Journal of Research Administration
Society of Research Administrators International

FACTORS AFFECTING ICT AWARENESS TOWARDS THE DEVELOPMENT OF ICT KNOWLEDGE AMONG PRIVATE VOCATIONAL TEACHERS IN JIANGXI PROVINCE , CHINA

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Abstract

The use of technologies such as artificial intelligence, network technology, and other technologies is becoming more widespread in the educational sector as a result of the growth of education modernization. The use of technology in indoctrination teaching, on the other hand, is more detrimental to the development of students than traditional indoctrination teaching. Furthermore, the process of education encounters a number of challenges that affect the development of information and communication technology (ICT) knowledge among teachers. These challenges include the teachers' professional education, professional training, and teaching facilities. In this study, the factors that influence teachers' development of information and communication technology (ICT) knowledge in private vocational colleges are investigated. Additionally, questionnaires and scales that affect teachers' development of ICT knowledge are developed, and the factors that affect ICT awareness in relation to the development of ICT knowledge among private vocational teachers in JiangXi Province, China are studied. In the province of Jiangxi, questionnaire surveys were administered to instructors working at five private vocational institutions. The purpose of these surveys was to develop a conceptual framework and investigate the variables that are motivating them.

Keywords; Professional ICT education, professional ICT training, ICT knowledge

Introduction

Within the ever-evolving realm of education, the incorporation of Information and Communication Technology (ICT) has surfaced as a fundamental element in promoting inventive practices and augmenting educational achievements. In the realm of vocational education, where the development of proficient professionals for diverse sectors is predicated, the comprehension and integration of ICT by educators are indispensable elements (Yang, Guo & Cui, 2023; Ibda, Syamsi & Rukiyati, 2023). The objective of this study is to uncover the complex elements that affect the degree of ICT awareness among vocational educators in order to identify critical determinants that affect their preparedness to adopt and utilise these technological instruments (Fütterer et al., 2023; Bolaji & Jimoh, 2023). Vocational educators are leading the charge in bridging the gap between traditional handicraft and contemporary digital advancements. They are tasked with the responsibility of equipping students with information and practical skills relevant to the business. Given the rapid pace of technology innovation in this day and age, it is important to understand the factors influencing vocational teachers' ICT understanding. This understanding is required to improve teaching strategies and provide students with the essential tools to fulfil the demands of the modern workforce.

The Vocational College of China aims to develop and generate talent from both local and foreign sources. Thanks to significant expenditures made by the government and society, China's vocational education system has seen extraordinary success in line with the country's exceptional economic progress (Bin et al., 2020). Furthermore, a significant number of Chinese vocational schools provide ICT programmes that emphasise the use of digital resources to supplement in-class learning. Local governments may train more skilled labourers and improve the quality of life for their inhabitants via vocational education (Carlsson et al., 2023; Tomczyk et al., 2023). Vocational schools are particularly well-liked by recent high school graduates since they allow them to continue their education while gaining real-world experience. The government indicates that information and communication technology (ICT) is a crucial part of vocational education and that pursuing an ICT-related career can help students profit from the digital economy by offering financial incentives (Zermeno et al., 2019). The primary cause of this development can be traced back to Chinese enterprises, who have seized the chance created by the increasing number of tech-savvy and ICT-literate graduates from Chinese vocational institutions (Qoyyimah et al., 2023).

