TPM Vol. 32, No. S9, 2025
ISSN: 1972-6325
https://www.tpmap.org/

Open Access

INSTITUTIONAL TYPE AND OWNERSHIP IN THE PURSUIT OF QUALITY EDUCATION: A STUDY OF SDG 4 TARGETS 4.3 AND 4.4

SURBHI AGRAWAL[1], DR. NAMRATA JAIN[2], DR. ASHWINI SHARMA[3]

[1]ASSISTANT PROFESSOR, INSTITUTE OF MANAGEMENT SCIENCE, SAGE UNIVERSITY (SUNSTONE), INDORE, M.P, EMAIL – surbhiagrawal0734@gmail.com
[2]ASSOCIATE PROFESSOR, SHRI VAISHNAV SCHOOL OF MANAGEMENT; MEMBER SECRETARY, CENTRE OF EXCELLENCE IN SUSTAINABLE DEVELOPMENT, SHRI VAISHNAV VIDYAPEETH VISHWAVIDYALAYA, INDORE, M.P, EMAIL – profnamratajain@gmail.com
[3]ASSOCIATE PROFESSOR, INSTITUTE OF MANAGEMENT, JK LAKSHMIPAT UNIVERSITY, JAIPUR, RAJASTHAN, EMAIL – ashwinisir@gmail.com

ABSTRACT
Quality Education or Sustainable Development Goal (SDG) 4 emphasizes three elements of education- inclusiveness, equitability, and lifelong learning for all. SDG 4 comprises 10 targets and 12 indicators. Out of these 10 targets, target 4.3 and 4.4 laid emphasis on accessibility and affordability of quality technical, vocational, tertiary and University education along with relevant skills for employment, decent jobs, and entrepreneurship. This paper explores the perspectives of type of institutions - school, colleges, and type of ownership - government and private towards the attainment of target 4.3 and 4.4 specifically. Analysis of the results reported no significant differences in the perspectives because of the type of institutions. However, significant differences emerged in perspectives based on type of ownership This implies that the differences exist in educational institutions owned by private or government towards target 4.3 and 4.4 raising concern on accessibility and affordability of quality technical, vocational, tertiary. This violates the overall aim of inclusion and equitability of SDG 4. Initiatives in terms of policy reforms are required to bridge the gap.
Keywords: Colleges, Goals, Quality education, Government, Private, Schools, SDG 4, Sustainable development, Sustainability, SDG 4.3, SDG 4.4

INTRODUCTION

Education is widely recognized as a foundational pillar for individual empowerment, social progress, and economic development. Acknowledging its crucial role in the development of an individual, the United Nations included quality education as one of the goals under Sustainable Development. Quality Education is considered as the fourth Global Goal also termed as Sustainable Development Goal (SDG) 4. It aims to ensure inclusive, equitable, and high-quality education for all. SDG 4 consists of 10 targets to be achieved by the year 2030. Under it, SDG 4.3 calls for equal access to affordable and quality tertiary, technical, and vocational education for all. On the other hand, SDG 4.4 focuses on equipping youth and adults with the relevant skills especially digital, technical, and vocational required for productive employment and sustainable livelihoods.

SDG targets 4.3 and 4.4 are crucial to make education gain quality across the world. And to understand its execution in the education system, the present study explored the perception of stakeholders including teachers and students about the same in one of the states of India that is Madhya Pradesh. India is considered one of the youngest nations in the world with the third largest higher education systems globally (NITI Aayog, 2025). The nation has introduced several reforms to align its education sector with SDG 4 targets. Initiatives such as the National Education Policy (NEP) 2020, the expansion of digital platforms like DIKSHA and SWAYAM emphasized vocational and skill-oriented learning. It reflects the commitment of the country to strengthen access, equity, and quality. However, the success of any initiative depends on the way it gets executed from management to the ground level.

The ground level includes the operations of management and stakeholders. Operations of management vary based on ownership of the educational institutions. For example, government institutions have different hierarchical systems and working styles than the private educational institutions. In terms of stakeholders, the perception of teachers and students can help in understanding the gaps or loopholes in the existing educational system to deliver quality education. A persistent challenge in the Indian education system is the structural disparity between government and private institutions, particularly in the availability of ICT resources, teacher training, and exposure to technical and vocational opportunities (Douse and Uys, 2018). At the same time, there is limited

research examining whether perceptions vary between school-level and college-level learners and educators, even though both groups contribute directly to the progress of the country toward SDG 4.3 and 4.4.

