INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 16, Issue 3, (2026) E-ISSN: 2222-6990

# Capturing the Elusive Paradigm for Tertiary Education in the Rapidly Evolving Post-Pandemic Digitized World

Godofredo Cristobal Utanes
GlobalNxt University

Chong Teck Siong
Curtin University, Singapore

Krishnamoorthy Renganathan
Curtin University, Singapore

**DOI Link:** http://dx.doi.org/10.6007/IJARBSS/v16-i3/27980

***Published Date:*** 18 March 2026

**Abstract**

The evolving digital world with several disruptions is making it extremely challenging for the academic community. The global pandemic jolted the way to educate young individuals as face-to-face learning halted, slowly shifted to virtual learning with much confusion and difficulties. Wars, geopolitical conflicts, climate change, calamities, technological distractions, and other challenges have exacerbated general conditions of distress for administrators of educational systems around the world (Abbas et al., 2024; Karim et al., 2024; Mok et al., 2024; Scheffran, 2023; Taha et al., 2023; Yu, 2023). This research aims to explore the state of educational systems, methodologies, and processes confronted by a tumultuous global environment, to hopefully find ways to alleviate it conducive to achieving relevant and effective outcomes in educating today's young individuals. The study flags questions on what could match educational systems with the rapidly changing human circumstances. Though the answers to these questions may be far-fetched, the researchers are optimistic to find good solutions agile enough within the chaotic global context. It is believed that the investigation will not end with the paper's publication but could serve as a starting point for continuous exploration within the field of education. A survey questionnaire was floated among thousands of potential respondents who were randomly invited using Google Form, a free online survey platform. Four hundred and one (401) responded to the invitation who came from more than 30 countries around the world. Descriptive and inferential statistics were employed to analyse the data using SPSS to treat quantitative data and NVivo on the qualitative data. Key findings included mixed insights on tertiary education's being able to adapt to post-pandemic crises. It was also discovered that other challenges besides those earlier mentioned include access to technology, student engagement, and mental health. To

improve the current conditions, schools need to aim for technical integration, more training of teachers, and mental health aid. This study provides important insights for tertiary education establishments to adapt policies to changing times and improve educational process and methodologies.
**Keywords:** Crises, Digital, Education, Learning, Mental Health, Nvivo, Online, Post-Pandemic, Spss, Students, Technology, Tertiary Education

**Introduction**

It has been more than a couple of years when the world came out of the Covid-19 pandemic, yet this global menace left in its wake a disrupted world, drastically changing how lives are lived. One important aspect of human experience is the education field which has not bounced back unscathed. The pandemic forced systems of education to shift and adapt, thanks to the availability of virtual technology. Closure of school and university campuses along with the so-called social distancing measures put in place by many governments, these institutions of learning moved their lesson deliveries online, though in many cases difficult especially in countries with little or no Internet access (Rinekso et al., 2021; Udju et al., 2024). At the time of this writing, other triggers for drastic changes in the education environment cropped up one after another after the pandemic. Included are the hastening speed of technological advancements, particularly artificial intelligence (AI), it takes a bit of time for individuals and companies to catch up (Klímová & Pikhart, 2025). This stimulated the demand for continuous learning as well as the radical change in related job requirements. Thus, these realities prodded educators to rethink the traditional models, to explore innovative approaches to better hone students based on these unprecedented disruptions (Alsuhaibani et al., 2024; Govindaraju et al., 2023).

More adversities of global proportions emerged just when Covid-19 was retreating. Russia attached Ukraine on the 24$^{th}$ of February 2022 and continues raging at the time of this writing. The Palestinian militant group, Hamas, attacked Israel and massacred in cold blood thousands of Israelis on 7$^{th}$ October 2023. The US-China tension, other geopolitical conflicts, climate change, calamities, technological distractions, and trade war imposed by the newly elected US president, Donald Trump, creating unnecessary uncertainty in the global economic environment. These have exacerbated general conditions, one way or the other, invoking substantial fear and distress to people, without exempting administrators of educational systems around the world (Abbas et al., 2024; Karim et al., 2024; Lucey & Wingrove, 2025; Mok et al., 2024; Scheffran, 2023; Taha et al., 2023; Yu, 2023).

The several global issues raise several questions about post-pandemic education at different levels. At the ground level, educators are asking questions about the effectiveness of learning, both offline and online, and the impact on student engagement and motivation amidst crises (Oranga & Matere, 2022). At the program level, educators are considering how to redesign courses to meet changing societal climate, for students to effectively match the digital world's unprecedented learning requirements (Smythe et al. 2021). At the strategic or ecosystem level, questions are being asked about the role of education in developing resilient communities (Rodriguez-Barboza et al., 2023).

To meet what the post-pandemic era requires, a range of options for validating the delivery of tertiary education in the fields of educational technologies, educational transformation,

and educational environmental studies need to be considered. In terms of educational technologies, new tools and methods that enhance student engagement and participation can be deployed (Yuan et al., 2022). Concerning educational transformation, Smythe et al. (2021) posit that changes can be made to the design of programs to include more interdisciplinary, hands-on, and practical components. Finally, regarding educational environment studies, Rodriguez-Barboza et al. (2023) argue that there is a need for analysis on the effects of education on the environment, and frameworks for making education environmentally friendly strategies to be developed (Adam et al., 2025; Fuad, 2025; Phan et al., 2025).

From the foregoing discourse, this study aims to fulfil the following research objectives:
1) Determine the impact of post-pandemic global crises, including geopolitical conflicts, climate change, and technological disruptions, on the adaptability and quality of tertiary education.
2) Examine the possible approaches to pursue education with regard to technologies, transformation, and environmental study.

The research questions to ask in line with these research objectives are:
1) What are the effects of post-pandemic global crises on changes to tertiary education?
2) What are the possible approaches to pursue education with regard to technologies, transformation, and environmental study?

**Literature Review**

Education across the globe was affected by the Covid-19 pandemic as teachers had to scramble quickly adjust to unfamiliar challenges that arose. There has been a vast body of literature focused on the era of the pandemic and post-Covid approaches which discuss the challenges during the pandemic and how countries need to address higher education in the aftermath of the pandemic.

One of the most common discussions in the given literature centres around learning being conducted online. They note, online education is effective; it has its own challenges such as lack of motivation and engagement. Basar et al. (2021) The same gap was highlighted by Hesse et al. (2020) who argued that social and emotional factors of learning must be equally prioritized alongside the cognitive components of instruction in an online setting.

As for changes in teaching methods in a post-Covid world, there seems to be particular focus on the more current and cross-disciplinary approaches. Morais et al. (2021) acknowledged the gap in students' learning and participation and suggested project-based learning as a possible solution. Community engagement and learning was also noted as an important aspect of students' social well-being and academic performance by Kersten and colleagues (2021).

The literature captures the challenges faced in education as a result of the pandemic. One example comes from Burch et al. (2022) who explored how deans used emotionally charged, rapid decision-making frameworks during Covid-19 and sought to understand how deans exercised their leadership framework choices during the crisis. In a similar context Yu (2022) reported that the Covid-19 pandemic transformed learners' identities as well as their levels

of digital competencies for participating in online learning, which called for fostering greater focus on the incorporation of engagement, technology, and teaching to achieve improved educational outcomes.

All these authors examine the question of how post-pandemic higher education can be approached, which remains prominently featured in the literature. Thahir et al. (2023) reported that there was an immediate change of focus to education which led to a shift from in-person learning to fully online and subsequently blended learning. This model integrates the positives of both online and offline learning through the application of technology while retaining personal interaction for enhanced learning effectiveness and autonomy. Other researchers have pointed out the need to shift from the digitalization of education to more innovative approaches to teaching and post-pandemic strategic planning for education (Rapanta et al., 2021).

The scholarship on education during the pandemic, post-Covid pedagogy, difficulties faced in the pandemic's primary and secondary schooling, as well as tertiary education done post pandemic, collectively depict a perpetual demand for innovation and dynamism in the education sector. Education systems globally had to integrate technologically feasible solutions. Simultaneously, the pandemic has been an opportunity to rethink educational models as well as approaches to teaching and learning. There is a need to respond to the challenges posed and indeed, new paradigms of education should be adopted.

This unfortunate phenomenon has had dire consequences, but it presented an opportunity to re-evaluate pedagogy, and reconsider systems and policies. There has been an active shift towards researching new policies and frameworks, as depicted in the literature review around the education during the pandemic and justification for post-Covid pedagogy, challenges during the pandemic, and education addressing post pandemic concerns.

While studying the impact Covid-19 had on education, one focus was how students leveraged technology. It was observed that digital technologies were more heavily relied upon during the pandemic, suggesting technology integration within education needs to be further developed. Li et al. (2020) highlighted the possible impacts mobile learning technologies can have on self-directed learning while also discussing personalized learning paths, whereas Hodges et al. (2020) emphasized the need to teach educators the basics of digital teaching methods.

The effect of the pandemic on student well-being and mental health is an additional area of interest. Anzaldua (2022) underscores the need for education organization to address as succeed students has traumatic experiences. Thus, considering long-term pandemic-related psychosocial impacts on mental health. Associated with Sheng et al. (2023) research, the pandemic resulted in heightened stress and anxiety among educators, indicating insufficient attention and support during this period.

