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ICT Integration in Learning: Perceptions of BICTE Students from Nepal

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Abstract

The objective of this research is to explore BICTE student perceptions about using technology as an integrative tool into their education at all campuses of Tribhuvan University located throughout the country of Nepal. Using the Descriptive Survey Design following a positivist paradigm, this research utilized the TPACK framework as its conceptual model. Data collection was accomplished using a structured questionnaire (Likert Scale) delivered online via Google Forms. The study included a sample of 105 BICTE students from 20 different campuses that provided data through completed questionnaires using stratified random sampling. Based on the results, BICTE students were found to demonstrate a high degree of digital self-efficacy through consistent use of personal technology (devices and software) while completing their work. BICTE students believe that the use of information and communication technology (ICT) has had a positive impact on their ability to perform well academically, comprehend course content, participate in academic activities, and prepare for employment after graduation. Additionally, students expressed a high degree of confidence in their ability to use digital tools and a favourable attitude toward learning through ICT-based learning. Although, the most respondents reported that their institutions have not established infrastructure for supporting the use of ICT, provided reliable wireless (Internet) access on all campuses, and provided appropriate technical assistance to ensure success with using ICT. On the other hand, faculty's ICT integration in teaching process is viewed as adequate but not innovative. Thus, the study highlights a significant gap between students' readiness and institutional provisions required for the ICT integration in

teaching learning process. There is a dire need to upgrade ICT facilities, enhancing technical support, strengthening faculty training in digital pedagogy, and standardizing ICT to fully equip BICTE graduates as technology-savvy future educators.

Key words: ICT; BICTE; Perception; Learning; Technology

Introduction

Background of the Study

In recent years, higher education institutions have focused on integration of information and communication technology (ICT) in education aiming to modernize learning environments to prepare students for the demands of the 21st century. Ghavifekr and Rosdy (2015) view that ICT allows people to access and share information, knowledge, and skills in diverse form through computers, software, networks, and related systems. The higher education institutions are growing their interest in the integration of technologies into classrooms assuming a wide spectrum of valuable benefits for teaching and learning (Naidu *et al.*, 2002). In this context, ICT integration in education refers to the efficient and significant use of digital tools such as computers, smart phones, projectors, smart boards, learning management systems, and any other internet-based resources within the teaching and learning process (Mishra *et al.*, 2006). The use of ICT tools in education comprises more than the occasional usages of technology in classrooms and beyond for the purpose of teaching and learning. This implies systematic, pedagogically aligned, and intentional adoption of ICT to increase learning outcomes, engagement, and access (Tinio, 2003) among learners and educators.

The use of ICT tools in the classroom can help create a flexible, learner-centered learning environment where students have the opportunity to actively explore, collaborate and create their own knowledge. According to Buabeng-Andoh (2012), the successful integration of ICT into classrooms is dependent on many factors including access to ICT infrastructure, digital literacy of teachers and students, institutional support for ICT and educators' willingness to adjust to technology-enhanced instruction in the teaching and learning process.

Integration of ICT tools can play a crucial role in promoting flexible, learner-centered atmosphere in classrooms and beyond where students have chances to explore, collaborate, and construct knowledge actively. Moreover, Buabeng-Andoh (2012) claims that successful integration of ICT in classrooms depends on some factors such as access to infrastructure, digital literacy among teachers and students, institutional

support, and the willingness of educators to adapt to technology-enhanced instruction in teaching learning process. Pelgrum (2001) further argues under-resourced educational settings experience the barriers in the use of ICT lacking sufficient technological support, training, and recourses.

Ministry of Education in Nepal supports and promotes digital learning through various policies in regions, institutions and subjects such as education and the BICTE programme at the oldest and largest university in Nepal (Tribhuan University) which aims to provide teachers with skills to use technology for teaching/learning through the use of technology. Tribhuvan University has approved 25 higher education institutions offering the BICTE Programme. These students will form the future of education and also form future leaders in ICT. They will have experienced both the benefits and challenges of ICT friendly/digital education.