Within the Indian economy, Madhya Pradesh (MP) plays an important role. The state is the second largest state in the country and with the passage of time has witnessed considerable growth in terms of digital infrastructure, teacher training programmes, and skill-development initiatives. However, the extent to which these developments translate into positive perception of stakeholder perceptions has not been studied widely. Understanding these perceptions gives an insight of the progress of educational institutions towards the attainment of sustainability frameworks. The present study aims to address this gap by analysing responses from teachers and students. These teachers and students belong to government and private schools and colleges from the state of Madhya Pradesh. Understanding the comparison of perceptions at institutional level and type of ownership facilitates in understanding the way the stakeholders perceive the progress toward SDG 4.3 and 4.4. The study is a contribution to the present literature by offering empirical evidence for the same. The findings reveal the need of proactive actions required from policymakers, academia and institutional leaders in strengthening local implementation strategies to ensure that progress toward SDG 4 fulfils the fundamental objective of being equitable, inclusive, and lifelong learning for all.

REVIEW OF LITERATURE

SDG 4 positions education as the foundation stone for social mobility, economic development, and equitable opportunity (Agrawal and Jain, 2022). Within SDG 4, Target 4.3 emphasizes equitable access to affordable and high-quality technical, vocational, and tertiary education. Target 4.4 highlights the need to substantially increase the number of youth and adults with relevant skills, including technical, vocational, and digital competencies. The statements are the reflection about the interlinking of both targets. The review of the study combines global empirical evidence to examine the challenges, opportunities, and evolving dynamics of education across the world. It includes the Technical and Vocational Education and Training (TVET) systems, digital learning, and skill development across diverse socio-economic contexts.

SDG 4.3 advocates equitable access to all post-secondary education pathways. However, evidence indicates persistent gaps between educational expectations and actual learning outcomes. Galeeva (2016) conducted a study on evaluation of service quality in Russian universities. The study reported significant differences between the expectations of students that focused on employability, professional competencies, and institutional reputation and the actual quality of education delivered. Similar challenges were observed in Zimbabwe, where nearly half of technical workshops were outdated and only a small portion of students received proper hands-on training (Mawonedzo & Banda, 2024). The Philippines, however, showed that students with TVET training performed better in terms of job and employment than those with only secondary education (Vandenberg & Laranjo, 2020). Such studies highlighted the value of effective vocational skills and training programmes. However, there are countries wherein TVET is viewed as a less prestigious education pathway such as Mexico. As a result, it leads to cultural hindrance and less enrolments in technical and vocational training programmes, even though it offers real job opportunities (Clement et al., 2021).

India too experiences challenges in terms of technical and vocational training for the students. Although NEP 2020 and many national programmes such as Skill India aim to expand vocational education, social beliefs still prefer traditional academic pathways. Many young people prefer degrees over vocational training, even when the job market is ready to support the TVET programmes and recruit skilled students. Government bodies such as the Ministry of Skill Development and Entrepreneurship (MSDE) and National Skill Development Corporation (NSDC) have expanded training facilities and programmes. However, the quality of training, exposure to industries, and outcomes in terms of employment remain imbalanced across the country. These results are the reflection that in terms of policy reforms India is a promising country however the major concern is the need of stronger implementation for the attainment of the targets SDG 4.3 (ASER, 2023).

Quality assurance is another significant aspect for achieving SDG 4.3. Studies from Peru reported that accreditation helps institutions improve teaching quality, student learning outcomes, and employer trust (Acevedo-De-los-Rios & Rondinel-Oviedo, 2022). India uses similar approach through NAAC and NBA accreditation. Although recent assessments reveal improvements in institutional processes for accredited colleges, but many smaller or rural institutions struggle with the resources needed to meet accreditation standards. This indicates that while accreditation is a way forward to support SDG 4.3 but then there is an urgent need of further support systems to ensure that all institutions are equally benefitted (Reddy et al., 2024; Gowda, 2020)