There is increased focus on post-Covid education models, specifically, interdisciplinary and experiential learning. Bertel et al. (2022) studied the role of interdisciplinary learning on cultivating critical and problem-solving skills, while Saputri and Puspitasari (2024) approached

student participation highlighting the need for experiential learning as a catalyst for improved learning outcomes and engagement.

As previously mentioned, there is literature focusing on the barriers to education during the pandemic. Such literature encounters support and resources regarding equity and access, digital pedagogy, student wellbeing, and others. Heil and Ifenthaler (2023) point out the overwhelming challenges for educators in providing appropriate feedback and assessment within an online learning framework.

The study on post-pandemic education emphasizes the need for greater attention on sustainability and social justice within education. Huang (2023) looked into the role of education for sustainable development towards social and environmental sustainability whereas Mapuya (2023) focused on social justice as a component of inclusive and equitable education alongside its linkage to economic development.

As with the onset of the pandemic, the body of literature on pandemic era education, post Covid approaches to education, and challenges encountered during the pandemic, as well as post pandemic tertiary education, constantly points towards the need for further evolution and flexibility within education. If all these challenges are taken into consideration along with new models of teaching and learning, there is great opportunity for educators and policy makers to streamline the education system to be more equitable, sustainable, and effective.

One of the gaps identified in previous literature is the consideration of the long-term effects of the pandemic on education systems. Although there is substantial literature on the pandemic's impact on education systems and responses, more longitudinal studies are needed on learners' academic achievement, mental health, and overall well-being.

Another void pertains to the effects of community participation in education during the post-pandemic era. There exists some research about social-emotional learning; however, more focus is needed on community participation and student wellness, particularly within the context of underrepresented and marginalized populations.

Lastly, there's a gap in literature examining community-based frameworks addressing post-pandemic education focusing on equity and social justice. While there is abundant literature emphasizing equity and inclusion within education, there is scant literature regarding what specific policies and practices designed for social equity and justice, especially for post digital and online education systems, should aim to accomplish.

**Research Methodology**

This paper employed the mixed method research approach that utilised a survey questionnaire consisting of 11 quantitative questions and 2 qualitative questions, total of 13 questions items. See Appendix A, Survey Questionnaire. The mixed-method was used to triangulate the sources and analysis of data and hoped to churn out research findings from bases of diverse data types, thereby possible research gaps were ensured that desired outcomes, otherwise using only a single approach, might miss out (Santos et al., 2020). Parey and Kutscher (2023) agree with this direction to achieve better credibility and applicability of findings.

The aim of the research was to survey 384 participants randomly maintaining a 95% confidence level and 5% margin of error. Studies have testified that 384 is a sample size for such sampling method and others, applied in various subjects of studies. Cochran's formula, a recognised sample size estimation method suggests that 384 is reliable for statistical inference for populations larger than 100,000 (Din & Fee, 2021). Several researches followed this position, such as those by Mujakachi & Tsvere (2023) for Zimbabwe's road freight transportation, Din and Fee (2021) for Malaysian young from 21 to 39 years of age, Mirando and Wanninayake (2023) for Sri Lanka's retail industry, Olaoluwa et al. (2024) for rural development strategies study, as well as Zainudin et al. (2023), and Jawad et al. (2021) in their own respective industries. This present study more than satisfied this at 401 respondents who came from over 30 different countries across the globe.

The quantitative data collected was analysed and presented using Google Form, visuals illustrating descriptive statistics. Pearson correlations were analysed using SPSS. The computer application NVivo was used to analyse the qualitative data from the qualitative questions, specifically, thematic, content, and sentiment analysis, to support the iterative manual and ocular approach employed by the researchers. These approaches have been utilised in studies with similar empirical details, among which are those of Gotlhe et al. (2024), Masangcay et al. (2024), Shetty and Samuel (2024), and Smiddy et al. (2024). Personal biases were eliminated in both the construction of the questionnaire and data analysis through the individual and iterative scrutiny of the authors of this study (Ansar & Hashmat, 2025).

**Discussion of Findings**

This section presents the findings of the study consisting of the quantitative and qualitative interpretations and analyses, respectively. It is divided into the quantitative inquiry and qualitative inquiry subsections. As discussed earlier, there were 401 respondents who participated in this study. Questions 1 through 11 are the quantitative items and Questions 12 through 14 are the qualitative ones. See Appendix B for the coding legend showing the questions with their corresponding optional answers (for the quantitative items). These question items hoped to fulfil the research questions, as follows: (1) determine the impact of post-pandemic global crises on changes to tertiary education and (2) examine the possible approaches to pursue education with regard to technologies, transformation, and environmental study.

*Quantitative inquiry*

Following are the descriptive interpretation and analysis of the responses to the quantitative questions:

*Q1. Industry affiliation*

The respondent pool reveals that 39.7% or 40.0% of the participants in the survey belong to the education and training sectors. This is followed by 24.7% from the services sector. The government sector ranked 3rd at 5.3%. Interestingly about 4% of the respondents are unemployed. See Figure 1, Industry Affiliation.

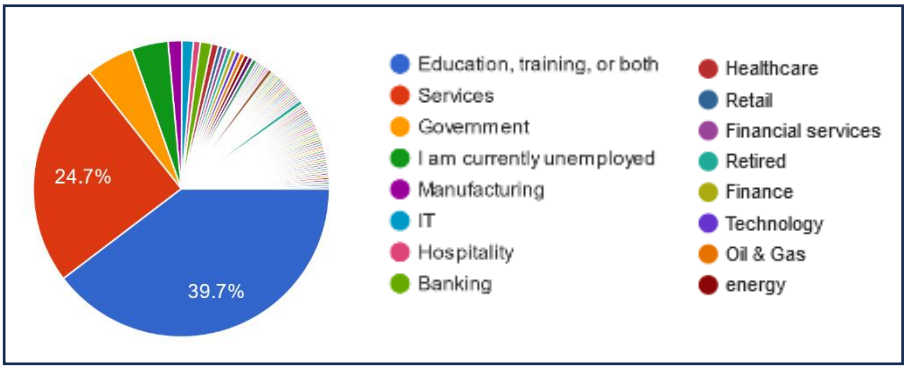


Figure 1. Industry affiliation

It is significant to highlight that a good number of survey participants come from the training and education sector. This aligns with the research emphasis on tertiary education in the post-pandemic, digitized world, indicating specifically that the insights from this survey are strongly evidently experienced in the lives of educators, trainers, as well as academic professionals. This supports the literature indicating the key role of educators in post-pandemic transitions. Egan et al. (2024) argued that educators are driving transformation in pedagogy, curriculum design, and digital integration. The presence of respondents from diverse services sectors, such as healthcare, finance, IT, and manufacturing exemplifies tertiary education's interdisciplinary nature to address the evolving societal and industrial need (Užule et al., 2024).

*Q2. Educational attainment*

Nearly two-thirds (65.8%) of the respondents possesses a master's degree or MBA. This is followed by 15.2% bachelor degree and doctorate degree at 11.03%. This aligns with the findings of Garcia et al. (2025) and Scala et al. (2024) reporting that the role of degree holders cannot be overemphasised in the areas of educational innovation and post-pandemic challenge adaptations as degree holders are at the forefront of academic activities such as curriculum development, transforming pedagogy to adopt digital technologies, and educational strategies. See Figure 2, Educational Attainment.

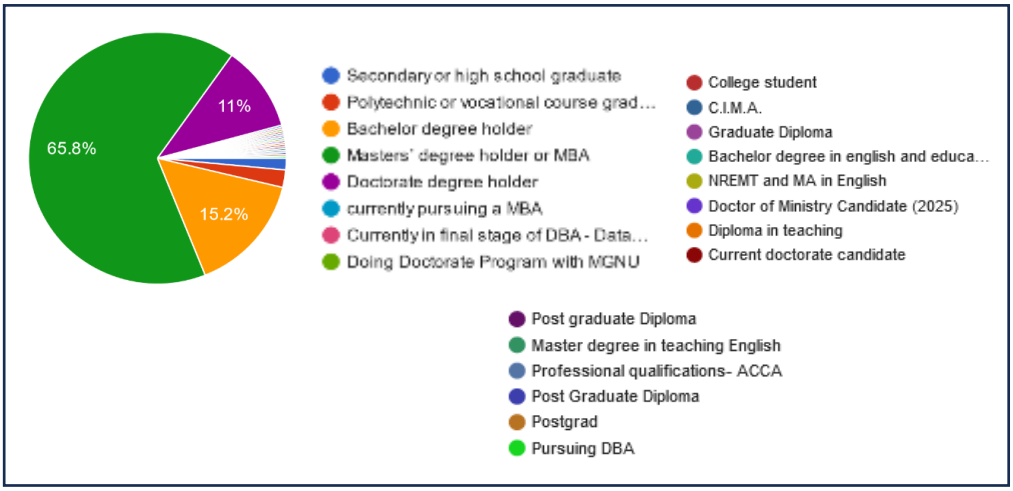


Figure 2. Educational attainment

*Q3. Home country*

Figure 3, Home Country Distribution by Continent, and also Table 1, Distribution of Responses by Home Country, show that many of the survey respondents hail from Asia, specifically by country, many from India with 33.8% proportion, followed by 18.6% from Singapore, and 7.5% from the Philippines. The distribution indicates a significant representation from South and Southeast Asia, regions in the Asia Continent that have been strongly affected by digital transformation in education during and after the pandemic.