In Nepal, the BICTE program (Bachelor of Information Communication Technology in Education) has been a key initiative for establishing technology-based educational programmes in the Faculty of Education. Across the 25 campuses of Tribhuvan University, students will be using ICT-rich materials and learning environments, as part of their BICTE experiences. The programme has an explicit focus on incorporating the use of digital tools into the curriculum, as well as in the classroom by way of resources and practices. However, as witnesses (researchers as the student and the teacher), we have experienced the actual uses of the resources that differ significantly across campuses due to factors like infrastructure availability, internet connectivity, administrative readiness, and instructor trainings.

As the course instructor and the learner, we have witnessed that many campuses which run the program have incorporated ICT tools to support lessons, while other campuses use them only occasionally or not at all, particularly in rural or under-resourced areas. That has resulted limited exposure of the students to the practical integration of ICT in their teaching learning process. Although there is a dire need of engagement of students with ICT tools for fostering independent learning and access to information in BICTE program that prepares future ICT educators there is no systematic understanding of how students perceive its integration at a national level.

Therefore, this study aims to explore BICTE students' perceptions regarding how well ICT is being integrated into their learning experiences across campuses in Nepal. Thus, this study aims identify differences in perception, highlight potential gaps in usage, and provide insights that can guide improvements in ICT-supported pedagogy within the BICTE program in Nepal under Tribhuvan university.

Research Question(s):

i. What are BICTE students' perceptions regarding ICT integration in the learning process across campuses in Nepal?

Review of Related Literature

This chapter illustrates the existing literature and research related to the present study for finding out what has been already studied and how those research works become helpful to the present study. This section consists of the review of the theoretical literature and review of the empirical literature, implications of the review for the study, and conceptual framework.

Review of Related theoretical Literature

The review of related theoretical literature provides the conceptual foundation upon which the present study is built. This section examines the major theories, models, and conceptual perspectives that inform the variables, relationships, and assumptions guiding the research. By situating the study within established theoretical traditions, the review not only clarifies how the phenomenon under investigation has been understood by scholars, but also identifies the theoretical lens through which this study interprets and analyzes its findings.

Technological Pedagogical Content Knowledge

Mishra and Koehler (2006) developed the technological pedagogical content knowledge (TPACK) framework. According to the TPACK framework (figure 2.1), Mishra and Koehler posit that a teacher depends on three domains of knowledge for effective integration of ICT into teaching and learning (IITL). The domains are content knowledge (CK), pedagogical knowledge (PK) and technological knowledge (TK). Mishra and Kohler (2006) define CK as knowledge about the actual subject matter that is to be learned or taught. Mishra and Koehler observed that a teacher must know and understand the subject that he/ she teaches, including knowledge of central facts, concepts, theories, and procedures if the teacher is to integrate technology in teaching.

Pedagogical knowledge is the deep knowledge about the processes or methods of teaching and learning (Ferdig, 2006; Mishra & Koehler, 2006). They argued that a teacher with deep PK is likely to integrate technology in his or her teaching considering how students can best learn in each classroom context and nature of learners. Mishra and Kohler (2006) define TK as knowledge about standard technologies, such as books, chalkboard, and more advanced technologies such as the internet and digital video and knowledge of operation to those technologies. They asserted that a teacher with TK has a

good knowledge of operating system and computer hardware, the ability to use standard sets of software tools (*e.g.*, word processors, spreadsheets, browsers, e-mail), and skills to install and remove peripheral devices and programmes, create and archive documents among others.

Mishra and Kohler (2006) suggest observing the interaction of these three knowledge domains; CK, PK and TK and gives rise to three paired knowledge domains namely pedagogical content knowledge (PCK), technological content knowledge (TCK), and technological pedagogical knowledge (TPK). Mishra and Kohler define PCK as the knowledge of pedagogy that is applicable to the teaching of specific content such as knowing what teaching approaches fit content, and likewise, knowing how elements of the content can be arranged for better teaching. Further, Ferdig (2006) defines TCK as the knowledge about the way technology and content are reciprocally related. They further assert that a teacher needs to know not just the subject matter they teach but also the way the subject matter can be changed by the application of technology.

TPK is considered as a knowledge of the existence, components, and capabilities of various technologies as they are used in teaching and learning settings and conversely, knowing how teaching might change as the result of using technology. TPACK is the intersection of all the three bodies of knowledge (Chai *et al.*, 2013; Mishra & Kohler, 2006). Mishra and Kohler (2006) further argue that the development of TPACK by teachers is central for effective teaching with technology because understanding TPACK is above and beyond understanding technology, content, or pedagogy in isolation, but rather how these forms of knowledge interact with each other.