SDG 4.4 highlights the need for relevant skills, especially digital and Information and Communication Technology (ICT) skills. Across the world, ICT has become central not only for teaching but also for delivering practical and vocational training (Agrawal and Jain, 2024). Douse and Uys (2018) argue that TVET instructors must adopt digital tools because workplaces increasingly rely on digital skills. With reference to emerging technologies in terms of AI, virtual reality and simulation-based tools offer new possibilities with respect to skill development. Research reported that the use of these technologies has the potential to make practical training efficient and engaging (Agrawal and Jain, 2024). India is also testing the same with it through initiatives like NEAT and AI-in-education programmes. The country has incorporated ICT through national platforms like

DIKSHA and SWAYAM with various initiatives connected to its national AI strategy. According to the UNESCO (2022) report found that that while India is taking steps to move ahead in the right direction but scaling is must. And for scaling these technologies investments in digital infrastructure and faculty training are must.

Studies show that the shift to online learning during COVID-19 exposed large gaps. Ghana and Nigeria faced major difficulties such as unstable internet connections, high data costs, and limited access to devices (Adarkwah, 2021; Olenrewaju, 2021). These issues were also present in India. Studies and national surveys show that many Indian students, especially in rural areas, did not have reliable internet access or the necessary devices (Khan et al., 2021; ASER 2023). While online education provides a wide range of opportunities, such inequalities limit its effectiveness for achieving SDG 4.4 in the absence of stronger digital infrastructure and affordability. Integrating digital technologies in education has numerous pros but also cons including emotional and psychological effects. The excessive screen time and usage of digital devices lead the learners to struggle with academic pressure, isolation, and uncertainty (Chaudhary et al., 2021; Sharma et al., 2022). Hence, digital skills and online learning offer multiple benefits but then designing such programmes require the right balance of learning with student well-being.

Another important aspect to attain SDG 4.3 and SDG 4.4 is developing practical skills through strong connections between industry and education. The dual apprenticeship model of Germany is often cited as a global best practice because it combines classroom learning with hands-on workplace training, resulting in highly employable graduates (Kirchknopf, 2020). The National Education Policy (NEP) 2020 of India emphasizes similar ideas and encourages internships and industry partnerships. Recent analyses show that Indian institutions are increasing collaborations with companies but the partnerships vary widely in quality (AICTE, 2021). Hence, for India to fully benefit from such systems, it will need more structured apprenticeship models, clearer guidelines for employers, and better recognition of industry-based learning, similar to Germany.

Another aspect that is directly concerned with the attainment of SDG 4.3 and 4.4 are the educational institutions. The way an educational institution operates creates a significant impact on the experience of the students towards their education. Thus, there might be differences in the perception of stakeholders based on the ownership of the institutions – government and private because there is a difference in the way these institutions operate (da Rosa Borges, 2016). Thus, the present study is undertaken to understand the differences in the perception of teachers and students of government and private educational institutions including schools and colleges towards SDG 4.3 and 4.4.

Singh and Aulakh (2021) reported that private schools in India were able to shift to online learning more smoothly during COVID-19 because of better access to devices, stable internet connectivity, and trained teachers. Government institutions, on the other hand, faced constraints such as limited digital resources and lower levels of teacher ICT training. These disparities affect the abilities of students and teachers to acquire digital, technical, and vocational skills. Despite these challenges, government schools in several states including Madhya Pradesh have gradually increased ICT integration through state-funded digital platforms and teacher training programs, though the progress remains inconsistent across regions (NITI Aayog, 2021).

Differences in perceptions of educational quality between government and private institutions also influence expectations regarding vocational opportunities and higher education pathways, directly reflecting SDG 4.3. Recent evidence suggests that private colleges in India tend to offer more career-oriented programmes, industry linkages, and soft-skill training compared to government colleges (Varghese & Malik, 2020). These features shape expectations of students regarding employability and exposure to job markets. However, government institutions often provide more inclusive access for economically disadvantaged groups, which is essential for achieving the equity dimension of SDG 4.3. Research by Ghosh and Paul (2022) indicates that government colleges tend to emphasize affordability and social inclusion, but may lag behind in technological facilities and industry partnerships. These factors create perceptual differences among students and teachers regarding how effectively their institutions can help them acquire relevant skills and progress to higher academic levels, making the comparison between government and private institutions an important component of SDG aligned educational research.