On the other hand, while using ICT, teachers may conduct casual conversations with their students via computer monitors if they use a conversational educational approach (Avidov-Ungar et al., 2023; Sharofutdinov, 2023). This kind of communication encourages greater individual engagement from each member, which is considered to make it more productive than traditional in-person group work. Therefore, the system's successful deployments in both offline and online contexts indicate its usefulness in fostering skill development and elevating student motivation (Nguyen & Habók, 2023). In order to improve the digital literacy of its teachers, staff, and students,

Chinese vocational schools have launched a number of programmes in recent years (Kolesnik et al., 2023). A lot of vocational institutions are using ICT technologies to encourage more student participation. Because they are digital, ICT tools are quite powerful. Digital media has become a fresh means of communication as well as an important conduit for accessing information (Tzafilkou et al., 2023). Moreover, it is crucial that educators working in China's vocational education system have a thorough awareness of the many problems and real-world applications related to the use of information and communication technology (ICT) in the classroom (Abdazimov, Medeshev & Muminjonova, 2023). In vocational schools all around China, mobile technology, dispersed computer systems, and short-range wireless networks are fundamental components of modern smart classrooms. In addition, cell phones have developed into an essential tool in classrooms, acting as a communication channel for both teachers and students. It is also possible that other mobile devices, such PDAs and smartphones, will be used in educational settings (Gallardo-Montes et al.,). Moreover, new developments have shown that wireless networks are necessary for these mobile gadgets to communicate effectively.

The current research is to investigate a range of elements that support or impede vocational instructors' increasing ICT understanding. Our goal is to provide a thorough understanding of the elements that either support or impede the use of ICT in vocational education by carefully examining these components (Inderanata & Sukardi, 2023; Merrick & Joseph, 2023). Digital literacy is an essential component that goes beyond the basic skills needed to use digital devices. It also entails having the ability to evaluate technology critically and use it into teaching strategies. Moreover, the degree to which teachers may use technology in the classroom is significantly influenced by the viability and adequacy of ICT (information and communication technology) resources included into vocational schools (Biasutti et al., 2023; Soliyevna, 2023). Creating an environment that is favourable to the integration of information and communication technology (ICT) requires the construction of supporting institutions, which include administrative encouragement and policy frameworks (Lomos, Luyten & Tieck, 2023). Lifelong learning and skill development are crucial in an ever-evolving technology environment; for this reason, it's vital to find efficient ways to provide relevant training and assistance (Dhendup & Sherab, 2023). The goal of this research is to significantly advance knowledge of the complex field of ICT awareness among vocational educators by doing a thorough analysis of these factors (Lee & Jang, 2023; D'Angelo et al., 2023). The study's conclusions may provide insightful information on institutional practices, professional development initiatives, and educational programmes. Therefore, it is feasible to create an environment where vocational educators are not only familiar with ICT but also have the skills required to use its revolutionary potential in shaping the next generation of professional practitioners.

Literature review

Professional ICT education

Professional ICT education consists of organised, specialist training courses designed to improve people's knowledge, skills, and competency in information and communication technology (ICT) in a work-related or professional context (Bolaji & Jimoh, 2023; Yazici & Atay, 2023). This type of education is designed especially to give students the abilities and knowledge they need to pursue professions in the exciting field of information and communication technology (ICT), where technology is essential to many different sectors and industries (Gallardo-Montes et al., 2023). Numerous educational establishments, including universities, community colleges, technical schools, and vocational training centres, may provide ICT education courses. With the help of these courses, students should be able to acquire the theoretical and practical skills needed for careers in information technology, computer science, network administration, software development, cybersecurity, and related sectors. Professional ICT education courses often include a broad curriculum covering a variety of topics essential to the sector (Umrzaqov, 2023; Zhuraev, 2023). Programming languages, database management, network administration, cybersecurity concepts, software development processes, and new technologies are a few examples of these. A crucial component of professional ICT education is hands-on, experiential training. To apply theoretical ideas in real-world scenarios, students often take part in projects, lab experiments, and real-world simulations (Arima et al., 2023; Moses et al., 2023). The programme has been specially designed to align with the competences and skills demanded by the business. This ensures that graduates are well prepared to face the challenges of the industry and contribute significantly to the ICT field of their choice. Students may get industry-recognized certificates via a number of professional ICT education courses (Odefunsho et al., 2023; Lomos, Luyten & Tieck, 2023). By verifying certain skills and areas of knowledge, these credentials increase the graduates' chances of landing a job. Some curricula include internships or work placements as a way to provide students real-world experience and introduce them to the working world. This practical expertise may play a significant role in easing the transition from higher education to the job. Professional ICT education heavily emphasises the need for continuous learning since the ICT area is always evolving (Gràcia et al., 2023; Zhuraev, 2023). It is suggested that recent graduates stay up to date on the latest developments in the field, including new technology and developing best practices. Professional ICT education places equal focus on developing soft skills—such as critical thinking, problem-solving, communication, and teamwork—as well as technical abilities. In order to succeed in a professional job setting, several abilities are essential.