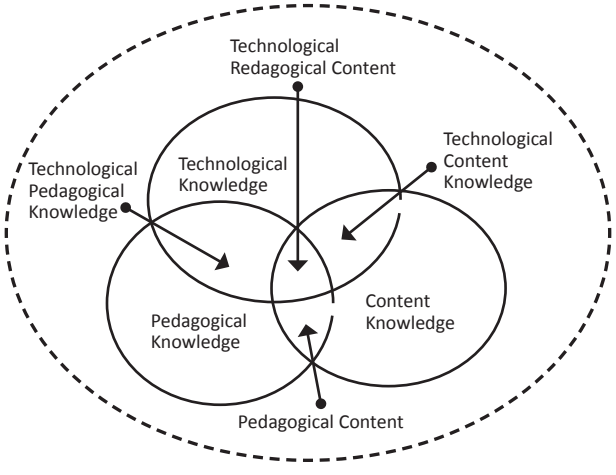

Figure 1: *The TPACK framework*

Source: *Adopted from Mishra & Koehler (2006), p. 1025)*

Review of Empirical Literature

This section attempts to review the related studies, articles, reports, and dissertations. Some research studies have been reviewed here to facilitate this research work.

Pelgrum (2001) conducted a global survey using a standardized questionnaire and through this process he was able to document many obstacles to integrating information and communication technologies (ICTs) in 26 nations. The survey identified four principal barriers to ICT integration: 1) an absence of a dependable infrastructure, 2) inadequate training of educators, 3) inadequate hardware and software resources, and 4) insufficient institutional support. His results progressed towards establishing a benchmark for measuring the perceptions of how well technology is utilized in education through assessments of technological capabilities and overall institutional readiness. In a similar issue, Savery (2002) carried out a large-scale survey to compare faculty and student perceptions of ICT integration in an educational campus. The study purposes to find out strategic planning and accreditation efforts concerning technology use in educational instruction. The researcher used the structured set of questionnaires for 2411 students and took interviews with 41 faculty members. Total population included full-time faculty and all enrolled students in the campus. Results of the study showed a disparity between faculty self-reports of frequent ICT use and student perceptions. The findings suggest a significant gap in how instructional technology is perceived and experienced.

Tagoe (2012) conducted a study applying the Technology Acceptance Model (TAM) to find out the perceptions of students towards integration of ICT in higher education at the University of Ghana. The study collected data through a set of structured questionnaires based on TAM. The questionnaire helped to assess how students' beliefs about usefulness of ICT tools affected their learning engagement. Buabeng-Andoh (2012) undertook a systematic literature review to identify significant factors affecting teacher ICT acceptance and integration in education. Due to being an in-depth literature review, this study did not employ primary data. The research used the random sampling technique. The study found that the usefulness of ICT and its ease of use play a significant role in students' attitudes. Consequently, this strengthens the usability of TAM in education.

Tristiana and Rosyida (2018) investigated the perceptions of fifth-semester students from the English Department at STKIP Muhammadiyah Pringsewu, Lampung, regarding the integration of ICT in a TEFL methodology class. Using questionnaires, in-depth

interviews, and classroom observations, the study involved 30 purposively selected participants. The findings revealed that students had a highly positive perception of ICT, reporting increased motivation, improved resource access, and enhanced engagement in the classrooms. However, they also highlighted limitations such as internet instability and over-dependence on technology.

Alkaromah *et al.* (2020) conducted a similar research using a qualitative case study method exploring the perceptions of three senior high school students in Surakarta regarding the use of web-based (*e.g.*, Schoology, email, WhatsApp) and non-web-based (*e.g.*, PowerPoint, films, language labs) ICT tools in EFL classrooms, collecting data through semi-structured interviews and analyzing it with Miles and Huberman's interactive model, and found that students had positive perceptions of ICT as effective and time-saving, though mostly used at a basic enhancement level, with a noted need for teacher guidance.