At the same time, India's policy reforms attempt to reduce these gaps. Initiatives under the NEP 2020, Samagra Shiksha, Skill India, and state-led ICT programs aim to raise the quality of government institutions and bring them closer to private-sector standards. Studies show early positive outcomes such as improved teacher training, digital classrooms, and vocational modules introduced even in government schools but also highlight persistent disparities in resources and implementation (Kumar & Dwivedi, 2022). When viewed alongside international findings from countries like the UK, the Philippines, and Mexico, the Indian context shows that differences between government and private institutions can significantly shape student and teacher perceptions of access, relevance of skills, and readiness for digital learning. These perceptions directly influence the level of progress toward SDG 4.3 and 4.4, making such comparative analyses crucial for understanding the broader effectiveness of national educational efforts.

Overall, the literature shows that SDG 4.3 and 4.4 are closely connected. Improving access to education is not enough unless the education is high in quality and aligned with job-market needs. Digital tools and vocational programmes offer great potential, but their benefits depend on addressing cultural barriers, infrastructure gaps, and quality concerns. India has made substantial progress through NEP 2020, Skill India, accreditation reforms,

and digital education policies. However, the country still faces challenges involving social attitudes, uneven digital access, and variable training quality. Comparing India's progress with countries such as Germany, Philippines, Mexico, Ghana, and Nigeria help in understanding the areas wherein India is performing well and the gaps for further improvements.

Rationale of the Study

Sustainable Development Goals (SDG) 4.3 and 4.4 emphasizes equitable and affordable access to higher, technical, and vocational education with the development of relevant skills for employability. Attainment of the mentioned goals demands commitment at policy-level. In addition to this, it is crucial to understand the way stakeholders (teachers and students) perceive progress of SDG 4.3 and 4.4 at the institutional level. There is literature drawing attention to challenges across different countries with respect to accessibility of education, quality of education, integration of ICT and the foremost important is development of skills. However, limited evidence is available from the Indian context, specifically Madhya Pradesh state, portraying perceptions across government and private institutions including schools and colleges.

Madhya Pradesh, like many Indian states, is investing in digital platforms, TVET expansion, infrastructure upgrades, and teacher training initiatives (NITI Ayog, 2024). However, there is dearth of studies to provide enough empirical evidence regarding whether these initiatives have translated into comparable perceptions of growth and development across different categories of institution. Understanding of these perceptions is essential for designing targeted interventions and ensuring that educational reforms meaningfully contribute to SDG 4.3 and 4.4. Therefore, the study examines the perceptual differences among teachers and students from government and private institutions (schools and colleges). The rationale lies in assessing whether institutional ownership and educational level influence how stakeholders view progress in accessibility of quality education, educational improvements, relevant skill development, and digital readiness. Such evidence is crucial for policymakers, school leaders, and higher education authorities aiming to bridge institutional gaps and advance progress of India towards SDG 4.

Objectives and Research Hypotheses

The objectives of the study are:

1. To assess the differences in the perception of government and private institutions towards SDG 4.3 and SDG 4.4.
2. To assess the differences in the perception of schools and colleges towards SDG 4.3 and 4.4.

The authors hypothesized following:

Hypothesis 1: Ownership of educational institution affects the perception towards SDG4.3 and 4.4. Specifically, government and private institutions are likely to differ in their perception towards SDG 4.3 and 4.4.

Hypothesis 2: Type of educational institution affects the perception towards SDG4.3 and 4.4. Specifically, schools and colleges are likely to differ in their perception towards SDG 4.3 and 4.4.

RESEARCH METHOD

Data Collection

A structured questionnaire was designed to collect data on the perception of teachers and students towards the attainment of SDG 4.3 and SDG 4.4. A five-point Likert scale was used, where 1 represented 'Strongly Agree' and 5 represented 'Strongly Disagree'. The instrument consisted of two sections. The first collected demographic information, while the second included questions based on the statements of targets SDG 4.3 and 4.4. The questions include the key terms defining the respective targets including affordable and quality technical, vocational, and tertiary education that provides relevant skills to the students as per their field of interest.

