ANALYSIS OF OPINION OF EDUCATIONAL EXPERTS ABOUT STATUS OF PHYSICAL CLASSROOMS AFTER 15 YEARS

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Abstract

This study aimed to investigate the opinions of educational experts regarding the future of physical classrooms in Tehsil Kamalia 15 years from now, in the wake of the digital age. The primary objective was to determine whether experts believe physical classrooms will transform from one-dimensional (physical) to multidimensional (physical and online) spaces, and assess their opinions on the readiness of institutions to adopt innovative technologies in traditional classrooms.A self-designed questionnaire and mixed method approach was employed to collect data from educational experts, and the snowball sampling technique was used to select participants. The data was analyzed using SPSS software, were utilized to interpret the quantitative data and generalize the results. The analysis revealed a refined view of physical classrooms, with experts acknowledging their enduring value and the need for transformation. While experts believe physical classrooms remain essential for socialization, collaboration, and hands-on learning, they also recognize that technology integration has enhanced the classroom experience. However, the physical classrooms will shift from one dimension to multidimensional, accommodating diverse learning needs. Nevertheless, considering the current scenario in our country, a complete transformation of physical classrooms will be a significant challenge for our educational infrastructure.

1.Introduction

The 21st century is widely regarded as the era of technological advancements, and technology has become an integral part of our daily lives. It is considered a crucial driver of economic growth, and countries lacking in technological advancements are likely to struggle in today's fast-paced world. Technology has revolutionized numerous fields, and education is no exception. It has transformed the way we learn, making it more accessible, efficient, and effective. As noted by R. Raja and P. C. Nagasubramani (2018), technology has had a profound impact on education, and its importance cannot be overstated.

According to Nair (2000), the classroom of the future is envisioned to be a technologically advanced space where learning is largely facilitated through informal means, such as socialization, interaction, distance learning, and real-time communication with a diverse range of educational partners. This vision suggests a shift away from traditional formal instruction and towards a more collaborative and networked approach to learning, where students engage with a variety of resources and stakeholders to construct their own knowledge and understanding.

The traditional classroom setting has undergone some superficial changes over the years, with the blackboard being replaced by the whiteboard, chalk by magic markers, and slates by notebooks. However, the fundamental pedagogical approach remains largely unchanged, with the teacher still playing the central role in dictating the learning process (Wadhwa, 2015). Nevertheless, there has been a significant shift towards online learning, with many reputable institutions now offering online degree programs and

certification courses. These online programs leverage various digital applications and internet connectivity to facilitate learning, catering to the growing demand for flexible and accessible education.

1.2 Purpose of Study

The aim of study was:

- To examine the perspectives of educational experts regarding the future of physical classrooms.
- To investigate the role of online classrooms in modern education.
- To assess the level of preparedness among educational institutions and stakeholders for the effective integration of modern technology in teaching and learning.

1.3 Research Questions

This study were focused on the answers of following research questions:

1. Will online learning supplant traditional classrooms in the future?
2. Can online classrooms effectively equip students with the skills and competencies necessary to become active, responsible, and engaged citizens in the digital age?

1. To what extent do our current traditional classrooms align with the evolving needs and requirements of modern education?

2. Problem Statement

The symbiotic relationship between science and technology is undeniable, and their concurrent growth is essential for advancements in both fields. Fundamental scientific research has consistently contributed to technological innovations, and this pattern is likely to continue. The recent pandemic has accelerated the shift from physical classrooms to online learning, and this trend is expected to persist. In light of this, the current study aims to investigate the opinions of educational experts regarding the future status of physical classrooms 15 years from now. The significance of this study lies in its potential to assess the extent to which physical classrooms will evolve or transform in the future, providing valuable insights into the future of education.

3. Research Background

According to Dunwill (2016), technology has become an increasingly integral part of modern society, and its impact on education has been significant. The traditional classroom setup, which historically consisted of a physical space with a teacher's desk, student chairs and tables, and a chalkboard (Valenti, 2003), has undergone a substantial transformation. Today's classrooms are technology-enhanced, featuring computers, network connections, and audiovisual presentation tools.

However, despite these advancements, many teachers continue to struggle with adapting their materials to meet the evolving needs of students, who are increasingly digital natives. In fact, many students have already moved beyond the traditional lecture format, raising questions about the future of the classroom and the role of technology in shaping its evolution.

A study conducted by Brocato, Bonanno, and Ulbig (2013) investigated the performance of faculty members in both online and traditional classroom settings. The study employed undergraduate students' evaluations of instruction to assess the quality and effectiveness of faculty members with varying professional ranks and gender. The researchers aimed to compare the instructional effectiveness of faculty in online and face-to-face courses.