Implication of the Review for the Study

The review of both theoretical and empirical literature provides several key implications for the present study on ICT integration in learning and BICTE students' perceptions. First, the TPACK framework emphasizes the critical interaction between technological, pedagogical, and content knowledge, highlighting that effective ICT integration depends not only on students' technical skills but also on how technology is applied in alignment with teaching strategies and subject content. This implies that TPAC lens can provide a comprehensive understanding of students' readiness, engagement, and in ICT-supported learning environments through their perceptions.

Research in the field further underscores the significance of contextual and systemic factors. The factors such as inadequate infrastructure, limited access to hardware/ software, and insufficient institutional support are the barriers in providing broader context for ICT related program (Pelgrum, 2001; Buabeng-Andoh, 2012) at higher education level. The studies indicate that BICTE students' perceptions may be influenced by these broader environmental constraints. On this backdrop, Savery (2002) sees a gap between faculty-reported ICT use and student experiences, emphasizing the need to directly explore students' views to assess the real impact of technology in teaching and learning.

Empirical evidence demonstrates that students' perceptions of ICT particularly regarding its usefulness, ease of use, and ability to enhance motivation and engagement significantly affect their learning outcomes (Tagoe, 2012; Tristiana & Rosyida, 2018;

Alkaromah *et al.*, 2020). Their studies also note further challenges such as internet instability, over-reliance on technology, and the necessity of teacher guidance, suggesting that both opportunities and limitations must be considered when evaluating ICT integration.

Conceptual Framework

We have adopted TPACK framework that explains technology, pedagogy, and content to support effective learning. In this study, we adapted this framework to understand students' perceptions of ICT integration in their learning. However, it is commonly used to assess teachers' ICT competencies.

Perceptions of students are shaped by their experiences with the technological tools used in classes. This is also affected by the way teachers apply ICT in teaching, and how well ICT aligns with the course content. The domains of application of the teachers and alignment of ICT to the courses influence how students evaluate the usefulness, ease of use, relevance, and overall effectiveness of ICT in the BICTE program.

Therefore, in this study, the conceptual framework assumes that technological factors, pedagogical practices, and content-related suitability of ICT collectively influence BICTE students' perceptions of ICT integration across Tribhuvan University campuses of Nepal.

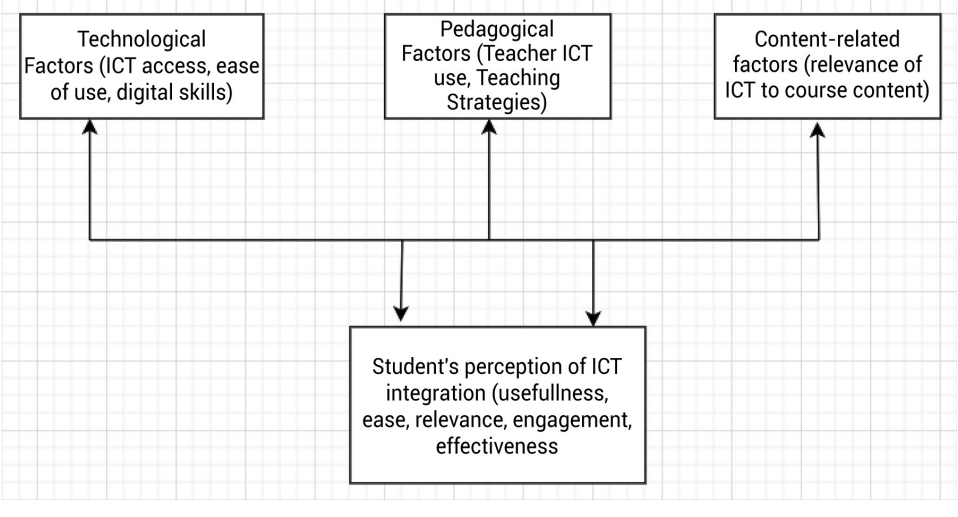

Figure 2: *Visual Representation of the Conceptual Framework (Grounded in the TPACK Framework)*

Methodology

Design of the Study

We used a qualitative research approach using a descriptive survey design in this study. We considered the descriptive survey appropriate because it allows for systematic collection and analysis of data from a large student population. It is helpful to provide insight into pattern, variations, and trends in experiences with ICT-supported learning. We used a structured questionnaire as the tool of data collection covering a large sample population from higher education institutions of Nepal (Adhikari & Pandey, 2025). We developed the questionnaire based on TPACK framework to ensure alignment with technological, pedagogical, and content-related aspects of ICT integration. We administered the questionnaire using digital platform (Moore, 2022) to participate conveniently from different colleges across Nepal. Through descriptive survey, the study aimed to quantify students' perceptions, identity areas of strengths and challenges in ICT integration.