The distribution of responses by home country aligns with India's huge and fast evolving tertiary education sphere. As India is relatively ahead in technological adaptation and advancement compared to its neighbours, its National Education Policy (NEP) 2020 lays down the surge in online learning platforms, education technology start-ups, and policy reforms (Reshma et al., 2024). Supporting existing literature, these findings highlight the necessity for inclusive, technically integrated, and scalable systems of education in countries with numerous populations (Honcharuk et al., 2024).

Considered as a melting pot of education in Southeast Asia, Singapore's impetus for quality education incorporate blended learning, integration of artificial intelligence (AI), and lifelong learning. This city-state's Smart Nation strategy and SkillsFuture movement shows its government's commitment to educational excellence, creativity, and innovation (Rodriguez-Barboza et al., 2023).

Table 1
*Distribution of responses by home country*

| Home Country | Proportion (%) |
|---|---|
| India | 33.8% |
| Singapore | 18.6% |
| Philippines | 7.5% |
| Malaysia | 4.8% |
| Others (66 Countries) | Less than 4% each |

Table 2
*Distribution of responses by country of employment*

| Country of Employment | Responses | Proportion (%) |
|---|---|---|
| Singapore | 116 | 29.1% |
| India | 78 | 19.6% |
| Philippines | 21 | 5.3% |
| UAE | 20 | 5.0% |
| Others (87 Countries) | Less than 5% each | 41.1% |

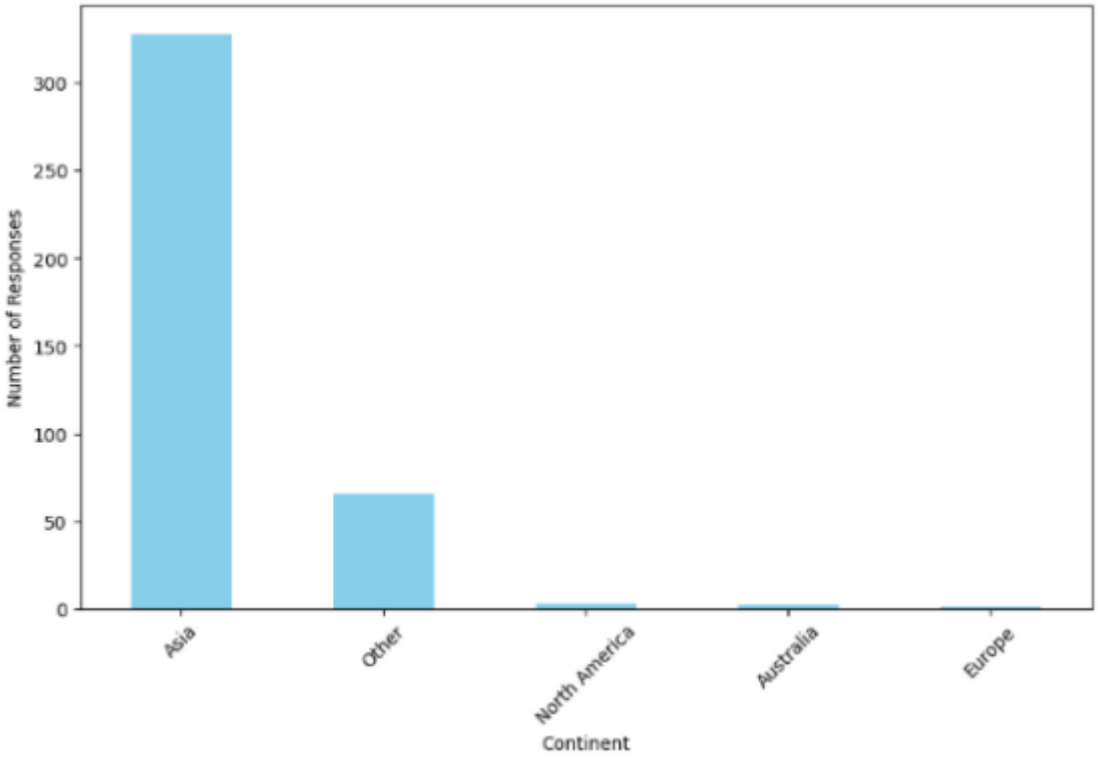


Figure 3. Home country distribution by continent

Rinekso et al. (2021) and Udju et al. (2024) noted that limited access to the Internet and constraints in digital resources pose as key challenges. This is supported by what the survey reflects particularly in countries like the Philippines, Malaysia and others. Though it is incidental that these countries represent the pool of respondents, these challenges are a valid observation.

*Q4. Country of employment*

Table 2, Distribution of Responses by Country of Employment, shows that several respondents are employed in Singapore (29.1%), followed by India (19.6%), then the Philippines (5.3%) and UAE (5.0%). This is an indication of a strong concentration of responses in South and Southeast Asia, which closely aligns with the home country distribution, Table 1, Distribution of Responses by Home Country.

*Q5. ICT proficiency*

Figure 5, ICT Proficiency, reveals that most of the respondents are either “Proficient” (41.6%) or “IT-literate” (28.4%). This indicates that the profile of respondents is characterized by strong digital competence. Moreover, advanced digital skills are evident as 15.5% and 10.3% of the total respondents identify themselves as “Very IT-Proficient” and “Experts.” Only 4.3% answered to be “IT Non-literate.”

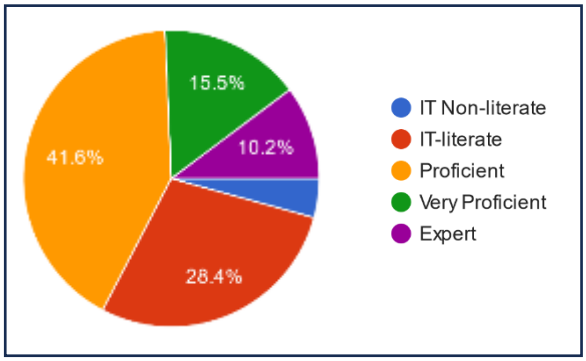


Figure 5. ICT proficiency

The data implies that the participants generally exemplify a credible group of respondents appropriate for this particular research. This finding strengthens the first two question items, namely, industry affiliation and educational item. Thus far, it could be gleaned the succeeding findings of this study are expected to lean towards relevance.

*Q6. Education or training role*

As far as education or training role of the respondents is concerned, the data indicates 41.1% are lifelong learners and 28.2% are teachers or coaches at work. This reflects a relatively good inclination of the respondents towards continuous professional development and workplace-significant education. This is essential in the post-pandemic digitized world specially challenged by global crisis (Bassi, 2025; Silveira et al., 2024).


Figure 6. Education or training role

*Q7. Tertiary education adjustment in post-pandemic world*

This next item asked the question: "Do you think that tertiary education is able to adjust during the post-pandemic period characterized by interconnected global challenges like the Russia-Ukraine War, the Hamas-Israel conflict, climate change, US-China tensions, territorial disputes in the South China Sea, and the threat of a nuclear catastrophe?"

Majority of the respondents at 52.6% believe that tertiary education is able to adjust to a world replete with problems during this post-pandemic era. However, a substantial portion

at 36.9% indicate that tertiary education is "barely adjusting" which suggests the inadequacy or unevenness of such adjustment propensity despite some marked progress made in the tertiary education sector.

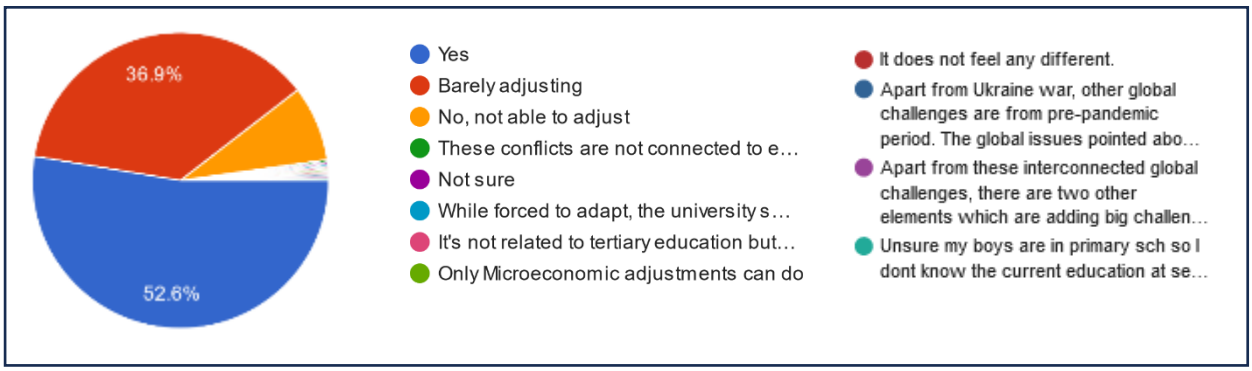


Figure 7. Tertiary education adjustment in post-pandemic world

A small proportion of the respondents, at 8.3% believe that tertiary education is not able to adjust to global adversities at this moment. This opinion is echoed by Karim et al. (2024) and Liu et al. (2024) who argue about mixed responses from stakeholders on educational adaptations. The negligible proportion of respondents are sceptical in perspective when it comes to tertiary education's ability to adjust to the post-pandemic crises.