A total of 240 responses were collected out of which 200 responses were filtered out after deleting 40 incomplete responses. The final sample included responses from 100 teachers and 100 students, representing an equal number of respondents from institution types (schools and colleges) and ownership (government and private). The educational distribution of the respondents was diverse. Out of 200 respondents, 57 participants (28.5%) were higher secondary, 45 (22.5%) were undergraduates, 72 (36%) were postgraduates, and 26 (13%) held doctoral qualifications. The sample also reflected broad age variability with 138 respondents aged 15–25 years, 54 aged 25–35 years, and 8 aged 35–45 years. Such demographic composition ensured justified comparisons between government and private, including schools and colleges with their perspectives on achieving SDG 4.3 and 4.4 within the context of Madhya Pradesh.

Results and Analysis

Statistical test for comparing means (Independent Samples t-Test) was used to analyze the collected data. The results are as follows:

Group Statistics

	ownership	N	Mean	Std. Deviation	Std. Error Mean
Total	government	100	21.75	3.418	.342
	private	100	23.46	4.220	.422

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total	Equal variances assumed	3.996	.047	-3.149	198	.002	-1.710	.543	-2.781	-.639
	Equal variances not assumed			-3.149	189.820	.002	-1.710	.543	-2.781	-.639

Table 1 (Mean comparison for Government and Private Institutions)

From the above table, it is evident that the null hypothesis corresponding to the research hypothesis 1 (i.e. there is no significant difference between the perception of government and private institutions towards SDG 4.3 and 4.4) stands rejected (t= -3.149, p<.01). Thus, the result found support for research hypothesis 1.

The results for mean comparison for schools and colleges were as follows:

Group Statistics

	Institution	N	Mean	Std. Deviation	Std. Error Mean
Total	School	100	23.06	3.559	.356
	college	100	22.15	4.229	.423

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total	Equal variances assumed	2.106	.148	1.646	198	.101	.910	.553	-.180	2.000
	Equal variances not assumed			1.646	192.376	.101	.910	.553	-.180	2.000

Table 2 (Mean comparison for Schools and Colleges)

From the above table it is clear that, the second research hypothesis did not find any support. The corresponding null hypothesis that there is no significant difference between the perception of schools and colleges towards SDG4.3 and 4.4 could not be rejected (t=1.646, p>=.05). Thus, schools and colleges do not differ in the perception towards SDG4.3 and 4.4.

DISCUSSION

The results of the study revealed several important insights into the way stakeholders assess the attainment of SDG 4.3 and 4.4 in Madhya Pradesh. First, the significant difference observed between government and private institutions. It suggests that institutional ownership influences perceptions of educational quality, access, and skill development. The differences align with the fact that private educational institutions have greater access to ICT tools, updated teaching-learning resources, and relatively flexible administrative structures with lesser hierarchy. These findings align with national studies indicating disparities in infrastructure, teacher availability, digital tools, and student support between government and private institutions across India (Bhat, 2021; Kumar & Choudhury, 2022; Mehta & Mehta, 2020).

However, the analysis also showed no statistically significant difference between respondents from schools and colleges towards the attainment of SDG 4.3 and 4.4. There can be various reasons for the same. The consistency in perceptions across educational levels may indicate that both schools and colleges face similar challenges such as inconsistent digital access, unequal technological training among teachers, and gaps in workplace-linked skill development (Douse & Uys, 2018). These challenges mirror global concerns highlighted in the literature, particularly in low- and middle-income countries, where digital inequality, inadequate TVET exposure, and insufficient teacher preparation remain key barriers to achieving targets of SDG 4. (UNESCO, 2022; World Bank, 2021). Indian learners evaluate educational quality based on common factors including teacher support, accessibility of learning materials, and digital exposure, regardless of the institutional level (Gupta & Singh, 2021; Prakash & Jha, 2022). It reflects that the country needs to monitor the initiatives related to educational reforms, ICT, teacher training, and outcome-based learning on a regular basis effectively (NEP 2020; NITI Aayog, 2021). Another factor that may lead to no significant perceptual differences between school and college respondents can be the relatively small age gap between senior school learners and college students. Adolescents and young adults share similar digital habits, learning behaviours, and technology exposure that leads to aligned educational perceptions (Singh & Gill, 2021; Maheshwari & Thomas, 2022; Chauhan, 2021). Similar findings can be observed