Population, Sample and Sampling Strategy

Population of the study covers students from bachelor-level enrolled in the BICTE program under Tribhuvan University, Nepal. We approached to all 25 college students to cover as the population in order to ensure wider representations. We employed a stratified random sampling procedure with participating colleges from respective province treated as a stratum. From seven provinces, we made strata representing each province. We selected the sample randomly from each stratum to ensure representation form different colleges. We did not have a pre-arranged plan to select specific respondents for the sample; instead, students from different campuses who were readily accessible through social media platforms and email were selected (Adhikari & Pandey, 2025).

We successfully collected data from 20 colleges across all the provinces of Nepal. We approached more than 160 students to collect data. However, 105 students duly participated in responding the questionnaire. While the sample does not cover all colleges in the program, it offers sufficient variability to analyze trends, patterns, and insights regarding students' experiences and perceptions with the ICT-supported education program in Nepal.

Data Collection Tools and Techniques

The objective was to successfully capture student attitudes, perceptions and experiences of the use of ICT in a fairly systematic and generalizable way on a five-point Likert scale. We created a close-ended questionnaire set with an awareness of studies reviewed and also on account of varied pedagogical, technological and content features known for ICT integration. We reached respondents effectively using an online questionnaire offered through Google Form via emails and social media.

Data Collection Procedures

To ensure ethical conduct and smooth administration of the survey, we put in place a system. To begin with, we received permission from college authorities. We used Google forms sharing through various media such as official college communication, class representatives and student groups in order to reach wider across the participating institutions (Adhikari, 2024). With the help of these online responses, the survey administrators did not face the logistic hassle of travelling to different provinces and thereby our data collection was successful.

Data Analysis Procedures

Data were received, cleaned, and exported into SPSS. The data was analysed using descriptive statistics – frequency, percentage, mean and standard deviation. These statistics were used to present a general overview of the respondents' attitudes, experiences, and levels of agreement on items in the questionnaire. Our findings were systematically arranged in tables and presented through charts and bar graphs for better understanding. Through this medium, we presented results in a clear, systematic, and visually accessible way.

Ethical Consideration

This study has considered ethical standards at every phase of the research process. Prior to collecting data, we acquired the consent of the appropriate college authorities. Participation in the study was completely voluntary as no respondent was forced or pressured to take part in the study. All study participants were made aware of the aims of the study, the process of the study and the nature of the data being collected. No personally identifiable information was collected. We store the data securely to prevent unauthorized access.

Result and Discussion

This chapter covers the presentation of results, analysis, and discussion of the data to find out the perceptions of BICTE students regarding ICT integration in their learning. We organized the findings into three thematic sections relating to the aspects of the research objective: perceptions of ICT access and infrastructure, the perceived effectiveness of ICT in learning, and students' attitudinal perspectives towards ICT. We have presented the results through descriptive statistics (mean, standard deviation) derived from the survey, as displayed in a series of tables.

Table 1: *Perceptions of BICTE Students on ICT Usage in Learning*

S.N.	Statements	Mean	Std. Deviation
1	My BICTE program has sufficient computers and projectors available in classes	3.61	1.189
2	The internet connection at my campus is reliable for using ICT tools.	3.13	1.127
3	Technical support for ICT tools is available when needed.	3.10	1.205
4	My campus's ICT infrastructures meet my needs for learning tasks	3.28	1.096
5	I have a reliable access to my personal devices (*e.g.*, laptop, smartphone) for learning.	4.18	.998
6	I can access the internet beyond campus premises (*e.g* at home) for my learning purpose.	3.99	1.139
7	I have regular access to ICT tools (*e.g.*, smartphones, Microsoft Office) for doing homework and assignments.	4.23	.963
8	I can use my own devices to participate in ICT-based learning activities.	4.28	.946
9	I have access to necessary software (*e.g.*, Microsoft Office, browsers) for my studies.	4.26	1.000
10	My teachers are skillful at using ICT tools (*e.g.*, PowerPoint, Zoom, programming software) to deliver course content.	3.84	1.102
11	My teachers use ICT tools (*e.g.*, videos, online platforms) to make lessons more interactive and aligned with course content.	3.57	1.073
12	My instructors provide clear guidance on using ICT tools for learning.	3.58	1.108
13	I have access to BICTE-specific software (*e.g.*, Java, Web Development Tools, Moodle) for my coursework.	3.64	1.093
14	My teachers have confidence in handling ICT-related challenges in class.	3.68	1.014

