

Impact of 5E Instructional Model on Student's Moral Knowledge

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Abstract

The evaluation of the impact of various teaching strategies on students' perspectives is lacking in providing conclusive findings, a strand of prior literature has revealed. To positively affect students, especially those who already possess an entity attitude, instruction is to be tailored to the unique needs of each student. This research focuses on how students' entity attitudes change due to the traditional or cooperative learning approach. To meet the study's objective to explore students' attitudes while teaching through a cooperative learning strategy among university students, this study used a quasi-experimental design in which participants were tested before and after an intervention. The control and experimental groups, consisting of a total class size of 40 students, were formed. The study employed Paired T-test to assess the success of the moral values intervention strategy. The study results indicated that student attitudes shift more for those taught using the cooperative instructional strategy than for those taught using the conventional approach. Based on the study findings, it is suggested that the 5Es strategy should be covered in some seminars and workshops to boost student performance. Furthermore, our study suggests that to improve students' moral values and aid them in achieving their goals, teacher education programmes in colleges and universities must incorporate the 5Es instructional strategy into their curricula.

Keywords: Cooperative learning strategy; entity attitude; traditional teaching method

Introduction

The problem of developing a more responsible society is complex. Pakistan faces several issues, such as examination malpractices, lack of moral competence, integrity, kidnapping, election manipulation, etc. These social scenarios indicate that the entire education system has deteriorated. Teachers often use inappropriate and unprofessional teaching strategies, a significant factor in today's youth's deteriorating moral values. Hence, educational researchers and social workers require urgent attention for the system to be efficiently restructured. Regarding this, new and innovative strategies can be discovered to shift the moral values of these students. In several studies, the strategy centred around the learner can be regarded as the ideal strategy to be used for imparting knowledge and positive attitudes (Brown, 2007). Hence, the validity of the significance of the learner-centred instructional strategies must be checked according to the 5E instructional strategy (Eroğlu & Bektaş, 2022; deChambeau & Ramlo, 2017).

Kugelman and Hussain (2018) noted that Pakistan had lost the previously cherished sense of cultural identity, nationhood and hospitable spirit. This can be characterized by increasing indiscipline, corruption, no tolerance for the country's laws, disrespect for elders, illiteracy, unemployment and abusive security forces. Pakistan is a country that is already acquainted with the issues of urban decay, pollution, the transmission of incurable and infectious diseases, lack of basic hygiene, deteriorating education, ethnic cleansing and the lack of commitment to duty. All these cases have led to massive corruption, ethnic quarrels and abductions. These factors are a big threat to the economic and socio-political infrastructure of Pakistan. This also may lead to a decline in the moral qualities of people in all life spheres.

Moral education is regarded as the fundamental component of human life and society, following Damon, Lerner, and Eisenberg (2006). It includes some fundamental values like sincerity, kindness, and sympathy. It refers to guiding kids toward moral behaviour while also assisting them in leading honourable lives and contributing to their communities.

According to Napier & Luguri (2013), most parents and educators concur that ethical education can be crucial for personal growth. To advance in the areas of ethics, the breadth of human experience, and skills, teachers must stay a few steps ahead of their students and many steps ahead of them. The country needs educators who foster critical thinking in their students by encouraging them to ask questions, consider options, appreciate different viewpoints, and base decisions on solid arguments.

What kind of character needs to be promoted? These are essential questions for educators to consider before developing a successful policy for teaching moral education. Which moral principles are vital for children to absorb as they grow, and which are appropriate for later adulthood? People who are at the mercy of fleeting whims and inclinations and those who lack firmly established principles are regarded as NOT HAVING CHARACTER.

Since Pakistan's independence, moral, religious, and spiritual education has been significant components of education. The only source of moral instruction in this nation is religion. The main goal is to inspire students to learn, experiment, appreciate, start, explore, and create for their well-being and the nation's well-being. The National Committee began the main educational objectives in 1979 and directed them with the support and control of the Education Ministry. This ministry also has the power to lay down the foundation and rules of formal moral education in the country. Hence, moral education as a subject has to be introduced in the education system of Pakistan so that the students at the primary and senior levels can be acquainted with the knowledge of consciousness, moral competence and moral literacy. In place of this, the correct attitude and values were inculcated through effective ways of teaching moral education, which can have a good impact on the youth of Pakistan (Haq, 2006).