Some implications of these findings include the need for greater alignment of education in tertiary education with global uncertainties, albeit crises. Initial actions could cover, but are not limited to, go beyond reactive adjustments and be proactive in systemic adjustments.

*Q8. Improvement or non-improvement of education quality amidst post-pandemic challenges*
Question 8 asked the question, "Do you believe the quality of tertiary education improved even at this point when Covid-19 lingers in many countries?"

The survey findings reveal differing perceptions coming from the respondents. Notably, close to half of the survey participants, at 46.9%, are at the stance that the quality of tertiary education has improved. This suggests the optimism regarding pedagogical innovations as well as digital transformation. The positive outlook supports Yuan et al. (2022) who argue that the pandemic catalysed for educational institutions to turn to digital tools integrated in the various aspects of the learning system.

It is also noteworthy that 24.7% of the respondents feel that there is no improvement in the quality of tertiary education and 9.7% believe it became worse after the pandemic, reasons include limited access to the Internet, diminished engagement between teachers and students, and issues related to mental health. These observations support Ahmad and Khan (2025) who examined how the pandemic worsened students' well-being that led to a decline in academic quality contributing to perceptions of deteriorating quality of education.

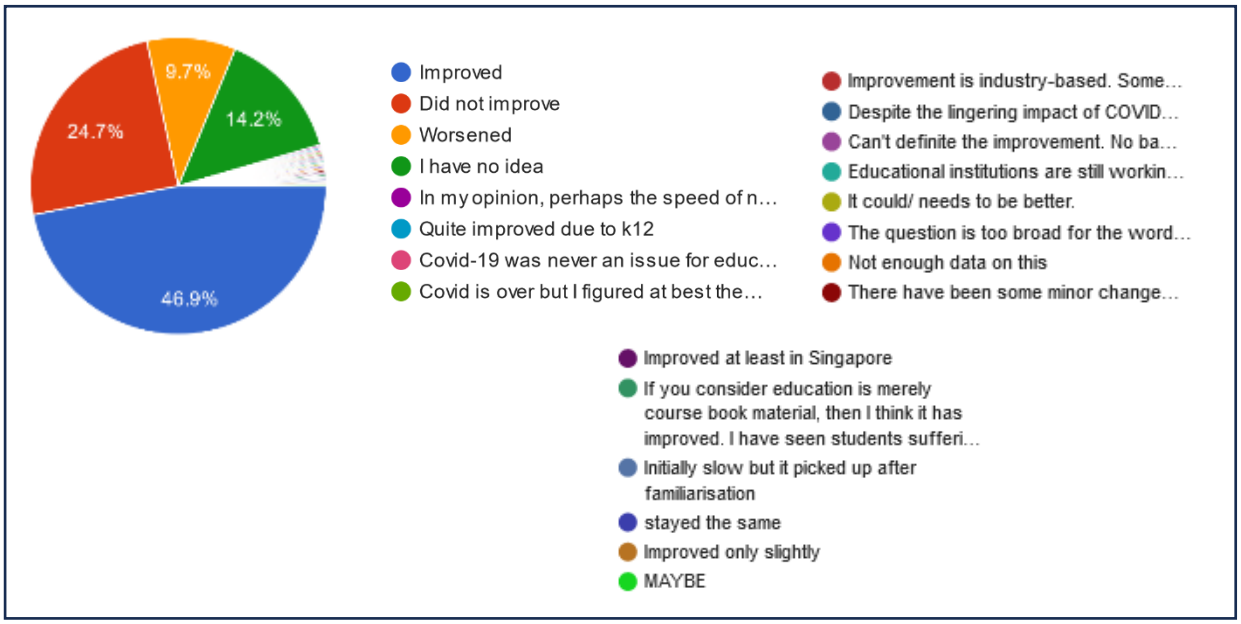


Figure 8. Improvement or non-improvement of education quality amidst post-pandemic challenges

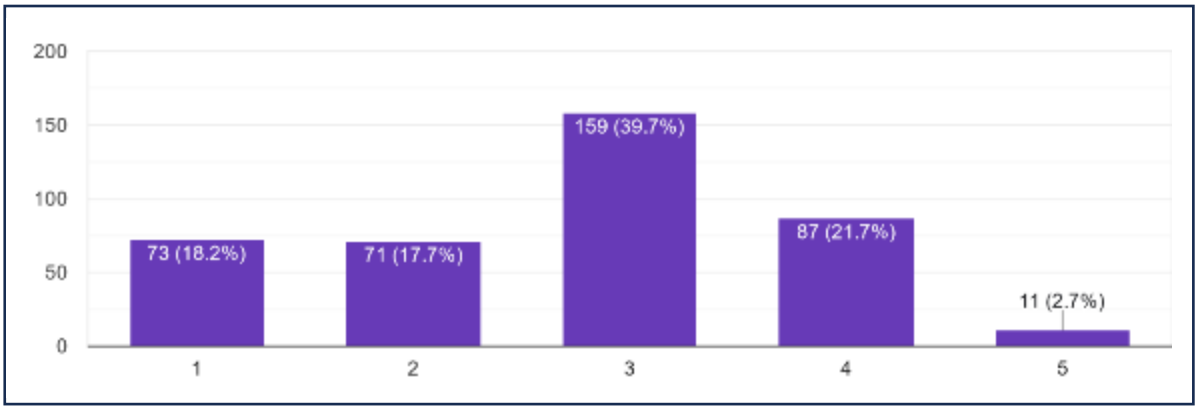


Figure 9. Level of improvement of education quality during post-pandemic period

*Q9. Level of improvement of education quality during post-pandemic period*
Question Item 9 pertains to the level of improvement of tertiary education during the post-pandemic period. To this question, 39.7% of the respondents indicates moderate level of improvement. A sum of 35.9% feels a high level to very high level of improvement of tertiary education just after the pandemic, at 17.7% and 18.2% respectively. A low 21.7% and 2.7% indicates that the level of improvement is either low or none at all, respectively.

The findings support the literature where Bassi (2025) and Davoody et al. (2025) focused on how pandemic-driven shirt to online delivery of school lessons fostered adaptability and resilience indicating from moderate to high levels of perceived improvement in education quality.

*Q10. Factors affecting decline in tertiary education quality*

Question 10 asked: "Which of the following do you think are connected with the unfavourable situation in tertiary education during the post-pandemic period?" See Figure 10, Factors Affecting Decline in Tertiary Education Quality.

The results reveal concerns about how regulatory issues, government policies, and geopolitical uncertainty block educational development. As Taha et al. (2023) argue, political instability can hinder flow of fund support, development of curricula, and cooperation among nations when it comes to education. Economic factors affect tertiary education development adversely posing as financial hindrances. The pandemic worsened economic disparities across countries, depriving students access to proper education. Rodriguez-Barboza et al. (2023) emphasise that economic resilience is crucial for quality sustainability in education especially during crises.

Technology and climate change appear to be major concerns as well. Unequal access, digital fatigue, and shortage of pedagogical integration drag educational development following after economic and political factors. Climate change is recognised as a disruptive factor as well, from natural disasters to need for climate-responsive educational systems (Hidayati et al., 2025; Prasad, 2025).