This table 1 indicates that BICTE students generally hold a positive perception of ICT usage in their learning, though the adequacy of institutional ICT infrastructure shows moderate satisfaction. The students reported relatively high agreement regarding personal access to ICT tools, with the highest mean scores seen in their ability to use their own devices for learning activities (M = 4.28), regular access to ICT tools for assignments (M = 4.23), and availability of necessary software (M = 4.26). They also expressed strong reliability of personal devices for learning (M = 4.18) and good internet access outside campus (M = 3.99). In contrast, perceptions of campus-provided ICT support and infrastructure were more neutral, including the reliability of campus internet (M = 3.13), availability of technical support (M = 3.10), and adequacy of ICT infrastructure (M = 3.28). Students rated their teachers' ICT skills and integration of ICT in teaching moderately positively, with means ranging from 3.57 to 3.84. Overall, the findings indicate that while students themselves are well-equipped for ICT-based learning, institutional ICT facilities and support systems remain areas needing improvement.

Table 2: *Perceptions of BICTE Students on Perceived Effectiveness of ICT Integration*

S.N.	Statements	Mean	St. Deviation
1	ICT tools help me understand course contents more effectively.	4.03	.945
2	Using ICT improves my ability to complete assignments successfully.	4.09	.845
3	ICT tools make it easier to access relevant learning materials.	4.07	.869
4	ICT enhances my overall academic performance in terms of assignments, project works and tests.	4.09	.867
5	ICT tools facilitate learning complex contents of my courses.	4.02	.877
6	Using ICT supports achieving my learning goals.	4.04	.929
7	ICT tools in my classes are user-friendly and easy to navigate	3.69	.934
8	I can quickly adapt to new ICT tools (*e.g.*, software, apps)	3.84	.921
9	ICT tools help me understand how to integrate technology into teaching as a future educator.	4.01	.838

This table 2 shows that BICTE students perceive the integration of ICT in their learning as highly effective, with all mean scores falling between "agree" and "strongly agree". The students strongly believe that ICT enhances their academic tasks, as reflected in high mean ratings for improving assignment completion (M = 4.09), boosting overall academic performance (M = 4.09), and making it easier to access learning materials (M = 4.07). They also agree that ICT tools support their learning goals (M = 4.04), help

them understand course content more effectively (M = 4.03), and facilitate learning complex concepts (M = 4.02). While perceptions remain positive, slightly lower means were recorded for user-friendliness of ICT tools (M = 3.69) and adaptability to new tools (M = 3.84), suggesting some rooms for improvement in ease of use. Additionally, students expressed confidence that ICT tools help them learn how to integrate technology into their future teaching practice (M = 4.01). Overall, the findings indicate a strong positive perception of the effectiveness of ICT integration in supporting students' learning and academic success.

Table 3: *Attitudinal Perspectives Toward ICT Integration*

S.N.	Statements	Mean	Std. Deviation
1	I am skillful at using computers for academic tasks (*e.g.*, research, assignments, presentations, projects).	4.13	.833
2	I can effectively navigate online learning platforms (*e.g.*, Moodle, Google Classroom).	4.05	.859
3	I know how to use software tools (*e.g.*, word processors, spreadsheets) for my studies.	3.98	.877
4	I feel confident troubleshooting basic technical issues with ICT tools.	3.84	.900
5	I can find and evaluate online resources for my coursework.	4.06	.795
6	I feel motivated when ICT tools are used in class.	4.12	.874
7	ICT tools encourage me to participate actively in classroom activities.	4.12	.851

Table 3 provides the information that the respondents hold highly positive attitudinal perspectives towards ICT integration, with all mean scores placed between “agree” and “strongly agree”. The respondents stated a strong confidence in their ICT-related capacities, embracing abilities in handling computers for academic tasks (M = 4.13), effective course plotting of online learning platforms (M = 4.05), and competence in finding and assessing online resources (M = 4.06). In terms of proficiency in using necessary software tools, it received a promising mean score (M = 3.98). The respondents' confidence in troubleshooting basic technical issues is slightly lower, (M = 3.84), still reflects a generally positive self-assessment. High level motivation is expressed by the respondents when ICT tools are used in classrooms (M=4.12). The respondents felt encouraged to engage actively in learning activities through ICT integration (M = 4.12). Overall, these results indicate that the respondents not only possess strong ICT skills but also exhibit a highly positive attitude towards incorporating ICT into their learning procedures.