Abdul, Raheem, Bello, and Odutayo (2018) noted that teachers could use teacher-centred strategies like dictation, story-telling, and lecturing despite various scholarly findings on contemporary trends in teaching. The main reason for this is overcrowding in classrooms and an overburdened curriculum. As a result, teachers are hesitant to experiment with alternative teaching strategies to the traditional lecture method. These strategies seem to be better than traditional ones focusing on the teacher. Learner strategies assist them in progressing in their learning and ensuring long-term relationships of retention and gaining a deeper comprehension of the subject and course content. It is crucial in developing students' critical thinking skills (Oesterreich, 2003).

Studies showed little about how the 5Es instructional strategy affects moral education. The studies that have been done so far did not use the 5E strategy for teaching, and they were experimental in nature. Igba and Nwafor (2016), for example, looked at how senior secondary students in the state of Ebonyi did in moral education when they were taught cooperatively. In 2016, Adeniran, Akinyemi, and Aremu looked into how WebQuest affected the moral education of junior secondary school students in Nigeria. Nuhoglu and Yalcin (2006), Madu

and Amaechi (2012), and Ajaja (2013) have all talked about how important science classes are (for example, Biology, Chemistry, and Physics).

Research Objective

This study aims to explore students' attitudes while teaching through a cooperative learning strategy among University Students.

Research Question

The following research question is attempted to be addressed by the study:

Is there any difference in students' performance having entity and incremental attitude when students are taught using the cooperative learning strategy and when taught with the conventional methodology in the university?

Literature Review

Moral Education

Researchers examining the significance of moral education have considered two factors. The first element emphasises the importance of student welfare and individual growth (Linda et al., 2023). Therefore, education must make an effort to mentor students as they transition into adulthood and jumpstart their identity formation. The second point is the significance of moral education for individuals and society (Cristina, 2022). Therefore, when moral and prosocial development improves, society and quality of life benefit from moral education. Despite the analytical distinction, this demonstrates that all aspects of moral education are inextricably linked. In the cognitive developmental work proposed by Kohlberg, it is confirmed that moral education should focus on the individual's moral development and capacity to deal independently with moral and ethical issues and dilemmas (Kohlberg, 1971).

5Es Instructional Strategy

The constructivist philosophy, which encourages student participation in the learning process, is where the 5Es teaching method comes from. It lets students try out different courses and subjects and learn more about them (Rif'ati and Triyanto, 2022).

This could be an excellent teaching method (Yadigaroglu & Demircioglu, 2012). This method can get students interested (Clark, 2003) and also get them to work hard (Wilder &

Shuttleworth, 2004). They are encouraged to have fun and enjoy their lessons and can take an active role in them. Because of this, their academic success goes up (Evans, 2004). (Demirciolu, Ozmen, and Demirciolu, 2004) This also makes them more interested in the lessons and encourages students who usually get low grades (Rif'ati and Triyanto, 2022).

This strategy was developed in the 1980s so that educators could teach using a constructivist approach to education (Neelu et al., 2022). It also discusses how cognitivism and behaviourism function (Jobrack, 2010). It instructs students who cannot figure out concepts on their own. (Bybee et al., 2006).

Engage: This is the phase in which the attempt is made to capture the student's interest and attention. They start focusing on events, situations, demonstrations and problems, which cover the abilities and content aiming for instruction. Considering teachers' points of view, they can ask questions, look for solutions to problems and present discrepant events to engage learners (Bybee, 2014).

Explore: Students and learners work together to learn something real during this phase. This stage is centred on the student and encourages experimentation. Students are thus encouraged and motivated to use process skills such as questioning, observing, testing, investigating, developing hypotheses, and communicating with peers (Neil et al., 2022).

Explain: Because it allows students to participate in the process actively and learn common terms that will assist them in understanding the subject matter, the explanation phase is an important part of the process (Tanner, 2010; John and Chak, 2022).

Elaborate: Elaboration Theory, which has started its roots in Cognitive Learning theory, highlights the fact that in the process of most effective learning, teaching has to be set according to the difficulty level (Jobrack, 2010; Duran and Duran, 2004) argued that students actively take their roles in the learning experiences, which enrich and expand their abilities and the concepts already established in the prior and previous phases (Alastair et al., 2022).

Evaluate: According to Bybee (2014), teachers must involve their students in learning activities. The evaluation process used in the inquiry-based method is distinct from that used

in traditional lessons. The formal and informal evaluation methods are sufficient and guarantee inclusion (Duran & Duran, 2004; Tris and Andy, 2022).