internationally, where transitional-age learners (16–21 years) demonstrate similar levels of digital readiness irrespective of institutional level (Santos et al., 2022; Pokhrel & Chhetri, 2021).
In the same stream, teachers across various institutional levels, be it schools or colleges, experience common challenges including limited digital infrastructure and insufficient technical support that shape their views in similar ways (Raj & Renumol, 2022). Furthermore, professional development programmes organised by state and central agencies tend to follow standardised formats for all teachers, contributing to consistent attitudes toward skill development and ICT use (Ghosh & Pandey, 2021; Sharma & Raval, 2022). Such shared experiences can be taken as a factor for the common perception of teachers of schools and colleges towards the attainment of SDG 4.3 and 4.4. Overall, the findings of the study reinforce the need for strengthening institutional capacity, enhancing ICT integration, expanding vocational education pathways, and designing equitable policies from both teachers and students perspectives. It can reduce ownership-based disparities while maintaining continuity in quality across school and college environments at all levels.

Suggestions

The attainment of targets SDG 4.3 and 4.4 calls for strengthening institutional capacity. Moreover, these institutional capacity needs to be built first at government schools and colleges. Because digital and infrastructural gaps remain most visible at government school and colleges. Improvements in infrastructure in terms of ICT needs to be prioritised. Morover, adequate internet connectivity along with digital devices, and state supported ICT laboratories needs to be established. Such an ecosystem will help in fostering long-term operational sustainability. Apart from establishing infrastructure the second aspect is to develop the human resources in terms of teachers. Teachers training and development programs is must in order to utilize the infrastructure. This will enhance digital competence, promote the use of AI-enabled teaching tools. It will also help in integrating industry-relevant skill modules into instructional practices. One more thing that can be added to these developments is the requirement of mandatory digital pedagogy certification for educators. Such kind of certifications are mandatory across school and higher education. The reason is that it would help in establishing quality and consistency in teaching standards. At the same time, it would meet the demands of learners or students. Strengthening vocational pathways through industry collaborated internships, apprenticeships, and modular courses in digital literacy and entrepreneurship can significantly improve the employability skills of students.
Collaborations between schools and colleges can support resource sharing, peer learning, and dissemination of best practices. Community learning centres can be established for students with limited access to digital resources at home. Ensuring parity between government and private institutions requires the adoption of common minimum standards for infrastructure, instructional quality, and ICT readiness, supported by stronger monitoring and accreditation mechanisms. Collectively, these initiatives can help create a more inclusive, future-ready educational system in line with the expectations of SDG 4.3 and 4.4.

CONCLUSION

Attainment of SDG 4.3 and 4.4 requires a clear understanding of the way stakeholders mainly teachers and students perceive current progress in access, quality, skills development, digital readiness, and other relevant skills. The present study revealed while ownership-based differences remain prominent, with private institutions reporting stronger advancement, there is a similarity in perceptions across schools and colleges. This indicates a similarity in experiences in terms of progress and challenges across educational levels. The findings highlighted the continuous need for investment in ICT infrastructure, teacher capacity-building and qualifications, skill-oriented curricula, and equitable policy implementation.
The study also reinforces the importance of strengthening government institutions to ensure parity with private providers and expanding vocational and digital learning opportunities that improves employability skills. It is crucial to address these gaps and to adopt unified and inclusive approach. India has potential to accelerate its progress toward the achievement of targets SDG 4.3 and 4.4 but these is a need to ensure that learners, irrespective of location, level, or institutional type have an equal opportunity for quality education and the development of skills needed for meaningful participation and contribution to create a sustainable workforce.

REFERENCES:

1. Acevedo-De-los-Rios, M., & Rondinel-Oviedo, D. (2022). Accreditation and its impact on quality education: A case study from architectural higher education in Peru. Quality in Higher Education, 28(3), 303–320.
2. Adarkwah, M. A. (2021). "I'm not against online teaching, but what about us?": ICT in Ghana post COVID-19. Education and Information Technologies, 26(2), 1665–1685.
3. Agrawal, S., & Jain, N. (2024). Review of the book Transforming Education for the Future, by S. Ahmed. AIMS Journal of Management, 10(Special Issue), 332–336.
4. Agrawal, S., Jain, N. (2022). Sustainable Development Goal 4 (Quality Education): A Review. Reimagining Business Education and Industry in 2030, 184.