Discussions

The results of this study show a clear gap between the high digital readiness of BICTE students and the moderate support they get from their institutions. This finding is similar to many earlier studies about ICT use in education. It also adds some new understandings. In this discussion, the results are compared with previous research to see common patterns and some ongoing problems.

The students show strong confidence in using digital tools. They have positive views towards use of ICT in their learning which is similar to the view of Torres-Gastelú and Kiss (2016). This also aligns to the studies by Tristiana and Rosyida (2018) and Alkaromah *et al.* (2020). Their studies show that ICT helps improve motivation, engagement, and learning of the students. This study also indicates that the students take ICT as an important aspect for better academic performance and for their future careers. Their high confidence also supports the idea of the technology acceptance model (TAM), as used by Tagoe (2012). The students accept ICT as a major tool because of its useful and easiness. This is because they are already familiar with personal devices and related software in their daily life.

At the same time, this study shows a kind of contradiction. Even though students are ready and willing to use ICT, the learning environment is not fully supportive. There are still some systemic issues which have been documented for many years in research. Different sub-factors like internet facility at campus and technical support only shows moderate rating. Similar to Pelgrum (2001), they note infrastructure and lack of support as primary barriers in using ICT in learning processes. This problem of unstable internet that students complained about is also found in a study by Tristiana and Rosyida (2018). The programs that assume the functioning of modern technology in learning are still facing the problems with minor technological arrangements.

According to what this report discovered, teachers may use information technology, yet they do so in traditional ways. The gap between what students are looking forward to and what they find off-line has been brought to light (Pardede, 2020). Reversely speaking, Savery (2002) also detects a difference in views about ICT use between teacher and student. Teachers may feel that they have employed ICT sufficiently but students think the level is unsatisfactory or that it isn't practical. Buabeng-Andoh (2012) says the same thing.

In general, this study demonstrates a somewhat alternative representation of the ICT integration issues. The main problem, used to be that students lacked skills or interest.

But now, they are already skilled and motivated. They are inherent to use ICT wisely. But the institution is still not entirely equipped to support them. So the primary issues, what the study found is it has nothing to do with ability. The students know how ICT should be used, but the system is falling behind. This misalignment may hinder essential hands-on skills for their future profession. But if these students do not have good digital teaching exposure during their courses, they may not be able to handle it properly in their own teaching careers. But they are being made part of an institutional system that, according to Pelgrum's (2001) well-known conceptual structure, remains largely unprepared at the systemic level. The central conflict, then, isn't capability but alignment." The students who can clearly see the potential of technology-supported learning, developed their own digital self-sufficiency to a far greater extent than the approved institutional delivery.

Conclusions

BICTE students demonstrate excellent digital autonomy. They confidently utilise personal devices and different software programs at home as well as store their learning online beyond campus. They also regard ICT as significant and contributes to developing better academic achievement, insight and preparation for the teachings of the future. High self-efficacy in digital skills and high interest in technology-based activities among students indicate they are motivated and competent to mature into the 21st century graduates the P21 Framework anticipates. It reflects their preparedness for contemporary classroom settings. However, the level of support from the institution itself is not really found. ICT infrastructure, campus internet reliability and support are moderate. It suggests that there is a long way to go on basic technical arrangements at the institutional level. ICT are applied by teachers, but not being in a very innovative or advanced manner. In-service teachers and how they may be insufficiently prepared for what their teaching career might require. Because of this, there is a gap between student readiness and what the institution is providing. This gap may limit the full potentials of the students. To reduce this problem, universities need to focus more on improving ICT facilities, making internet more reliable, providing proper technical supports, and training for the teachers to use ICT in more effective and practical ways.

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