The study by Brocato, Bonanno, and Ulbig (2015) revealed that instructors teaching online courses received significantly lower student evaluation ratings compared to those teaching face-to-face classes. Interestingly, female faculty members were rated higher than their male counterparts in online courses, although no significant gender differences were observed in face-to-face courses. Notably, students in both online and face-to-face classes expressed a strong interest in learning the fundamental concepts of the course. Ultimately, the study highlights that students prioritize a meaningful and engaging learning experience, regardless of the instructional setting.

The traditional notion of a classroom as a physical space with four walls, closed doors, chairs, tables, and a blackboard has remained relatively unchanged over the years (K. Mäkitalo-Siegl, J. Zottmann, F. Kaplan, & F. Fischer, 2010). However, a closer examination of the history of pedagogical practices reveals significant evolution in various aspects of education. For instance, technology integration has transformed the learning experience, diversifying classrooms beyond traditional physical spaces. Inclusive education has become a priority,

As Mulcahy (2015) argues, it is imperative to reexamine the physical environments in which learning occurs, as the traditional classroom layout has limitations in accommodating diverse pedagogical approaches that prioritize student-centered learning. To facilitate such student-centered pedagogies, learning spaces need to be adaptable and responsive in both design and function, enabling flexible configurations that support and enhance effective learning experiences.

The integration of technology in education has transformed the learning landscape, facilitating the delivery of instruction, enhancing student engagement, and fostering seamless collaboration (Hanif, Jamal, & Imran, 2018). Technology has emerged as a vital alternative channel, enabling

education to reach a broader audience, transcending geographical constraints (Turney et al., 2009).

The COVID-19 pandemic precipitated a sudden and unprecedented disruption to traditional educational settings, necessitating the widespread adoption of technology to maintain academic continuity. This unexpected shift presented a unique opportunity to explore how technology was utilized to meet the learning needs of students across various disciplines, as well as to gather their perspectives on the involuntary reliance on technology to achieve their academic objectives. Notably, prior to the pandemic, some students had limited or no experience with technology-mediated learning, but the crisis necessitated a rapid transition to digital platforms, compelling them to adapt and rely solely on technology to continue their academic pursuits

The autonomy to select one's educational pathway has greatly enhanced the learning experience, leading to a significant transformation in how education is both received and delivered. Digital technology has not only facilitated distance and remote learning but has also been effectively utilized as a supplementary tool to support traditional campus-based learning (Clarke, Nelson, & Gallagher, 2020). Moreover, technology has become an integral component of modern classrooms, with the incorporation of flipped or hybrid (blended) learning approaches becoming increasingly prevalent (Cherrstrom et al., 2019).

4. Research Methodology

This study employed a mixed-methods research design, combining both quantitative and qualitative approaches to investigate the opinions of educational experts regarding the status of physical classrooms 15 years from now. A questionnaire was utilized to collect quantitative data from a sample of educational experts, while open-ended questions were incorporated to gather qualitative data and provide a more nuanced understanding of their perspectives. By integrating both quantitative and qualitative data, this study leveraged the strengths of each approach, enabling a more comprehensive and in-depth exploration of the research question (Creswell & Plano Clark, 2007).

4.1 Research Population and Sample Size

The target population for this study comprised educational experts in District T.T. Singh (Toba Tekh Singh), which is divided into four tehsils. Due to time and financial constraints, the researcher focused on a single tehsil, Kamalia, as the study site.

The researcher employed a snowball sampling technique to recruit a sample of 60 educational experts from both private and government institutions in Tehsil Kamalia. This sample comprised 30 female and 30 male experts, ensuring gender balance and representation from diverse institutional

backgrounds. The same sample of 60 experts was utilized for both quantitative and qualitative data collection, allowing for a comprehensive and in-depth exploration of their opinions and perspectives on the status of physical classrooms.

4.2 Research Instrument

This study aimed to investigate and analyze the opinions of educational experts regarding the status of physical classrooms. To achieve this, a questionnaire was employed as the data collection tool, leveraging its advantages as a cost-effective and time-efficient method for gathering data (Gray, 2009).

A self-developed questionnaire, informed by a comprehensive literature review, was employed to collect quantitative data, utilizing a Likert Scale with response options ranging from (Strongly Agree SA, 5), (Agree A, 4), (Undecided UN, 3), (Disagree DA, 2), (Strongly Disagree SDA, 1) .

To collect qualitative data, the researcher designed open-ended questions that were informed by the research questions and objectives. These questions were crafted to encourage in-depth responses and allow participants to share their views freely, without constraints (Kvale & Brinkmann, 2009).

4.3 Data collection and Analysis

Data was collected through personal institutes, also for convenience and financial constraints was collected via whats-app and Google form and e-mail.The study was mixed research (quantitative and qualitative) in nature. So for the collection of required statistical data software, the SPSS software was applied.

