

Life Skills, Environmental and Democratic Values among Senior Secondary School Students: a comparative study of Shadow Education and Formal Schooling

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Abstract

This study examines the impact of shadow education on senior secondary school students in Punjab, focusing on four districts: Patiala, Bathinda, Ferozepur, and Ludhiana. A descriptive survey method was used, collecting data from a sample of 800 students. Multistage randomization was employed to select the districts. The collected data was categorized based on predefined objectives and hypotheses and descriptive and inferential statistical techniques were applied for analysis. The findings reveal that formal schooling is more effective in developing thinking skills among senior secondary school students compared to personal tutoring. Students in formal schooling achieved higher mean scores compared to those in shadow education. However, shadow education students exhibited greater development in conceptual understanding of the physical world, scientific methods and processes, quantitative measurement experiments, curiosity, aesthetic sense, creativity, and values for life and environmental preservation. Although both groups demonstrated a similar appreciation of scientific evolution and the development of scientific temper, shadow education students displayed higher levels of qualities such as respect for human dignity and rights, equity, and equality compared to their counterparts in formal schooling.

Keywords: Shadow Education, Academic achievement, Learning outcomes, Higher education, Privatization, Formal Schooling, Shadow Curriculum.

Introduction:

Education, as an ever-evolving field, constantly adapting to meet the dynamic needs of society. In recent times, the prominence of shadow education has captured the attention of educators and policymakers. Despite the concerns surrounding its impact, acknowledging the existence of shadow education and comprehending its effects on students are imperative steps towards fostering an inclusive and effective education system. This research endeavors to conduct a comprehensive exploration of shadow education, aiming to uncover the challenges and opportunities associated with this phenomenon and facilitating decision-makers to bring improvements in the overall landscape of education. Shadow education, commonly known as private supplementary tutoring, extends beyond formal

schooling to provide additional support and enrichment to students. The delivery of this tutoring can vary, with organizations or individuals offering it in small groups or large classes, tailored to meet the unique needs of learners. A defining characteristic of shadow education is its alignment with the formal school curriculum, creating a symbiotic relationship between the two educational spheres. This global transformation taking place in the public and private sectors of education has given rise to the widespread prevalence of shadow education, impacting the educational experiences of students across the globe. The pivotal role of shadow education in the contemporary education system cannot be undervalued, as it seeks to bridge gaps and enhance academic success by providing personalized attention and support beyond regular school hours. Its growing popularity stems from the perception of parents and students that private tutoring is essential for improving academic performance and achieving

success in competitive exams. The demand for these services has become deeply ingrained in society, raising both praise for its potential benefits and concerns about its contribution to social and economic inequalities.

Indeed, one of the most pressing concerns surrounding shadow education is its potential to exacerbate existing disparities among students. Access to private tutoring is often contingent on financial means, creating a divide between those who can afford additional support and those who cannot. Despite these challenges, shadow education has positive aspects that merit attention. For instance, it has the potential to support struggling learners in catching up with their peers, fostering a sense of achievement, and boosting their self-esteem.

This research delves into the nuanced nature of shadow education, exploring its diverse types and how it adapts to the demands of formal curricula. Whether through home tuition, group sessions led by teachers, or tutorial/coaching centers, the varied approaches of shadow education cater to the unique needs of students seeking additional academic support.

Geographical disparities in the prevalence of shadow education also warrant investigation. Urban areas often experience higher demand for private tutoring due to factors such as parental education levels, economic capacity, competition, and peer pressure. Conversely, rural areas may face limited access to private tutoring due to economic limitations and reduced availability.

Beyond exploring the prevalence and nature of shadow education, this research endeavors to assess its impact on learning outcomes. This includes an examination of students' academic grades, confidence levels, revision skills, and learning strategies. Understanding the implications of shadow education on these outcomes can guide policymakers in developing informed policies and practices to harness the potential benefits of private tutoring while addressing its potential drawbacks.

Furthermore, this research sheds light on the formal schooling system's role, aiming to impart knowledge, goodness, and quality in life to students. Formal education serves as a guiding force in shaping individuals into productive and responsible citizens. However, ongoing debates about the quality of education persist among stakeholders, necessitating

continuous efforts to improve the educational landscape.

In addition to learning outcomes, thinking skills also hold significant importance in the academic context. These cognitive abilities encompass information processing, problem-solving, and decision-making, among others. Examining the development of thinking skills within the context of shadow education and formal schooling contributes to a comprehensive understanding of their impact on students' overall academic growth.