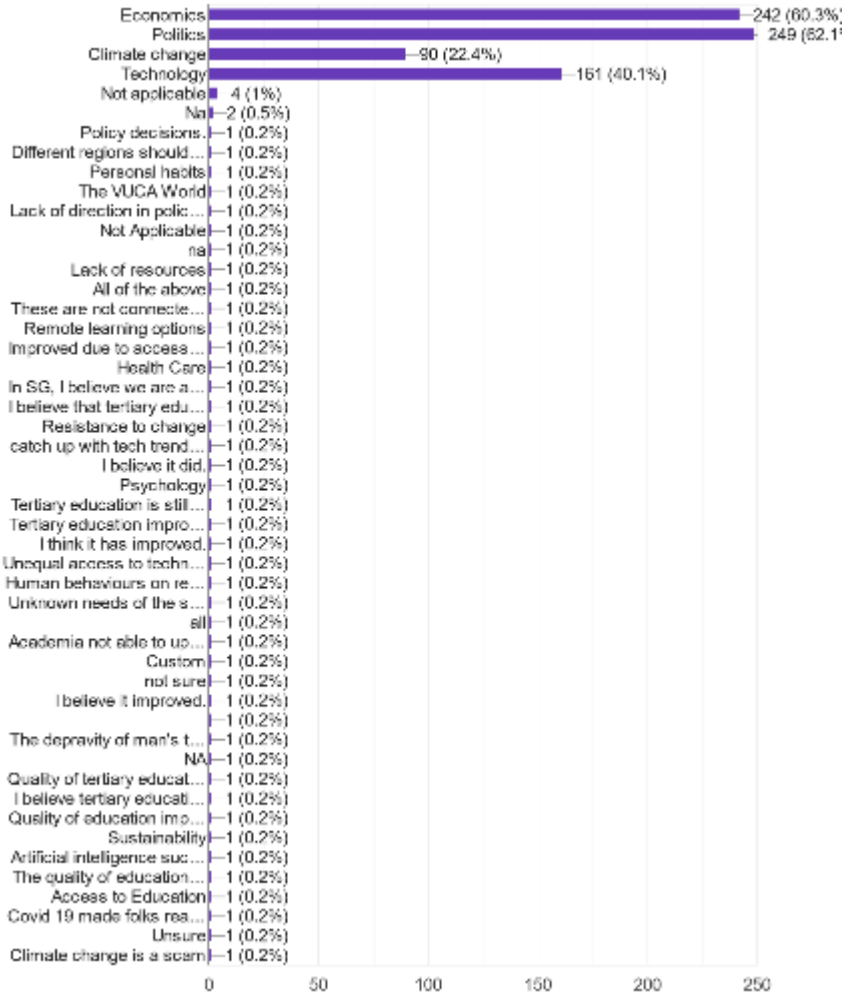


Figure 10. Factors affecting decline in tertiary education quality

*Q11. Technologies used in education and training*

In Question 11, the respondents were asked: "Which of the following technologies have you used when creating education content or used in facilitating learning?" Figure 11, Technologies Used in Education and Training, shows that the respondents conglomerate to presentation applications (84.0%), followed relatively far behind by assessment at 59.4%, then collaboration (48.1%), lesson planning (45.1%), graphic design (34.7%), student response system (28.2%), and authoring at 13.7%. The rest are practically minute from 0.2% to 0.5% each. These include the use of ChatGPT, learning management systems, and virtual conferencing, among many others.

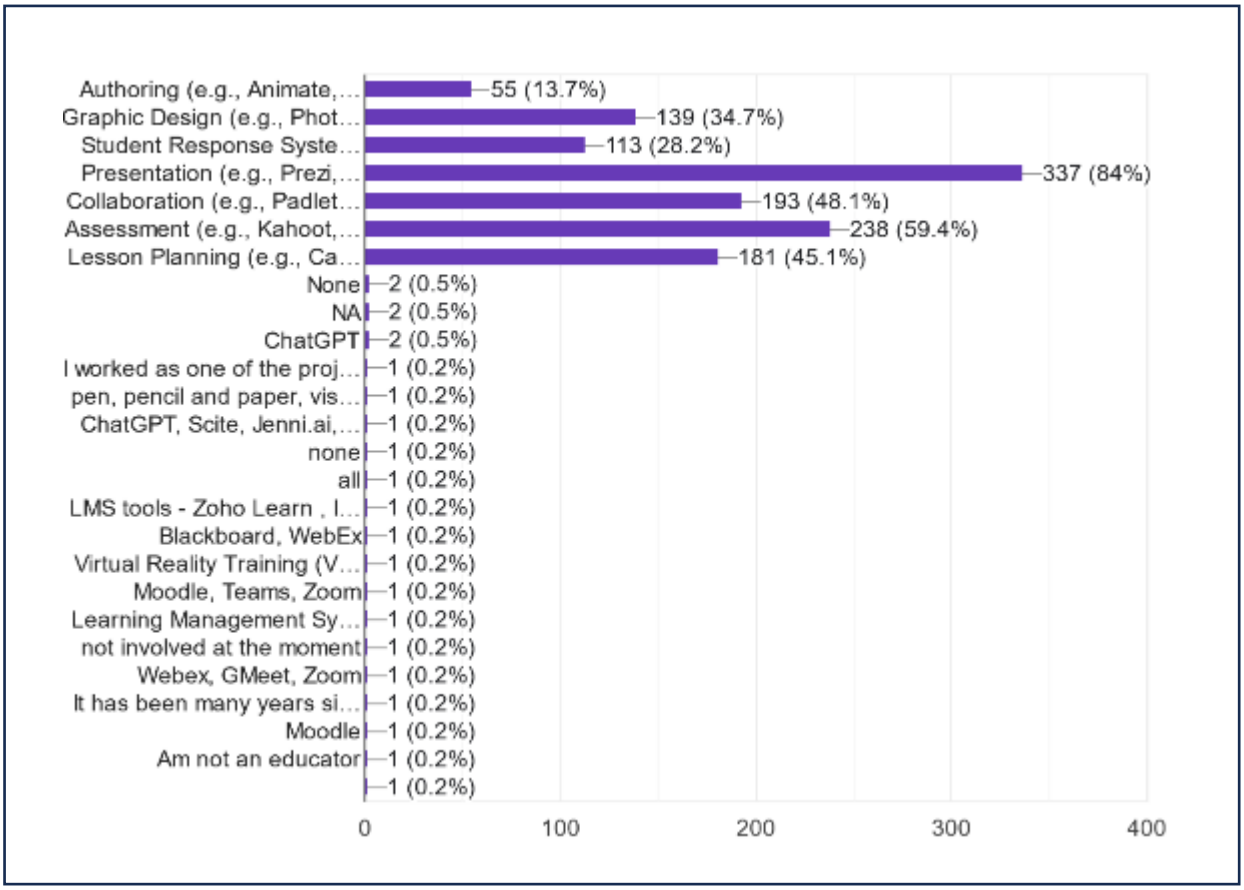


Figure 11. Technologies used in education and training

Presentation and video-based tools in educational content creation and facilitation being the strongest preference among the respondents align with Yuan et al. (2022) who highlight the role of interactive and engaging digital platform in getting and retaining student attention and boosting comprehension in online and mixed-technique learning horizons. Going into details within this section of the set of findings, the use of collaborative tools like Google Docs and Padlet, though not within the top choices, indicates a progression towards student participation and co-creation of knowledge. This aligns with constructivist learning principles supporting Rodgriguez-Barboza et al. (2023).

Noteworthy is the use of ChatGPT that is mentioned among the very least number of times. This provides a peek of the growing integration of artificial intelligence (IA) into educational systems. As Klimova & Pikhart (2025) argue in their study, AI poised to change educational

practices northward, though their adaptation is still at the early stage, at the time of this study.

*Correlation Matrix*

The study includes a correlation matrix to find out the relationship between the variables corresponding to Questions 1 through 9 (Q1 to Q9). Using SPSS, validated by MS Excel, the coded responses yielded the following correlation matrix, Table 3, Correlation Matrix.

Table 3
*Correlation matrix*

| | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 |
|---|---|---|---|---|---|---|---|---|---|
| **Q1** | 1.0000 | | | | | | | | |
| **Q2** | -0.0606 | 1.0000 | | | | | | | |
| **Q3** | -0.0940 | -0.2217 | 1.0000 | | | | | | |
| **Q4** | 0.2813 | -0.1032 | 0.0748 | 1.0000 | | | | | |
| **Q5** | -0.0652 | 0.1424 | -0.1280 | -0.1321 | 1.0000 | | | | |
| **Q6** | 0.0315 | 0.0039 | -0.1256 | -0.0423 | 0.0296 | 1.0000 | | | |
| **Q7** | 0.0038 | 0.0389 | 0.0323 | 0.0487 | -0.0312 | -0.0119 | 1.0000 | | |
| **Q8** | -0.0393 | -0.1432 | 0.1136 | -0.0073 | -0.0054 | -0.0815 | 0.2451 | 1.0000 | |
| **Q9** | 0.0364 | 0.0410 | -0.0142 | 0.0158 | 0.0084 | 0.0341 | -0.3645 | -0.3575 | 1.0000 |

Table 3 indicates that most correlations in the matrix are very weak (absolute value less than 0.2000) which suggest little to no linear relationships between variables with the exceptions of Q7 with Q9 and Q8 with Q9. The yellow-highlighted values show that there is a moderate correlation between Q7 and Q9 as well as Q8 and Q9 which respectively based on the coding legend (Appendix B) provide the information that Q7 – Tertiary education's adaptability in the post-pandemic world – is moderately correlated with Q9 – Tertiary education quality's degree of improvement amidst post-pandemic challenges. In the same way, Q8 – Tertiary education improvement in the post-pandemic work is moderately correlated with Q9 – Tertiary education quality's degree of improvement amidst post-pandemic challenges. In Appendix ___ the p-values of both correlations are at $p < 0.05$ level as such indicating statistical significance. This implies the observed relationships are unlikely to be due to random chance.

*Thematic Analysis*

Following are interpretations and analyses of the responses to the qualitative questions, namely: Question 12 and Question 13.