5. Results and Discussion

5.1 Quantitative Data Analysis

Table 5.1 Respondent Gender

Gender	Frequency	Percentage
Male	30	50
Female	30	50
Total	60	100

Table 5.1 presents the demographic characteristics of the study sample, comprising 60 table participants. A balanced gender distribution was achieved, with an equal ratio of male and female teachers, each accounting for 50% of the total sample.

Table 5.2 Qualification of Respondent

Respondent's qualification	Frequency	Percentage
M.A/Msc	24	40
M.Phil	33	55
Ph.D	3	5
Total	60	100

Table 5.2 indicate that the majority of respondents (55%) held an M.Phil degree, while 40% possessed a postgraduate degree. These findings suggest that the respondents were highly educated and possessed advanced qualifications in the field of education.

Table 5.3 Expert opinion Regarding status of physical classrooms after 15 years

Questionnaire	SA %age	A %age	UD %age	DA %age	SDA %age	Mean	Std. Dev
Over the next 15 years, technological advancements are poised to significantly influence the educational landscape.	25	38.3	21.6	11.6	3.33	3.74	1.02
The emergence of new technologies is crucial for addressing the impending challenges in teaching and learning.	38.3	16.6	26.6	13.3	5	3.67	1.25
Our educational institutions, encompassing colleges, schools, and universities, possess the requisite resources and infrastructure to excel in the contemporary global academic landscape.	13.3	18.3	26.6	25	16.6	2.83	1.26
There is a likely trend towards a significant rise in vocation-specific instructions	25	23.3	18.3	26.6	6.66	3.33	1.29
Educational institutions will assume a pioneering role as vanguards for the implementation and integration of cutting-edge technologies.	26.6	25	21.6	16.6	10	3.41	1.31
The integration of technological innovations in classrooms is poised to revolutionize teaching and learning methodologies	36.6	25	20	13.3	5	3.72	1.22

Item 1 reveals that a significant majority of respondents (63%) concurred that technology will significantly influence teaching and learning over the next 15 years.

Item 2 shows that a majority of respondents (55%) concurred that the availability of new technology is crucial for addressing future teaching and learning challenges. Item 4 reveals a notable disparity in opinions, The mean score of 2.83, accompanied by a standard deviation of 1.26, falls within the realm of disagreement, suggesting a considerable divide in perceptions regarding institutional preparedness. In contrast, Item 5 indicates that a plurality of respondents (49%) concurred that there will be an increase in vocation-specific instructions. Item 6 shows a strong consensus, with 61% of respondents agreeing that technological innovations in classrooms will have a profound impact on teaching methodologies. The mean score of 3.72, falls squarely within the level of agreement, indicating a widespread acknowledgment of technology's potential to transform pedagogical approaches.

5.2 Qualitative Data Analysis

In order to gain a deeper understanding of the open-ended questions, the researcher conducted personal interviews with esteemed educational experts possessing over 20 years of experience in the field. These experts generously shared their insights and expertise, providing rich and nuanced responses to the questions.

1.Do you think over the next 15 years, online learning will be a fundamental component of classroom experience and how?
The traditional classroom paradigm has undergone a significant transformation in recent years, driven by the rapid evolution of technology. The advent of innovative digital tools and platforms has enabled learning and teaching to transcend physical boundaries, making remote education a viable and attractive option. The exponential growth of technological advancements has consistently proven to enhance the learning experience, with each new development building upon and improving existing technologies. According to Educational Experts 1, 3, and 5, online learning will become a fundamental component of education due to its inherent convenience, flexibility, and adaptability to individual needs and goals.

2.Do you agree with the Perception of complete shifting of the institutions from one dimension (physical) to multi-dimensional (physical and online) will happen in next 15 years?
It is imperative that our perception of the future of education is optimistic and trans formative. Accordingly, it is likely that educational institutions will undergo a significant shift from traditional physical settings to a hybrid model incorporating both physical and online learning environments over the next 15 years. The rapid transition to online learning during the COVID-19 pandemic demonstrated the feasibility and effectiveness of this approach, without compromising the quality of education. Moreover, the pandemic has accelerated the adoption of technological innovations across various aspects of life, making it increasingly evident that the integration of physical and online learning spaces is a natural progression. According to Educational Experts 2, 6, and 8, the future of education will likely involve a significant shift towards online learning, with institutions transitioning to a hybrid model where approximately 50% of instruction is delivered online.