Researchers have extensively examined the impact of private supplementary tutoring in education. Bray (2013) found that over 70% of Hong Kong's last-grade students receive private tutoring, benefiting slow learners and high achievers, but also increasing academic pressure. Oller and Glasman (2014) explored tutoring support programs in France, providing 'intermediary spaces' for knowledge gap addressing. This approach enhances learning ownership and improves high achievers' performance. Ha and Harpham (2015) highlighted the contextual effect of parental decisions on private tutoring, improving reading, writing, and multiplication skills. However, researchers emphasize the need for fair integration into the mainstream education system and considerations for teachers' workload. Overall, private tutoring offers advantages but requires careful evaluation and implementation.

Sharma, Jain, Gupta, Garg, Batta, and Dhir (2016) investigated the impact of self-assessment on student learning among first-year MBBS students ($n = 89$). The study involved theoretical tests, and after the initial assessment, students self-assessed their performance and received feedback from teachers. A subsequent non-identical test with the same difficulty level was conducted after 7 days and evaluated by teachers. The findings demonstrated that self-assessment had a positive influence on students' interest and motivation in the subjects, leading to enhanced learning and improved academic performance. This approach fostered critical skills in self-evaluation, contributing to overall academic growth.

In another study by Cheng, Zeng, Xu, and Weng (2016), personalized learning experiences were explored within a digital learning community, addressing the limitations of traditional classroom

teaching in meeting individualized learning needs. The researchers developed a student model based on interests using a relational model and an improved k-way algorithm to analyze learning preferences. This allowed for tailored teaching strategies, accommodating individual students' personalized learning demands. Consequently, the optimized teaching approaches positively impacted both instructors' teaching quality and students' learning outcomes within the digital learning community. These studies underscore the significance of self-assessment in enhancing student learning and highlight the potential benefits of personalized learning experiences in digital educational environments.

In their respective studies, three researchers delved into various facets of learning and education. Maqbool's (2015) investigation centered on the learning style and academic achievement of Science and Social Science postgraduate students at Kashmir University. Analyzing data from 180 students, the study unveiled a noteworthy correlation between learning style and academic performance among Science students. Tahir et al (2007) also found that private sector education have more strength. Satish (2009) explored the significance of quality management concepts in fostering a learner-centric education culture. Utilizing factor analysis, the study identified crucial aspects to enhance learning. The research emphasized that specific quality management ideas could have a positive impact on student learning in classrooms, underlining the importance of quality administration tools in diverse educational settings.

Through an extensive and comprehensive research analysis of shadow education, formal schooling, learning outcomes, and thinking skills, this study aims to illuminate the intricate dynamics within the education system. Armed with a deeper understanding of the impact of shadow education, educators and policymakers can work collaboratively to enhance the overall quality of education, ensuring equitable opportunities for all students, and fostering well-rounded individuals equipped to thrive in a rapidly changing world. As we explore the multifaceted aspects of shadow education, we hope to pave the way for a more inclusive, responsive, and effective education system that caters to the diverse

needs of learners while nurturing their intellectual and personal growth.

Need of the Study

The need for this study arises from the widespread acknowledgment of the significance of private tutorial learning, known as shadow education, and its potential impact on educational attainment. With limited evidence suggesting positive effects on learning achievements, it is essential to explore the connection between the expansion of higher education opportunities and the growth of shadow education. Understanding the potential role of private tutoring in bridging the learning gap between public and private schools and its implications for educational inequality is crucial. Moreover, the controversial nature of shadow education calls for a comprehensive examination of its impact on student development, considering its influence on cognitive abilities and school engagement. This study aims to shed light on the role of shadow education in catering to individual differences and providing support for marginalized groups, as well as its influence on perceptions towards formal school education, thus contributing to a broader understanding of contemporary educational dynamics.

Objectives

1. To compare life skills and environmental values among senior secondary school science students developed through Shadow Education and Formal Schooling.
2. To compare development of democratic values among senior secondary school science students through shadow education and formal schooling.

Hypotheses

1. There is no significance difference in the life skills and environmental values among senior secondary school science students developed through Shadow Education and Formal Schooling.
2. There is no significance difference in the development of democratic values among senior secondary school science students through Shadow Education and Formal Schooling.

Methodology

A cross-sectional design was used to study senior secondary school science students from Patiala, Bathinda, Ferozepur, and Ludhiana districts in Punjab. The sample consists of 400 students from formal education and 400 from shadow education. These students were contacted from above stated districts in Punjab by using purposive sampling. Data was collected through the information sheet and self-constructed scales on the variables. Descriptive statistics were employed to understand the data and a t-test was employed to determine significant differences between students receiving shadow education and formal schooling. The research aimed to provide valuable insights for educators and policymakers to improve the education system.