*Q12. Other problems regarding tertiary education during post-pandemic period*

Question 12 asked: "State what other problems regarding tertiary education emerged during this post-pandemic period." The responses, albeit key themes, that emerged in this open-ended question were: mental health, digital divide, learning loss, engagement and motivation, economic strain, technology challenges, equity and inclusion, teacher burnout, loss of practical learning, and decline in social skills. The implication of this finding is that for education to be sustainable in the midst of crisis challenges occurring during the post-pandemic era, mental health services and emotional resilience should be prioritised, invest in

digital infrastructure and equitable access actions, implement remedial programmes to address learning loss, and overcome the other problems indicated in this section.

*Question 13. Suggestions to improve tertiary education during the pandemic era*
Question 13 asked: "What are your suggestions to help improve tertiary education during this post-pandemic era given all the circumstances of wars, climate change, calamities, the lingering pandemic, nuclear threat, and political conflicts?"

It should be noted that the respondents in this survey, as established in the first questions in the survey, are intellectuals and highly educated professionals, most of whom are in the education and training environment. As such, expert answers to this question item are expected to be unravelled, right from the extremely rich years of experience and immensely knowledgeable individuals.

The respondents emphasised the need for more digital infrastructures to boost the hybrid mode of learning (combined offline and online methods) developed through the pandemic and continues to exist as of this writing. This means investing in digital platforms, ensuring equitable Internet access, and increasing digital literacy, among many others. Many called for modern, student-centred teaching techniques including active learning, collaboration, and interdisciplinary interaction. For assessments and quality improvements, the suggestions that came out include competency-based assessments, e-portfolios, and clear benchmarks for learning outcomes. The respondents also advocated for increase educational funding and making it more affordable for low-income students to enter schools. Governments, industry, and the civil society should work closely to make these happen. There was a firm and loud call for attention to counselling services, stress management programmes, an supportive learning environments. Also, there was an emphasis for hands-on experience, use of case studies in the classrooms, and industry-based assessments. Other suggestions included strengthening of leadership and life skills, further development in the humanities and ethics tracks, and least but not the least, compassion-driven curriculums.

**Content Analysis**
*Word Frequency Table*
Table 4 is the word frequency of the combined qualitative narratives in Question 12 and Question 13. It consists of the frequency distribution of the Top 50 words mentioned in the narrative.

The top two words, "education" (234 counts, 11.7%) and "learning" (233 counts, 11.7%), dominate the results in an overwhelmingly fashion. This indicates that the text data being analysed is significantly centred around the topic of education and the process of learning. These are followed by "Students" (211 counts, 10.6%) indicating that students are also a primary focus. "Online" (149 counts, 7.5%) and "technology" with 78 counts at 3.9% of the total count for the Top 50 words selected. This points to the importance of digital tools and online platforms within the context of education.

Table 4
*Word frequency, top 50 words*

| | Word | Count | Weighted % |
|---|---|---|---|
| 1 | education | 234 | 11.7% |
| 2 | learning | 233 | 11.7% |
| 3 | students | 211 | 10.6% |
| 4 | online | 149 | 7.5% |
| 5 | technology | 78 | 3.9% |
| 6 | digital | 61 | 3.1% |
| 7 | health | 60 | 3.0% |
| 8 | tertiary | 60 | 3.0% |
| 9 | mental | 59 | 3.0% |
| 10 | pandemic | 57 | 2.9% |
| 11 | skills | 54 | 2.7% |
| 12 | quality | 52 | 2.6% |
| 13 | global | 49 | 2.5% |
| 14 | need | 48 | 2.4% |
| 15 | challenges | 46 | 2.3% |
| 16 | curriculum | 43 | 2.2% |
| 17 | institutions | 43 | 2.2% |
| 18 | support | 43 | 2.2% |
| 19 | focus | 42 | 2.1% |
| 20 | access | 39 | 2.0% |
| 21 | change | 39 | 2.0% |
| 22 | teaching | 39 | 2.0% |
| 23 | world | 39 | 2.0% |
| 24 | issues | 38 | 1.9% |
| 25 | many | 38 | 1.9% |
| 26 | also | 4 | 0.2% |
| 27 | face | 4 | 0.2% |
| 28 | lack | 4 | 0.2% |
| 29 | none | 4 | 0.2% |
| 30 | hybrid | 6 | 0.3% |
| 31 | nil | 3 | 0.2% |
| 32 | financial | 9 | 0.5% |
| 33 | content | 7 | 0.4% |
| 34 | due | 3 | 0.2% |
| 35 | well | 4 | 0.2% |
| 36 | must | 4 | 0.2% |
| 37 | student | 7 | 0.4% |
| 38 | internet | 8 | 0.4% |
| 39 | use | 3 | 0.2% |
| 40 | classes | 7 | 0.4% |
| 41 | industry | 8 | 0.4% |
| 42 | make | 4 | 0.2% |
| 43 | social | 6 | 0.3% |
| 44 | resources | 9 | 0.5% |
| 45 | work | 4 | 0.2% |
| 46 | new | 3 | 0.2% |
| 47 | teachers | 8 | 0.4% |
| 48 | development | 11 | 0.6% |
| 49 | post | 4 | 0.2% |
| 50 | practical | 9 | 0.5% |
| Total | | 1997 | 100.0% |

In the overall, the data directly connects the empirical word frequency data to the stated problem statement of this study as much as they imply satisfying the research objectives. As the problem statement highlights the need to validate the conduct of tertiary education in the post-pandemic period, specifically in educational technologies, educational transformation, and educational environmental studies. The presence of “pandemic,” “global,” “health,” and “mental” validates the context of this study, i.e., post-pandemic era with the global crises. “Change” and “curriculum” demonstrate the discussion around educational transformation. Confirming the inclusion of educational environmental studies are “environment” and “environmental.”

While the rest of terms from the problem statement, like “challenges,” “curriculum,” “institutions,” “teaching,” “issues,” and the like, are less frequent, their underlying principles

are captured by broader, more frequent terms like “skills,” “support,” and “change.” The high frequency of words directly related to the research objectives implies that the content is addressing the specified areas, making it strongly relevant for fulfilling such research objectives.

*Word Cloud*

Figure 12, Word Cloud of the Combined Qualitative Texts, processed using NVivo, corroborates the findings from the word frequency table. It underscores visually the text as overwhelmingly focused on education, learning, and students, with emphasis on online, digital, and technology in the context of the post-pandemic period. It also affirms the comments by the respondents around tertiary education, health, mental well-being, skills, quality, global issues, challenges, curriculum, and environmental considerations, aligning perfectly with the problem statement and research objectives as earlier explained.


Figure 12. Word cloud of the combined qualitative texts

*Tree Map*

The tree map, Figure 13, Tree Map of the Combined Qualitative Texts, processed using NVivo, suggests that the discourse revolves heavily around the shift towards online and digital education; ensuring the quality of education and learning as well as developing essential skills; addressing challenges faced by students and institutions. Finally, the tree map highlights the need for adaptation and support within the educational system in the context of global crises during the post-pandemic period.

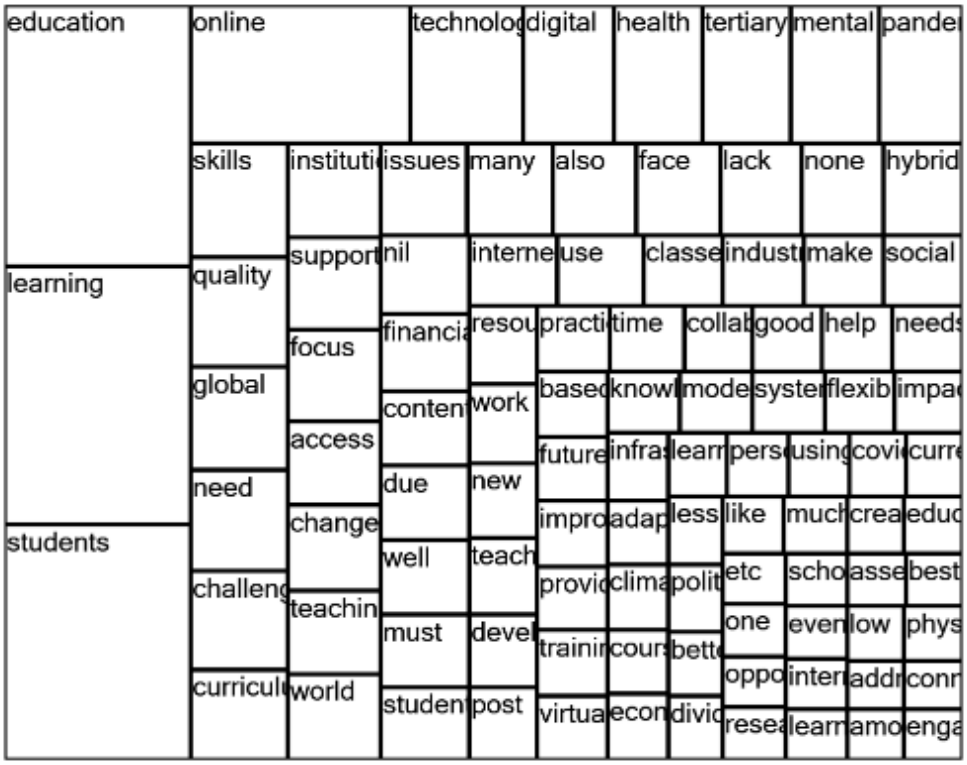


Figure 13. Tree map of the combined qualitative texts

*Sentiment Analysis*

A general tone and focus can be inferred from the qualitative narrative earlier discussed. The overall sentiment is not overly "positive" or "negative" in a simple sense. It, however, reflects a complex and dynamic state of education. The sentiment can be described as concerned yet proactive, with emphasis on addressing the effects of the global crises during pandemic era. It is also inferred that digital transformation and quality enhancement are strongly felt for education institutions to strategically adopt to the future of education, thus, expressing a general optimism among the respondents.

