

Assessing Perception towards SDG 4: A Comparative Study of Government and Private Educational Institutions in India

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Abstract

Ensuring quality education for all is one of the fundamental pillars of Sustainable Development. The same is emphasized in Sustainable Development Goal 4 (SDG 4) - Quality Education, one of the United Nations 17 Sustainable Development Goals (SDGs). The accomplishment of SDG 4 demands contribution from different stakeholders of the society. This reflects the need to understand the perception of stakeholders involved in the attainment of SDG 4 and to identify the gaps, if any. Teachers and students are amongst the key stakeholders from quality education per se. In view of this, the present study aims to understand the differences in the perception of teachers and students of government and private educational institutions (schools and colleges) towards the attainment of SDG 4 in the state of Madhya Pradesh in India. To collect the data, a structured questionnaire was developed based on all 10 targets of SDG 4. The data was collected from 320 respondents using purposive sampling. Out of these 320, 160 respondents were the teachers and students from government educational institutions and another 160 respondents from private educational institutions.

The study revealed that there is a significant difference between perception of teachers and students of government and private educational institutions towards the attainment of SDG 4. Private institutions have upper hand in resources, infrastructure, and teacher quality leading to improved workforce readiness. Conversely, government institutions face challenges such as inadequate infrastructure, digital resources and curriculum affecting their educational outcomes. To bridge the gap, targeted policy interventions including curriculum reforms, enhanced teacher training, and public-private collaborations is essential. Overall, collaborative efforts of government and private educational institutions to bridge the quality gap and promote equitable access to quality education for all can help in balanced educational landscape. Such efforts together help in achieving SDG 4 and advancing Sustainable Development.

Keywords: Quality education, SDG 4, Sustainable development, Sustainability

Education empowers individuals with knowledge. It fosters personal development and promotes societal progress. Education is a multifaceted concept. Throughout the history, leaders across the world have expressed different perspectives on education. For instance, Indian poet Rabindranath Tagore described education as a means for individuals to gain the essence of life and its connection to the universe. Likewise, the philosopher Plato viewed education as a pathway towards understanding truth, beauty, and goodness, ultimately linking individuals to a higher purpose or divine entity. Other leaders of the world have defined the education in the following ways:

- Education is the most powerful weapon which you can use to change the world.
- Nelson Mandela
- The function of education is to teach one to think intensively and to think critically. Intelligence plus character - that is the goal of true education.
- Martin Luther King Jr.
- Education is not preparation for life; education is life itself.
- John Dewey
- Education's purpose is to replace and empty mind with an open one.
- Malcom Forbes

Education gains quality when it includes essential concepts and knowledge that lead the students to live a better life with the understanding of their surroundings. The pursuit of quality education is a global priority for many organizations

including the United Nations. Different scholars and institutions have defined 'Quality Education' with different perspectives. Education International (EI), a Belgium-based organization defined Quality Education as a holistic approach. It nurtures students cognitive, social, emotional, and physical development, irrespective of gender, race, or socioeconomic background. UNICEF emphasized on the role of healthy and well-nourished learners, supportive environments, relevant curricula, and well-trained teachers in ensuring effective education (Colby, 2000).

Similarly, Harvey and Green (1993) introduced the concept of 'Quality' as transformation where students are active participants in the journey of learning and shaping their own growth. Hence, considering the given perspectives, it is evident that quality education is a multidimensional concept. It nurtures the informed individuals that extends beyond academic achievement to encompass life skills, problem-solving abilities, and adaptability towards the surroundings and situations.

Understanding Sustainable Development

Sustainable Development is a notion introduced by the United Nations. It serves as a guiding principle for achieving economic development while preserving natural resources for future generations. Mahatma Gandhi once stated that 'Earth provides enough to satisfy every man's need but not every man's greed.' The statement highlights the tension between human consumption and environmental conservation. Human practices such as deforestation, urban expansion and industrialization cause adverse consequences including climate change, biodiversity loss and pollution. These issues underscore the necessity for sustainable practices to sustain life on the Earth. Hence, United Nations initiated a movement towards 'Sustainable Development' in the world with the publication of Brundtland Commission Report in 1987. The concept of Sustainable Development was formally reinforced at the 1992 Earth Summit. This summit established guiding principles for sustainable policies worldwide (Borowy, 2013; Sustainable Development Commission., n.d.)