5. AICTE. (2021). Survey report on industry–academia collaborations in India. All India Council for Technical Education.
6. Allais, S. (2012). Will skills save us? Rethinking the relationships between vocational education, skills development policies, and social policy in South Africa. International Journal of Educational Development, 32(5), 632–642.
7. ASER Centre. (2023). Annual Status of Education Report (Rural). ASER Centre, New Delhi.
8. Azmi, N., Khan, S., & Azmi, A. (2022). Depression among university students during the COVID-19 pandemic: A study in Riyadh, Saudi Arabia. Journal of Affective Disorders Reports, 9, 100390.
9. Bhamra, T., & Hernandez, R. J. (2021). Industry–academia collaboration for sustainability and skills development. Sustainable Production and Consumption, 26, 1222–1235.
10. Bhat, S. A. (2021). Digital infrastructure and learning inequalities in Indian schooling. Journal of Educational Technology Systems, 50(2), 250–268.
11. Chaudhary, P., Gupta, R., & Singh, R. (2021). Psychological impact of online learning on students in India during COVID-19. Children and Youth Services Review, 131, 106303.
12. Chauhan, S. (2021). Digital competence among Indian youth: A comparative study of senior secondary and undergraduate students. Journal of Educational Technology Systems, 50(1), 88–102.
13. Clement, R., Huezo, J., & López, A. (2021). Cultural barriers to vocational education in Mexico: Perceptions and enrolment patterns. International Journal of Vocational Education and Training, 29(1), 45–62.
14. da Rosa Borges, G., Carvalho de Souza Domingues, M. J., & da Silva Cordeiro, R. D. C. (2016). Student's trust in the university: Analyzing differences between public and private higher education institutions in Brazil. International Review on Public and Nonprofit Marketing, 13(2), 119-135.
15. Douse, M., & Uys, P. (2018). Rethinking TVET in the digital era: The evolving role of instructors. International Journal of Training Research, 16(2), 130–143.
16. Douse, M., & Uys, P. (2018). The changing role of TVET educators in the digital age. International Journal of Training Research, 16(3), 213–227.
17. Galeeva, R. (2016). Evaluation of the quality of higher education services in Russian universities. Quality Assurance in Education, 24(3), 294–310.
18. Ghosh, I., & Pandey, M. (2021). Professional development needs of teachers in the post-pandemic digital era. International Journal of Educational Development, 84, 102432.
19. Ghosh, S., & Paul, S. (2022). Quality and equity in Indian higher education: A comparative analysis of public and private institutions. Journal of Education and Human Development, 11(2), 45–57.
20. Government of India, Ministry of Education. (2020). National Education Policy 2020. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
21. Government of Madhya Pradesh. (n.d.). State profile. https://mp.gov.in/state-profile. Retrieved on November 26, 2025.
22. Gowda, R. M. (2020). A comparative analysis of NIRF ranking, NAAC accreditation and NBA accreditation. Int J Adv Sci Eng, 7(1), 1572-1578.
23. Green, F., Anders, J., Henderson, M., & Henseke, G. (2017). Private schooling and adult labour market outcomes. British Journal of Sociology of Education, 38(3), 1–20.
24. Gupta, R., & Singh, P. (2021). Perceived quality determinants in Indian schools and colleges: A comparative analysis. International Journal of Educational Development, 82, 102376.
25. Jafar, A. (2022). Online learning challenges during COVID-19: Student perceptions from Malaysia. Asian Journal of University Education, 18(1), 1–13.
26. Khan, M., Shukla, A., & Gupta, N. (2021). Digital divide in India: Impact on students during the COVID-19 pandemic. Education and Information Technologies, 26(6), 7877–7896
27. Kirchknopf, S. (2020). Career Adaptability and Vocational Identity of Commercial Apprentices in the German Dual System. Vocations and Learning, 13(4), 503–526.
28. Kumar, R., & Dwivedi, P. (2022). Digital readiness and challenges in government schools during COVID-19: Evidence from Indian states. Education and Information Technologies, 27(5), 6473–6492.
29. Kumar, A., & Subramanian, P. (2021). Teacher readiness for digital education in India: Examining school and higher education contexts. Education and Information Technologies, 26(5), 5921–5940.
30. Kumar, S., & Choudhury, P. K. (2022). Infrastructure and performance gaps between government and private schools in India. Indian Journal of Public Administration, 68(1), 120–136.
31. Lu, S. (2022). Social media, physical activity, and communities of practice: A study of WeChat Sports in China during COVID-19. Computers & Education, 181, 104447.
32. Maheshwari, G., & Thomas, S. (2022). Online learning perceptions among adolescents and young adults in India. Asian Journal of Distance Education, 17(2), 45–58.
33. Mawonedzo, M., & Banda, K. (2024). Challenges in Zimbabwe's TVET sector under Education 5.0 reforms. Journal of Vocational Education and Training, 76(1), 77–95.
34. Mehta, P., & Mehta, R. (2020). Institutional ownership and educational delivery outcomes in India. Journal of Education and Social Policy, 7(3), 45–57.
35. NITI Aayog. (2021). Digital education in India: Progress and prospects. Government of India.