**Conclusion and Recommendations**

The study highlights that tertiary education has made strides in adapting to the post-pandemic world replete with complex global challenges. There are significant gaps that remain to be seen especially in equity, engagement, and systematic responsiveness. The highly educated, digitally proficient respondent profile reflects a move for innovation and concerted demand for positive change in the midst of challenges like political instability, economic upheaval, environmental threats, and mental health concerns. The data emphasises a dire need for education institutions to evolve above and beyond the traditional models and adapt agile, malleable, inclusive, practical, and relevant approaches to remain truly effective in a rapidly changing global horizon.

To confront the challenges, it is recommended that tertiary institutions invest in robust digital infrastructure and pursue equitable access to technology for all learners. Pedagogical innovation must be achieved targeted towards interdisciplinary and student-centred learning. Mental health attention should be incorporated into educational frameworks, and stronger

collaboration with industry is essential to align curriculums with contemporary requirements. Policy reforms at government and society levels should include access to education with affordability, focus on global cooperation, integration of environmental sustainability which are deemed key to building resilience, future-ready, and more sustainable educational paradigms.

*Limitations, sigNificance of the Study, and Further Studies*

It is recognised that this study's context is limited to Asia, as a significant proportion of the respondents come from India and Singapore. As such, the generalisability of the findings to other regions would pose a question. This limitation would hold through to the fact that the cross-section of the respondents are from the education and training environments, limiting the results' applicability to other industries. Lastly, the study's cross-sectional design, data collection at a single point in time does not track the evolution of the outcomes at an extended time period.

This study is significant as a contribution to the body of knowledge through the exploration of tertiary education's adaptation to the post-pandemic, digitized world amidst complex global challenges. It attempts to address existing literature gaps concerning long-term impact of global issues in the context that has been cited. Moreover, it provides some crucial insights that could serve as foundation for institutional policy-making.

For further studies, there is still a gap in existing literature regarding the long-term impact of the pandemic. Thus, a longitudinal study could provide a deeper understanding of the sustained effects and effectiveness of the interventions. Yet another gap in literature and therefore deserves further study concerns specific policies and practices for social equity and justice in post-digital and online education environments. Developing and evaluating community-based frameworks therefore would be ideal to further explore.

**References**

Abbas, A., Ali, M., & Wakili, S. (2024). Effects of Boko Haram insurgency on students' enrolment and performance in North-East Nigeria (a case study of Yobe state). *International Journal of Social Science and Human Research*, 7(05). https://doi.org/10.47191/ijsshr/v7-i05-64

Adam, M., Yalley, C. E., & Poatob, S. (2025). Enhancing employability skills among social studies student-teachers in Ghana: A human capital approach. https://doi.org/10.21203/rs.3.rs-6085271/v1

Alsuhaibani, A., Almotrafi, M., Alossaimi, F., Alhassan, A. B., & Al-Aklabi, M. (2024). Online learning in 280 characters: Analysing public sentiment on online learning during covid-19. *European Conference on Social Media,* 11(1), 32-39. https://doi.org/10.34190/ecsm.11.1.2238

Ahmad, A., & Khan, M. (2025). "The mental health crisis in tertiary education: Analyzing the impacts of Covid-19." *Social Science Review*, 18(1), 47-65.

Ansar, N. & Hashmat, S. (2025). The impact of online political participation on offline political engagement: Examining the moderating role of age. *IJSS,* 3(1), 780-795. https://doi.org/10.59075/ijss.v3i1.837

Anzaldúa, J. M. (2022). Internationalizing trauma-informed perspectives to address student trauma in post-pandemic tertiary education. *Comparative & International Education Series*, 154-171.

Basar, Z. M., Mansor, A. N., Jamaludin, K. A., & Alias, B. S. (2021, June 30). *The effectiveness and challenges of online learning for secondary school students: A case study.* Asian Journal of University Education. https://eric.ed.gov/?id=EJ1309475

Bassi, E. (2025). Are we stepping back? Findings from an Italian study on post-pandemic changes in nursing education. *International Nursing Review,* 72(2). https://doi.org/10.1111/inr.70027

Bertel, L. B., Winther, M., Routhe, H. W., & Kolmos, A. (2022). Framing and facilitating complex problem-solving competences in interdisciplinary megaprojects: An institutional strategy to educate for sustainable development. *International Journal of Sustainability in Higher Education*, *23*(5), 1173-1191.

Burch, A. L., Salas-Provance, M. B., & Kuamo'o, A. (2022). Higher education leaders' framing of organizational decisions during Covid-19. *Journal of Allied Health,* 51(2), 59E-63E.

Davoody, N., Stathakarou, N., Swain, C., & Bonacina, S. (2025). Exploring the impact of the Covid-19 pandemic on learning experience, mental health, adaptability, and resilience among health informatics master's students: Focus group study. *JMIR Medical Education,* 11, e63708. https://doi.org/10.2196/63708

Din, H. and Fee, L. (2021). Malaysian junior voters' perception on the implications of national budget on voting pattern. *International Journal of Academic Research in Business and Social Sciences*, 11(15). https://doi.org/10.6007/ijarbss/v11-i15/10638

Egan, L., Hofmann, R., Stiller, W., & Hoyos-Villegas, V. (2024). Cultivating success: Bridging the gaps in plant breeding training in Australia, Canada, and New Zealand. Crop Science, 64(4), 2081-2094. https://doi.org/10.1002/csc2.21286

Fuad, D. R. S. M., Musa, K., Yusof, M. R., Tazilah, M. D. A. K., Bafadal, I., Juharyanto, J., & Abdullah, A. R. (2025). The systematic literature review for innovative leadership in educational setting. https://doi.org/10.21203/rs.3.rs-6717383/v1

García, J., Sánchez-Porras, D., Etayo-Escanilla, M., Ávila-Fernández, P., Ortiz-Arrabal, O., Martín-Piedra, M., & Alaminos, M. (2025). The impact of Covid-19 pre-university education on first-grade medical students: A performance study of students of a department of histology. *Anatomical Sciences Education,* 18(3), 254-263. https://doi.org/10.1002/ase.2551

Gotlhe, K., Mpuangnan, K., Dick-Sagoe, C., & Roboji, Z. (2024). Leadership practices at public high schools in Gaborone, Botswana. *International Journal of Educational Best Practices*, 8(1), 1. https://doi.org/10.31258/ijebp.v8n1.p1-20

Govindaraju, V., Seruji, Z., & Sin, K. Y. (2023). Teaching approaches and methodologies: A review of post Covid-19. *Hong Kong Journal of Social Sciences,* (61). https://doi.org/10.55463/hkjss.issn.1021-3619.61.22

Heil, J., & Ifenthaler, D. (2023). Online assessment in higher education: A systematic review. *Online Learning*, *27*(1), 187-218.

Hesse, W.-W. S., Miller, L., Smith, T. A., Thomas, K., Boyum, C., Hayden, L., & Makenzie, K. (2020, September 23). *How social emotional learning helps build online and in-person connections for students, teachers*. AZEdNews. Retrieved April 20, 2023, from https://azednews.com/how-social-emotional-learning-helps-build-connections-for-students-teachers/

Hidayati, D.N., Lahunduitan, L.O., & Asmarani, D. (2024). Climate change, education, and technology. Taylor & Francis Online. https://www.tandfonline.com/doi/abs/10.1080/17524032.2025.2474132

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review.* https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Honcharuk, V., Bugaenko, T., Shevchuk, I., Любченко, Н., & Bezlatnia, L. (2024). Educational innovation and digital transformation: Interconnection and prospects for Ukraine. *Futurity Education*, 61-85. https://doi.org/10.57125/fed.2024.06.25.04

Huang, R. (2023). A corpus-assisted discourse study of Chinese university students' perceptions of sustainability. *Frontiers in Psychology,* 14. https://doi.org/10.3389/fpsyg.2023.1124909

Jawad, M., Zubair, S., & Sarir, S. (2021). Assessing the role of concerns about health of mother and child in determining small family size in Khyber Pakhtunkhwa, Pakistan. *Global Sociological Review,* VI(II), 26-32. https://doi.org/10.31703/gsr.2021(vi-ii).04

Karim, A., Chowdhury, T., & Karim, A. (2024). Study on comparative adaption of educational tools in the institute of higher education: Post pandemic perspective. *International Journal of Academic Research in Business and Social Sciences,* 14(1). https://doi.org/10.6007/ijarbss/v14-i1/20461

Kersten, M., Avelar, S., Montgomery, A., Castañeda, D., & Hebert-Beirne, J. (2024). Methodological insights about photovoice as a pedagogical tool from implementation with graduate students as co-researcher-participants. Pedagogy in Health Promotion, 11(2), 120-127. https://doi.org/10.1177/23733799241287205

Klímová, B., & Pikhart, M. (2025). The impact of AI on workplace dynamics: Opportunities and challenges. *Journal of Technology and Employment*.