Analysis and Results

The objective of the study was to compare the life, environmental and democratic values among senior secondary school students gaining education through shadow education and formal schooling. To achieve the objectives of 800 senior secondary school science students were contacted to collect the required information. Out of 800 students 400 students were regular students pursuing 12th class with science subjects in senior secondary schools and 400 students were receiving coaching/tuition from different private institutes. After collecting required information from the subjects' scores of life, environmental and democratic values of shadow education students group (SESG) and formal education students group (FESG) were calculated, tabulated and results have been presented as below:

1. Life Skills and Environment Values among the Senior Secondary School Science Students

The scores of the life skills and environment values of students belonging to two groups were subjected to t-test and results have been presented below:

Table-1

Life skills and Environment values among senior secondary school students

Group	Mean	N	SD	t-value	Remarks
Formal schooling	26.87	400	4.39	3.74	Significant
Shadow education	27.99	400	4.11		

The above table revealed that mean and SD of the life skills and environment values of the senior secondary school students of formal schooling was found to be 26.87 and 4.39 respectively while mean and SD of the life skills and environment values of the senior secondary school students of shadow education was found to be 27.99 and 4.11 respectively. Further, table revealed that t-value was found to be 3.74 which was significant at 0.01 level significance. It indicates that the mean scores of formal education and shadow education student groups were differ significantly. Thus, the hypothesis of the study which stated that there would be no significant difference in the life skills and environment values of senior secondary school science students of shadow education and formal education stands rejected. It can be interpreted that the mean scores of shadow education students on the variable of life skills and environment values were found to be higher than that of formal education students, it may be further concluded that shadow education has higher impact on development of life skills and environment values than formal education.

Maqbool (2015) also found significant relationship between learning style and academic achievement of Science students. Satish (2009) found the effect of administration instruments on learning outcomes. Gao and Xue (2021) found that parental engagement increased children's participation in shadow schooling in China, especially among families from higher socioeconomic backgrounds. Jones (2012) examined the impact of formal mentoring relationships on learning outcomes, including cognitive, skill-based, affective-related learning, and social networks. The study highlighted how learning processes and results evolves, offering clarity on the influence of the wider context. Participants showed enthusiasm for future mentoring, providing valuable insights for Learning and Development professionals and organizations. These findings support the findings of the present study.

2. Development of Democratic Values among the Senior Secondary School Science Students

The scores of the development of democratic values of the students belonging to two groups were subjected to t-test and results have been presented below:

Table-2
Democratic Values among the Senior
Secondary School Science Students

Group	Mean	N	SD	T value	Remarks
Formal schooling	31.19	40	4.33	6.02	Significant
Shadow education	32.83	40	3.41		

The above table revealed that mean and SD of the development of democratic values of the senior secondary school students of formal schooling was found to be 31.19 and 4.33 respectively while mean and SD of the development of democratic values of the senior secondary school students of shadow education was found to be 32.83 and 3.41 respectively. Further, table revealed that t-value was found to be 6.02 which were significant at 0.01 level significance. It indicates that the mean scores of formal education and shadow education student groups were differ significantly. Thus, the hypothesis of the study which stated that there is no significance difference in the development of democratic values among senior secondary school students through Shadow Education and Formal Schooling stands rejected. It can be interpreted that the mean scores of shadow education students on the variable of the development of democratic values were found to be higher than that of formal education students. It may be further concluded that shadow education has higher impact on development of democratic values than formal education.

Maqbool also found significant relationship between learning style and academic achievement of Science students. Satish found the effect of administration instruments on learning outcomes. Their findings support the findings of the present study. Tahir et al also found that private sector education have more strength. Their findings support the findings of the present study.

Conclusion

1. There is a significant difference in the life skills and environment values of senior

secondary school science students of shadow education and formal education.

2. The mean scores of shadow education students on the variable of life skills and environment values were found to be higher than that of formal education students.
3. There is a significance difference in the development of democratic values among senior secondary school science students through shadow education and formal schooling.
4. The mean scores of shadow education students on the variable of the development of democratic values were found to be higher than that of formal education students.

Educational Implication

Recognizing the prevalence of shadow education, educators and policymakers must address gaps in traditional schooling to foster a more inclusive education system that ensures equal opportunities for all students. To achieve this, curriculum adaptation is essential, as understanding the role of shadow education highlights the need for a flexible curriculum that meets learners' evolving needs. Teacher professional development is crucial, equipping educators with strategies to engage students effectively and cater to individual learning gaps. Monitoring and regulating the shadow education industry can address concerns and ensure fair access and quality standards. Adopting a holistic assessment approach that considers students' overall development is necessary, moving beyond grades alone. Collaboration among researchers, educators, and policymakers can lead to a better understanding of shadow education's impact and best practices. Promoting parental awareness and engagement empowers parents to make informed decisions, creating a supportive educational environment. By addressing these implications, stakeholders can work towards an equitable and effective education system that meets students' diverse needs.

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