The 5E Model has significantly improved science education outcomes in studies conducted over the past several decades, mostly with elementary and secondary school students from different socioeconomic backgrounds. This study's results support this assertion (see Bybee et al., 2006 and Bybee, 2015). Numerous studies show that there are positive effects on overall science achievement, there is a decrease in the prevalence of alternative beliefs, there is an increase in students' self-expressed interest and confidence in science and scientific careers, and there is an overall increase in students' positive attitudes toward science (Kilavuz, 2005; Bybee et al., 2006; Cardak et al., 2008; Garcia-Grau, 2021; Hokkanen, 2011; Ehsan et al., 2022; Fernando, 2022; Karen, 2022).

Research Hypothesis

The hypothesis for the current study is:

There is a difference in students' attitudes when instructed using the cooperative learning strategy as opposed to when instructed using the traditional method.

Research Design

Research Methodology

This study used a pre- and post-testing quasi-experimental design. 40 students are split between the experimental group and the control group. Jesse Graham and Jonathan Haidt created a questionnaire for the University of Virginia to gauge the students' attitudes (Haidt, & Joseph, 2007). This scale is a gauge of support for and reliance on the five universal psychological tenets of "morality." The scale has two sections, each with three questions about the foundation.

- 1) Injury/Care
- 2) Fairness and Reciprocity (including issues of rights)
- 3) Ingroup/loyalty
- 4) Respect for authority
- 5) Sanctity/Purity

Data Analysis

This study assessed the effectiveness of the moral values intervention strategy using a paired t-test. The paired sample t-test, also known as the dependent sample t-test, is used by statisticians to determine whether the mean difference between two sets of observations is

zero. In a paired sample t-test, each subject or thing is measured twice, yielding pairs of observations (Ross, 2017). The paired sample t-test is commonly used in case-control studies and repeated-measures designs, so it was used in this study (Song, 2022). The findings supported the hypothesis of the study.

Table 1

Comparison between the Scores of Pre-testing (teaching by traditional method) and Post-testing (teaching by cooperative learning) of the Experimental Group

Note: Authors' calculations

Variables	Pre-Testing (N=40)		Post-Testing (N=40)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Entity Attitude	11.90	3.05	33.25	3.79	-24.08	0.00
Incremental Attitude	7.20	1.16	16.00	1.83	-13.78	0.00

Results and Discussions

The results show that how teachers teach greatly affects how their students learn. The main idea behind the study is that the 5Es teaching method affects the students' moral literacy. The results have shown that the 5Es teaching strategy greatly affects how well students understand moral education. Also, students learn moral principles better when they are taught with the 5Es than when they are taught with a more traditional method. So, their thoughts and actions show that they know more about moral education, and so do their thoughts and actions. This fits with what Kor and Saglam found in their research (2006). They say that the strategy helps students do better in school, deepens their understanding of concepts, and changes their attitudes. The results back up what Atay and Tekkaya (2008) said about how the 5Es strategy changes how students think and encourages them to take responsibility so they can actively take part in lessons. They will be able to do better in school and also enjoy their lessons. The results from Demirciolu, Ozmen, and Demirciolu (2004), which showed that the 5Es instructional strategy helps underachieving students the most and can get them more interested in the classroom, back this up as well.

Also, these results agree with the hypotheses that Nuhoglu and Yalcin (2006), Madu and Amaechi (2012), and Ajaja (2009) put forward in their research (2013). They found that the 5Es instructional strategy improves academic performance and positively affects how well

students do in the sciences. This is because it encourages students to find and make up their own knowledge.

Conclusions

The 5Es strategy is a teaching strategy that builds on students' prior knowledge, convictions, and skills to help them comprehend new concepts, according to the current study's findings. The student's understanding of the concepts covered in moral education increases when they are exposed to this teaching methodology. They have a chance to develop and learn new information by changing their classroom into a place where contrasting opinions can be expressed based on prior knowledge. The long-term effects of the 5E instructional strategy are undeniable if it aids in achieving the aims and objectives of the new senior secondary school Moral education curriculum.

Recommendations and Suggestions

The following lists the suggestions based on the findings of the study.

1. To boost student performance, the 5Es strategy should be covered in some seminars and workshops.
2. To improve students' moral values and aid them in achieving their goals, teacher education programmes in colleges and universities must incorporate the 5Es instructional strategy into their curricula.

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