Sustainable Development consists of three key pillars namely People, Planet and Prosperity. These pillars emphasize economic development of the world while taking care of natural resources and social equity (Ghimire, 2023). Overall, United Nations identified 17 Sustainable Development Goals or SDGs with the specified targets and indicators under each goal to be achieved across the world by 2030. The aim is to foster a sustainable and inclusive future for all with responsible global citizenship. As businesses and governments commit to these initiatives the potential for eco-friendly practices increases. However, challenges like greenwashing and deforestation remain that demands continuous global cooperation (United Nations., n.d.).

Sustainable Goal 4 - Quality Education

The United Nations stated the fourth SDG or SDG 4 as Quality Education. It is defined as ensuring 'inclusive and quality education for all and promoting lifelong learning' (United Nations, n.d.). The United Nations has outlined 10 targets and 12 indicators under SDG 4. Education can play a crucial role in achieving other SDGs as it helps an individual to get aware about the significance of green environment, healthier lives, gender equality and other key factors for the better world (Pham-Truffert et al., 2020; Vladimirova and Le Blanc, 2016). Hence, looking towards the significance of education in sustainability, the United Nations declared 2005-2014 as the Decade for Education of Sustainable Development. It is done to encourage global institutions to integrate sustainability into education (UNESCO, 2014).

For example, an educated individual earns well leading to healthier lifestyle availing better food, water, sanitation, electricity that will reduce the hunger rate. It further helps the economy of country with the higher earning residents and development opportunities. People with quality education will be more inclined towards gender equality, justice, and responsible usage of natural resources with sustainable development (Boeren, 2019). Wijayarathne et al. (2023) examined the prospects of achieving SDG 7 (Clean Energy), 6 (Clean Water), and 4 (Quality Education) in Sri Lanka. The study highlighted that 69 percent of the population lacks access to clean cooking fuels. Despite its harmful environmental and health impacts, solid fuels like wood are still the primary choice for many households. The study found a strong synergy between SDG 4 and other specified SDGs. Better education improves awareness and adoption of modern energy solutions. Overall, the study proved that there is a need to integrate policies and education to achieve SDGs by the target year 2030.

Recognizing such needs, governments worldwide are incorporating sustainability concepts into educational curricula. Institutions are transitioning from traditional teaching methods to technologically advanced learning environments and blended learning including smart classrooms, digital tools, and virtual laboratories (Thangeda et al., 2016). Online learning platforms enhance accessibility, allowing students to acquire knowledge without geographical barriers. These innovations also promote deeper understanding of complex concepts while making education more inclusive, interactive, and practical.

Overall, education is one of the key channels that integrates knowledge from multiple disciplines including communication, education, psychology, sociology, artificial intelligence, and information technology (An & Oliver, 2021). Traditional educational settings predominantly followed an approach that focus on teacher-centred learning where students were required to listen to lectures and take notes while seated in front of an instructor. However, the modern educational landscape has evolved combined with blended learning models (Singh, 2021), flipped classrooms (Wright & Park, 2021), and digital learning platforms, referred to as e-learning (Sibirskaya et al., 2019; Singh et al., 2021; Winiharti & Chairiyani, 2021).

Landscape of Indian Education

India consists one of the largest networks of higher education institutions. The Times Higher Education World University Rankings 2024 positioned India as the fourth most represented nation with 91 higher educational institutions ranked in the list surpassing China with 86 Universities. The survey included 1,907 universities within 108 countries and regions. According to QS World University Rankings (Quacquarelli Symonds) Ranking 2025, India consists 11 universities in top 500 while 2 universities in top 100 rank. Despite such progress, there remains ample scope for improvement. For instance, the low Gross Enrolment Ratio (GER) is still a concern for India compared to the number of educational institutions it consists (Naik et al., 2024).

Reports from the India Brand Equity Foundation (IBEF) (2025) indicated that around 40 percent of the Indian population is under 24 years old. This makes India the youngest nation in the world highlighting significant potential for educational growth. As per the report of Internet and Mobile Association of India (IAMAI) and Grant Thornton Bharat, the edtech market of India is estimated to be around 7.5 billion US dollars in 2025 and by 2030, it is projected to expand by 29 billion US dollars. It reflects expanding education market of India and increasing demand for quality education. Correspondingly, the government of India introduced the National Education Policy (NEP) in the year 2020. NEP 2020 marked the third major education policy of the country after those of 1968 and 1986. The policy restructured the school system into a 5+3+3+4 format. It emphasized on foundational literacy, numeracy, experiential learning, and the integration of vocational education and technology at all levels (National Education Policy, 2020).

