pre-test and 74.15 and 8.76 in post-test correspondingly. It was discovered that their performance in terms of level was found to be (20 percent) as low, (73.33 percent) as moderate, and (6.67 percent) in high level in pre-test, and (13.33 percent) as low, (73.33 percent) as moderate, and (13.33 percent) in high level in post-test. As a result, the control group's pre- and post-test scores indicate that their self-regulation behaviour is moderate.

Table 2. Mean and Standard Deviation of Pre-test and Post-test scores on Self-regulation behaviour among Experimental Group
(Maximum Score: 100)

| Subjects and Size | Mean | S.D | Low | Moderate | High |
|---|---|---|---|---|---|
| Experimental Group Pre-test Size N= 30 | 75.87 | 9.24 | 5 (16.67%) | 22 (73.33%) | 3 (10%) |
| Experimental Group Post-test Size N = 30 | 88.52 | 5.13 | 5 (16.67%) | 18 (60%) | 7 (23.33%) |

The mean and standard deviation of Self-regulation behaviour are 75.87 and 9.24 in pre-test, 88.52, and 5.13 in post-test accordingly, according to the above table. 16.67 percent of their pre-test performance was considered poor, (73.33 percent were moderate, and 10 percent were high-level), and 16.67 percent of their post-test performance was considered moderate and high-level, respectively. As a result, the experimental group's pre- and post-test scores show that self-regulation behaviour is moderate.

Table 3. Mean and Standard Deviation of Pre-test and Post-test scores on Teacher Competencies among Control Group

| Subjects and Size | Mean | S.D | Low | Moderate | High |
|---|---|---|---|---|---|
| Control group Pre-test Size N = 30 | 77.58 | 10.40 | 5 (16.67%) | 21 (70%) | 4 (13.33%) |
| Control group Post-test Size N = 30 | 72.73 | 10.43 | 5 (16.67%) | 23 (76.67%) | 2 (6.67%) |

From the above data, it can be deduced that the pre-test mean and standard deviation of Self-regulation behaviour are 77.58 and 10.40, whereas the post-test mean and standard deviation are 72.73 and 10.43, respectively. In the pre-test, 16.67 percent were rated as low, (70 percent moderate, and 13 percent high), while in the post-test, 16.67 percent were rated as low, (76.67

percent moderate, and 6 percent high). Teachers' Competencies are modest in the before and post test scores of the control group, according to the findings.

Table 4. Mean and Standard Deviation of Pre-test and Post-test scores on Teacher Competencies among Experimental Group

(Maximum Score: 100)

| Subjects and Size | Mean | S.D | Low | Moderate | High |
|---|---|---|---|---|---|
| Experimental Group Pre-test Size N = 30 | 78.20 | 7.88 | 5 (16.67%) | 20 (66.67%) | 5 (16.67%) |
| Experimental Group Post-test Size N = 30 | 93.63 | 4.38 | 4 (13.33%) | 23 (76.67%) | 3 (10%) |

It is inferred from the above table that the mean and standard deviation of Teacher Competencies is 78.20 and 7.88 in pre-test, 93.63, and 4.38 in post-test respectively. Their performance in terms of level is found that (16.67 %) as low, (66.67%) as moderate and (16.67%) are in high level in pre-test and (13.33%) as low, (76.67%) as moderate and (10%) are in high level in post-test. Therefore it is stated as Teacher Competencies is moderate in pre-test and post-test scores of experimental group.

Table 5. Independent Sample 't' test between the Pre-test Mean score of Control and Experimental group on Self-regulation Behaviour

| Self-regulation Behaviour | Control group Pre-test (N = 30) | | Experimental group Pre-test (N = 30) | | 't' value |
|---|---|---|---|---|---|
| | Mean | S.D | Mean | S.D | |
| | 283.53 | 28.34 | 273.13 | 33.26 | 1.303** |

**DISCUSSION**

Finding out how self-regulation affects teaching skills is the goal of this research project. To improve the teaching abilities of B.Ed. science student-teachers, self-regulation practises are used. The findings demonstrate that it has a favourable impact on student instructors' abilities to teach. According to the post-test scores of both groups, the 't' value was 10.120, which indicates the treatment's effectiveness.

**Implications for education**

UNESCO's (2014) study promotes "autonomy for self-regulation." To put it another way, give students the freedom to choose their own learning experience in order to make it more enjoyable." Student autonomy may be granted individually or collectively, and it might involve setting learning objectives, choosing assignments and methods of instruction, and keeping track of and assessing one's own progress. In order to ensure that kids are able to self-regulate, autonomy must be matched to their abilities. A lack of control over one's own actions might lead to worry and boredom rather than delight. In this study, the researcher encouraged students to think for themselves and based their arguments on facts. As a result of this process, student instructors become more self-regulated. Controlling one's own thoughts and feelings about oneself is possible with the use of a self-regulatory method. The capacity to see reality and regulate ourselves and our future goals is developed via this process. It is possible to derive meaning from both the exterior and interior worlds via self-

awareness. Individuals that go through this process develop a clear, deliberate, creative, willful, decisive, and purposeful way of thinking. Using this method also aids them in securing employment, and it promotes a harmonic growth of the teacher trainees in the process.'Teacher education should give time to student-teachers for reflection and individual study without cramming the training calendar with teacher-directed activities alone,' says NCFTE (2010). Allowing student-teachers to reflect on their own progress, using suitable teaching methodologies and encouraging them to put their new knowledge into practise, and providing a platform for demonstration and individual writing assignments were only some of the methods employed in this study. These self-regulatory methods improved their ability to reflect on the improvement of their own professional abilities as teachers.

**CONCLUSION**

The students' self-regulation behaviour is shaped by the treatment programme activities they practise. In order to achieve this purpose, it is necessary to activate students' self-regulatory behaviours, which, it is assumed, stimulates their mental processes for understanding and controlling their emotions. Through their own reflections and self-evaluation, self-regulated instructors enhance their own abilities. In order to achieve their objectives, the trainees were able to think and act with more clarity and purpose as a result of this approach. As a result, B.Ed. student-teachers' ability to regulate their own emotions was improved.

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