Li, C., Wang, S., Ren, Q., He, T., & Chen, X. (2020). An outbreak of visceral white nodules disease caused by pseudomonas plecoglossicida at a water temperature of 12°c in cultured large yellow croaker (larimichthys crocea) in China. *Journal of Fish Diseases,* 43(11), 1353-1361. https://doi.org/10.1111/jfd.13206

Liu, W., Wei, H., Wang, C., & Hua, Z. (2024). Resilience and adaptation: A mixed-methods exploration of Covid-19's influence on neonatal residency education in China. *BMC Medical Education*, 24(1). https://doi.org/10.1186/s12909-024-05638-1

Lucey, C. & Wingrove, J. (2025). Trump's new tariff threats show trade uncertainty here to stay. *The Economic Times.* https://economictimes.indiatimes.com/news/international/global-trends/trumps-new-tariff-threats-show-trade-uncertainty-here-to-stay/articleshow/121381587.cms?from=mdr

Mapuya, M. P. (2023). Exploring social justice issues that inform the 21st-Century curriculum in higher education: Lecturers' voices and experiences. *Research in Educational Policy and Management*, *5*(3), 108-127.

Masangcay, I., Parungo, J., & Cruz, S. (2024). Improving the cardiovascular endurance of teacher education students through the utilization of the Tiktok application. *International Journal of Multidisciplinary Applied Business and Education Research,* 5(4), 1374-1383. https://doi.org/10.11594/ijmaber.05.04.21

Mirando, U. & Wanninayake, W. (2023). The mediating effect of brand trust on the relationship between experiential marketing and brand loyalty: With special reference

to retail industry of Sri Lanka. *Sri Lanka Journal of Management Studies*, 5(1). https://doi.org/10.4038/sljms.v5i1.105

Mok, K., Shen, W., & Gu, F. (2024). The impact of geopolitics on international student mobility: The Chinese students' perspective. *Higher Education Quarterly,* 78(4). https://doi.org/10.1111/hequ.12509

Morais, P., Ferreira, M. J., & Veloso, B. (2021). Improving student engagement with project-based learning: A case study in software engineering. *IEEE Explore.* https://ieeexplore.ieee.org/abstract/document/9328311/authors#authors

Mujakachi, T. and Tsvere, M. (2023). A study on externally driven costs for road freight transportation in Zimbabwe. *International Journal of Supply Chain Management,* 12(3), 12-17. https://doi.org/10.59160/ijscm.v12i3.6180

Olaoluwa, K., Aruya, E., & Yusuf, R. (2024). Performance measures of rural development strategies in Ifelodun local government area of Kwara State. *FUDJEES,* 1(01), 31-45. https://doi.org/10.33003/jees.2024.0101/03

Oranga, J. & Matere, A. (2022). Post Covid-19 education strategies: Envisaging learning in a post Covid-19 pandemic world. *Research Journal in Advanced Social Sciences,* 3(2), 67-75. https://doi.org/10.58256/rjass.v3i2.907

Parey, B. and Kutscher, E. L. (2023). Operationalizing and expanding the rigorous mixed methods framework for systematic reviews: The case of inclusive education. *Journal of Mixed Methods Research,* 18(2), 147-164. https://doi.org/10.1177/15586898231175192

Phan, Q., Chance-Revels, R., Clark-Youngblood, M., Baker, H., & Kimble, L. P. (2025). Integrating disease investigation escape room and preparedness simulation into nursing education. *Disaster Medicine and Public Health Preparedness,* 19. https://doi.org/10.1017/dmp.2025.28

Prasad, R.R. (2025). Climate change education. *Springer Nature Link.* https://link.springer.com/chapter/10.1007/978-3-031-76436-3_3

Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2021). Balancing technology, pedagogy and the new normal: Post-pandemic challenges for higher education. *Postdigital Science and Education*, *3*(3), 715-742.

Reshma, T., Vaddiraju, S., & Savitha, C. (2024). An appraisal of National Education Policy 2020 of India for higher education. *NTTECONF*, 1(1), 22-31. https://doi.org/10.33422/ntteconf.v1i1.559

Rinekso, A. B., Muslim, A. B., & Lesagia, O. (2021). Teaching online in pandemic time: The experience of Indonesian EFL teachers. *ETERNAL (English, Teaching, Learning, and Research Journal),* 7(1), 117. https://doi.org/10.24252/eternal.v71.2021.a9

Rodriguez-Barboza, J. R., Aguirre, F. d. M. S., Díaz, E. M. A., Vásquez-Pajuelo, L., Goigochea-Parks, D.I., & Alcaide-Aranda, L.I.d.C. (2023). Psychological well-being and technostress: Challenges in health and job performance among English teachers. *Salud, Ciencia Y Tecnología,* 3, 618. https://doi.org/10.56294/saludcyt2023618

Santos, J.L. G.d., Escalante-Barrios, E.L., Creamer, E.G., & Onwuegbuzie, A.J. (2020). Mixed methods research in Latin America: Initiatives and opportunities for expansion. *Texto & Contexto - Enfermagem,* 29. https://doi.org/10.1590/1980-265x-tce-2020-0001-0001

Saputri, K. D. & Puspitasari, K. A. (2024). Increasing student interest and learning outcomes through the discovery learning model on subject human respiratory system. *Co-Catalyst: Journal of Science Education Research and Theories,* 1(2), 1-8. https://doi.org/10.33830/cocatalyst.v1i2.7491

Scheffran, J. (2023). Limits to the anthropocene: Geopolitical conflict or cooperative governance? *Frontiers in Political Science*, 5. https://doi.org/10.3389/fpos.2023.1190610

Sebele-Mpofu, F. Y. (2021, July 16). The sampling conundrum in qualitative research: Saturation help alleviate the controversy and alleged subjectivity in sampling. *Zimbabwe: National University of Science and Technology.*

Sheng, C. C., Airin, K., Abu, F., & Shahbudin, F. E. (2023). Impact of the Covid-19 pandemic on Malaysian and Indonesian educators in tertiary institutions. *International Journal of Evaluation and Research in Education (IJERE)*, *12*(1), 403-411.

Shetty., S. and Samuel, A. (2024). Patients' experiences, satisfaction and quality of life with physiotherapy follow-up after total knee arthroplasty: A phenomenological qualitative study protocol. *Musculoskeletal Care*, 22(4). https://doi.org/10.1002/msc.1948

Silveira, J., Loureiro, P., Amorim, B., Dobrachinski, M., & Dobrachinski, L. (2024). Changes in the educational scenario post pandemic: The challenges of teachers and students in medical training. *International Journal of Human Sciences Research*, 4(4), 2-15. https://doi.org/10.22533/at.ed.558442430018

Smiddy, M., Burton, E., Kingston, L., Poovelikunnel, T., Moyo, M., & FLORES, A. (2024). Identifying research priorities for infection prevention and control: A mixed methods study with a convergent design. *Journal of Infection Prevention*, 25(3), 59-65. https://doi.org/10.1177/17571774241230676

Smythe, S., Wilbur, A., & Hunter, E. M. (2021). Inventive pedagogies and social solidarity: The work of community-based adult educators during Covid-19 in British Columbia, Canada. *International Review of Education*, 67(1-2), 9-29. https://doi.org/10.1007/s11159-021-09882-1

Taha, M., Husain, N., Mukhtar, W., & Abdalla, M. (2023). Consolidating medical education in Sudan during war. *Sudan Journal of Medical Sciences*, 18(3), 402-412. https://doi.org/10.18502/sjms.v18i3.14093

Thahir, M., Widiawati, W., & Baitillah, N. (2023). The post pandemic education: A blended learning approach for teaching and learning in higher education in new normal era. *International Journal of Ethno-Sciences and Education Research*, *3*(3), 99-108.

Udju, L. O., Setia, Y., & Lin, I. M. (2024). Strategy for teachers to support self-regulation for student learning process in post-pandemic learning. *Aletheia Christian Educators Journal,* 5(1), 17-24. https://doi.org/10.9744/aletheia.5.1.17-24

Užule, K., Gobniece, Z., & Titko, J. (2024). Digital transformation of economies through technology, education and competences. *Problems of Education in the 21st Century*, 82(5), 758-774. https://doi.org/10.33225/pec/24.82.758

Yu, J. (2023). What has Covid-19 taught us: Advancing Chinese international student-related research, policies, and practices through critical race perspectives. *Teachers College Record,* 125(6), 110-118. https://doi.org/10.1177/01614681231190165

Yuan, T., Ji, S., & Zhong, G. (2022). *The exploration of the future teaching mode in post-pandemic higher education.* Proceedings of the 7th International Conference on Distance Education and Learning, 222-227. https://doi.org/10.1145/3543321.3543358