NEP 2020 of India calls for multilingual education. It encourages native language teachings and instructions for the students alongside English. It also calls for teacher training programs to enhance the overall quality of education. The growing prominence of India in the education sector is further supported by its English-speaking population. The country ranked 69th out of 116 countries in the English Proficiency Index 2024 (EF English Proficiency Index, 2024). The ed-tech sector of the country is also expanding with startups like Byju's and UpGrad attracting significant investments, totalling 3.94 billion dollars. Additionally, initiatives by Amazon India, including a Machine Learning Summer School, aim to equip students with advanced technological skills (ibef, 2024).

Types of Ownership (Government and Private) – An Indian Perspective

In India, educational institutions are classified based on their funding and management structures. There are broadly two types of educational institutions - government and private institutions. Government institutions are further divided into various categories based on the investment source (Ministry of Education, Government of India, 2011-2012). Central Government institutions are directly administered by the central government while State Government institutions receive financial support from state governments. Further, Local Body institutions are the ones that are run by local self-governments, including Panchayat and Municipality managed schools. Additionally, there are Private Aided institutions that are managed by the private entities. While Private Un-aided institutions function independently without government funding, also known as private institution.

Private institutions are often regarded for educational innovation. It is mainly because of the reason that they are not bound by extensive bureaucratic processes. Such flexibilities allow them to introduce modern facilities and industry-oriented courses making it attractive to students seeking specialized training. However, the cost of private education can be a significant barrier for many families. Privatization seem to have an upper hand in terms of infrastructure and faculty quality. However, its financial implications remain a key concern among students (Henseke et al., 2021; Gupta, 2016). Whereas, government institutions provide affordable education to ensure accessibility for students from all socio-economic backgrounds (Adil et al., 2024).

Government institutions play a crucial role in ensuring equitable access, standardized policies, and sustainable implementation of educational goals. Unlike private institutions that may prioritize profitability, government-funded universities focus on inclusivity, affordability, and long-term educational development (Djarwono et al., 2025). The Indonesian government strengthens this role through policies like Presidential Regulation No. 59/2017. The policy promotes inclusive governance, SDG financing, and integration into higher education. State-owned universities serve as SDG Centres conducting research, fostering innovation, and assisting in policy formulation to address educational challenges.

Materials and Methods

The study employed purposive sampling method to collect data (Swedberg, R., 2020). It is done to ensure the representation of diverse groups. The data is categorized into two groups based on the ownership of educational institutions including government and private institutions. It is an attempt to understand the perception of teachers and students towards the attainment of SDG 4 in the areas of Madhya Pradesh, the second largest state in India with respect to area (Government of India, n.d.). To collect data, a questionnaire was constructed based on the statements of 10 targets under SDG 4. Overall, 30 likert-scale based questions were formulated to collect the data from respondents.

A total of 320 respondents comprising 160 respondents from government-owned institutions and 160 from private-owned institutions were included in the study. Within the 160 respondents, 80 were the teachers and 80 respondents were the students from the specified categories. However, in real-world scenarios, data sometimes get incomplete and inconsistent. Hence, data pre-processing has been done to structure the dataset optimally for improved interpretability. The data cleaning phase specifically targets the removal of outliers, normalization of noisy data, and rectification of inconsistencies (Dasu & Johnson, 2003). This phase is integral to ensure that the study results remain credible and free from distortions caused by flawed data (Xiong et al., 2006).

Data Analysis and Results

To understand the impact of ownership, government-owned and private-owned educational institutions on the perceived attainment of SDG 4 or Quality education, the z test is performed on the data. Gupta and Kapoor (2007) defined the test as ‘statistical test used to determine whether two population means are different when the variances are known and the sample size is large’. Anderson, Sweeney and Williams (2011) stated z test as ‘hypothesis test that relies on the normal distribution to test the difference between means, proportions, or other parameters when the population variance is known or the sample size is large’. The z test has been used as the number of respondents are more than 30 in each category.