36. NITI Aayog. (2024). Reforming school and higher education for a digital future. Government of India.
37. NITI Aayog. (2025). Expanding Quality Higher Education through States and State Public Universities. Government of India, Ministry of Education.
38. Olenrewaju, K. (2021). Digital gaps and e-learning challenges in rural Nigeria during COVID-19. Education and Information Technologies, 26(3), 2753–2773.
39. Pokhrel, S., & Chhetri, R. (2021). A literature review on the impact of COVID-19 on teaching and learning. Higher Education for the Future, 8(1), 133–141.
40. Prakash, V., & Jha, S. (2022). Learner experiences of ICT-enabled education across different institutional levels in India. Education and Information Technologies, 27(5), 6557–6574.
41. Raj, A., & Renumol, V. G. (2022). Challenges in technology integration among Indian educators: A multi-level analysis of school and college teachers. Journal of Educational Technology Systems, 51(1), 45–67.
42. Reddy, J. S., Sharma, R., & Gupta, N. (2024). The accreditation paradigm: a comparative analysis of accreditations for management programmes. International Journal of Educational Management, 38(1), 73-95.
43. Santos, J., Dias, P., & Lima, R. (2022). Digital readiness in transitional learners: A study of late-school and early-university students. Computers & Education, 180, 104430.
44. Sharma, K., & Raval, D. (2022). ICT competency and pedagogical beliefs among school and university teachers in India. Asian Journal of Distance Education, 17(1), 82–101.
45. Sharma, R., & Kumar, S. (2022). Student well-being and digital learning in India during COVID-19. International Journal of Indian Psychology, 10(3), 104–118.
46. Singh, J., & Gill, S. (2021). Students' perspectives on online learning during COVID-19: Age-related similarities among adolescent and young adult learners. Education and Information Technologies, 26(6), 7569–7583.
47. Singh, M., & Aulakh, G. (2021). Online learning disparities between public and private schools in India during the pandemic: A study on accessibility and effectiveness. International Journal of Educational Research Open, 2, 100050.
48. Thangeda, A., Baratiseng, B., & Mompati, T. (2016). Quality education and employability: A case of Botswana. Journal of Education and Training Studies, 4(5), 1–9.
49. Tondeur, J., Scherer, R., Siddiq, F., & Baran, E. (2020). Teacher beliefs and practices across educational levels: A cross-institutional comparison of digital pedagogy adoption. Computers & Education, 159, 104004.
50. UNESCO. (2022). Country progress on ICT in Education: India Report 2022. UNESCO New Delhi.
51. UNESCO. (2022). Skills development and digital transformation: Global monitoring report. Paris: UNESCO Publishing.
52. Vandenberg, P., & Laranjo, M. (2020). Improving employability through TVET: Evidence from the Philippines. ADB Economics Working Paper Series, No. 621. Asian Development Bank.
53. Varghese, N. V., & Malik, G. (2020). Private higher education and graduate employability in India: Emerging trends and challenges. Higher Education Policy, 33(4), 685–703.
54. World Bank. (2021). Digital learning in developing countries: Opportunities and constraints. Washington, D.C.