6. Conclusion

This study's statistical analysis reveals a significant majority of respondents anticipating a shift from traditional physical classrooms to online learning environments in the

future. The findings indicate a positive correlation between technology integration and institutional effectiveness, suggesting that technological advancements will reshape the traditional classroom paradigm to accommodate the evolving needs of students. By prioritizing technology, inclusivity, and innovation, educators can strike a balance between traditional teaching methods and modern learning environments, fostering an inclusive space that supports diverse student needs, abilities, and learning styles. This aligns with the concept of "inclusive learning environments" (Gros, 2016).

According to experts, flexible and adaptable learning spaces that accommodate diverse learning styles and pedagogies are crucial. This prioritizes the concept of "learning environments" that focus on student-centered, active learning experiences (Picciano, 2009). The debate surrounding technology integration in physical classrooms continues, with some experts advocating for balanced approaches that combine traditional teaching methods with technology-enhanced learning (Song, 2014). Despite the challenges posed by the pandemic, institutions successfully transitioned to online learning methods, achieving their goals. The benefits of technology in learning include convenience, reach (transcending geographical boundaries), and flexibility. Technological tools can complement traditional learning methods, making the world smaller by eliminating geographical barriers and enabling access to guest lecturers without physical presence. The majority of experts agree that a shift in the status of physical classrooms will occur in the future, likely within the next few years, due to the effectiveness of technology integration.

7. Recommendations

✓ Future research should investigate the impact of technology integration on students studying applied sciences, such as Chemistry, Engineering, Computer Science, Mathematics, and Health-related courses. This would provide valuable insights into the effectiveness of technology in enhancing learning outcomes across diverse fields of study.

✓ The current study's limited sample size precluded generalizations, highlighting the need for a larger, more representative sample to yield robust findings that can inform evidence-based decisions and generalizations. A wider-scale study would enable researchers to explore the nuances of technology integration in various disciplines, ultimately contributing to a more comprehensive understanding of its potential to transform education.

✓ This study's broad focus on technology integration highlights the need for future research to investigate the effectiveness of specific technological tools in enhancing student learning experiences. A targeted examination of a particular tool or platform (such as Zoom, Skype, Facebook, WhatsApp, etc.) and students' perceptions of its utility would provide valuable insights into the potential benefits and limitations of each technology.

References

Brocato, B., Bonanno, A, & Ulbig, S. (2015). Student perceptions and instructional evaluations: A multivariate analysis of online and face-to-face classroom settings. Education and Information Technologies, 20(1), 37-55.

Cherrstrom, C. A., Robbins, S. E., Boden, C, J., and Bixby, J. 2019. Need

Clarke, T. B., Nelson, C. L., & Gallagher, S. R., 2020. The Influence of Traditional and Modern Learning Spaces on Pedagogical Affect, Classroom Community, and Learning Outcomes for Marketing Students. Journal for Advancement of Marketing Education, 28(1)

Dunwill, E. (2016). *4 changes that will shape the classroom of the future: Making education fully technological*, (Access: 21th February 2016) Retrieved from https://elearningindustry.com/4-changes-will-shape-classroom-of-the-future-making-education-fully-technological

Field, A. *Discovering Statistics Using SPSS.* 2nd ed. London: Sage Publisher, 2005.

Gray, D. E. (2013). *Doing research in the real world*. Sage.

Hanif, F. Q. Jamal and M. Imran, "Extending the Technology Acceptance Model for Use of e-Learning Systems by Digital Learners," in *IEEE Access*, vol. 6, pp. 73395-73404, 2018, doi: 10.1109/ACCESS.2018.2881384. keywords: {Electronic learning;Computational modeling;Context modeling;Learning systems;Mathematical model;Tools;e-learning;technology-acceptance model;technology-based learning;digital learners;behavioral intention}

Kvale, S., & Brinkmann, S. (2009). Interviews: Learning the craft of research interviewing.

K. Mäkitalo-Siegl, J. Zottmann, F. Kaplan and F. Fischer (eds.),Classroom of the Future: Orchestrating Collaborative Spaces, 1 – 12. © 2010 Sense Publishers.

Nair, P. (2000). Schools for the 21st Century: Are You Ready?

R. Raja*, P. C. Nagasubramani 2018, Journal of Applied and Advanced Research, 2018: 3(Suppl. 1) S33-S35

Turney, C. S. M., Robinson, D., Lee, M., & Soutar, A. (2009). Using technology to direct learning in higher education: The way forward? Active Learning in Higher Education, 10(1), 71-83. https://doi.org/10.1177/1469787408100196

Valenti, M. (2003). Creating the classroom of the future. *The Sextant Group, Inc.*

Wadwa, V., (2015). Here's how we can reinvent the classroom for the digital age, 3, Sense Publishers 1-10. https://www.washingtonpost.com/news/innovations/wp/2015/04/08/heres-how-we-can-reinvent-the-classroom-for-the-digital-age/?utm_term=.5278084de286 (Access 17th November 2017).