Group Statistics

Ownership	N	Mean	Std. Deviation	Std. Error Mean
Total Government	160	113.46	13.426	1.061
private	160	118.38	15.085	1.193

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total	Equal variances assumed	.771	.380	-3.085	318	.002	-4.925	1.596	-8.066	-1.784
	Equal variances not assumed			-3.085	313.782	.002	-4.925	1.596	-8.066	-1.784

Z-test Results

Interpretation: The Levene's test for equality of variances in z test indicates a p-value of 0.380. Since this value exceeds the 0.05 threshold, the assumption of equal variances holds. Assuming the equal variances, the p-value is found to be 0.002 that is below 0.05. As a result, the null hypothesis is rejected. Hence, it can be stated that ownership significantly impacts the perceived achievement of SDG 4.

Discussion

SDG 4 aims to ensure inclusive and equitable quality education. It served as a cornerstone for social and economic development impacting employment, and advancing gender equality (Kumar et al., 2016; Chalmers, 2019). This study reveals significant disparities in the effectiveness of government and private educational institutions in achieving SDG 4.

The major influencing factors can be the differences in resources, teacher quality, and infrastructure. Private institutions observed to have upper hand in training, modern resources, and industry-aligned curricula resulting in better workforce readiness (Henseke et al., 2021; Gupta, 2016). In contrast, government institutions face challenges such as outdated materials, limited funding, and overcrowded classrooms hindering student skill acquisition (Dwivedi, 2022; Zickafoose et al., 2024).

Moreover, the promotion of gender equality and welfare of the disables in education is critical under SDG 4. Private institutions found to have increasing acceptance for different genders and disabled than the government schools in low-income areas (Unterhalter & Aikman, 2007; Saini et al., 2023). Targeted policy reforms are necessary to address these disparities, focusing on enhancing teacher training, improving school infrastructure, and fostering public-private partnerships (Griffiths, 2021). Despite existing challenges, government institutions play a crucial role in ensuring educational accessibility for marginalized communities. The findings underscored that achieving SDG 4 relies not only on institutional ownership but also on policy execution and resource management. By leveraging the strengths of both sectors, societies can work towards a more resilient and inclusive educational framework that supports sustainable development and social progress.

Implications of the Study

The findings of the study indicate a significant perception gap between government and private educational institutions regarding the attainment of SDG 4 - Quality Education. The disparity highlights the urgent need for targeted policy reforms and interventions aimed at bridging the quality gap. Policymakers should focus on enhancing teacher training, improving infrastructure, and ensuring equitable funding to address the challenges faced by government institutions. Additionally, fostering public-private partnerships can leverage resources and innovation, creating an inclusive learning environment that benefits all students. Moreover, incorporating sustainability concepts into curricula will empower students to engage with pressing global challenges and ensure well-equipped skills for the future. Ultimately, with the study, it could be analysed that achieving SDG 4 requires collaborative efforts among educational stakeholders to create a balanced and inclusive education system that promotes accessibility and quality for all learners.

Conclusion

Through a comparative analysis of teacher and student perceptions across government and private institutions, the findings reveal that ownership significantly impacts educational quality and the perceived attainment of SDG 4. Private institutions are benefiting from greater financial autonomy and modernized curricula. Such institutions outperform government schools in resource availability, infrastructure, and workforce readiness. However, private institutions often remain inaccessible to lower-income groups due to higher tuition costs, creating disparities in educational equity. Conversely, government institutions despite challenges play a crucial role in ensuring educational accessibility, particularly for marginalized communities. The study highlights the need for policy interventions that bridge the quality gap between private and public institutions.

Different countries developed different strategies to integrate sustainability in the education system of the country at different levels. Besides it, fostering partnerships between private and public sectors can significantly contribute to the holistic achievement of SDG 4. Education is a prominent tool to attain and train people for Sustainable Development with economic growth, social equity, and environmental responsibility. A balanced and inclusive education system, integrating sustainability principles and innovative teaching methodologies is essential for equipping future generations with the skills required to tackle global challenges. Achieving SDG 4 requires collaborative efforts among policymakers, educators, institutions, and communities to ensure that quality education is accessible to all, regardless of socioeconomic background. By addressing existing disparities and fostering a more inclusive approach to education, societies can cultivate a resilient and sustainable future for generations to come.

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