Professional ICT training

Professional ICT training consists of concentrated courses designed to enhance people's knowledge and comprehension of information and communication technology (ICT) (Mansurjonovich & Davronovich, 2023). Professional ICT training focuses a more focused, practical approach to prepare participants for certain jobs or activities within the ICT sector, setting it apart from standard academic degrees. Workshops, quick courses, seminars, and certification programmes are often used to provide this kind of training (Gallardo-Montes et al., 2023; Smith & Hunter, 2023). The skills and competences required for certain positions in the ICT industry are

the focus of ICT training courses. Programming languages, network administration, cybersecurity, data analytics, software development, and other related topics may be included in these specialist domains. Compared to conventional academic courses, professional ICT training often lasts less time (Abbas et al., 2023; Bolaji & Jimoh, 2023). The emphasis is on effectively disseminating certain information and skills so that learners may immediately use what they have learned in a real-world setting. A key component of professional ICT training is experience, active learning. To reinforce theory and gain real-world experience, participants often engage in exercises, projects, and simulations. The training courses are designed to specifically address the needs of the industry, ensuring that participants acquire relevant and up-to-date skills that are in high demand in the job market (Osborne, 2023; Bokhodirovna, 2023). A number of expert ICT training courses lead to certificates from reputable business associations. These credentials may increase a person's reputation in the job market and provide formal recognition of their proficiency in certain ICT domains. Professional information and communication technology (ICT) training consists of concentrated educational courses meant to enhance people's knowledge and comprehension of ICT (Abbas et al., 2023; Bolaji & Jimoh, 2023). Professional ICT training focuses a more focused, practical approach to educating participants for certain jobs or activities within the ICT business, setting it apart from standard academic degrees (Mansurjonovich & Davronovich, 2023). Frequently, workshops, quick courses, seminars, and certification programmes are used to provide this kind of training. The skills and competences required for certain positions in the ICT industry are the focus of ICT training courses. Programming languages, network administration, cybersecurity, data analytics, software development, and other related topics may be included in these specialist domains. In general, professional ICT training lasts less time than conventional academic courses. The emphasis is on effectively disseminating certain information and abilities so that participants may immediately use what they have learned in a real-world setting (Gallardo-Montes et al., 2023; Smith & Hunter, 2023). A key component of professional ICT training is experience, active learning. To reinforce theory and gain real-world experience, participants often engage in exercises, projects, and simulations. The training courses are designed to specifically address the needs of the industry, ensuring that participants acquire up-to-date, relevant skills that are in great demand in the job market (Mansurjonovich & Davronovich, 2023). A number of reputable industry groups provide certificates to graduates of their professional ICT training courses. These credentials may increase a person's reputation in the job market and provide formal recognition of their proficiency in certain ICT domains.

ICT awareness

ICT awareness, also referred to as information and communication technology awareness, is the level of understanding, proficiency, and familiarity that individuals or groups have with the application, benefits, and drawbacks of ICT (Sutiyono et al., 2023; Abedi, 2023). A wide range of digital technologies are included in this awareness, including computers, software, the internet, mobile devices, telecommunications, and other tools that make it possible to produce, store, process, and share information. ICT awareness includes learning digital literacy, which is the

ability and knowledge to utilise digital tools and apps with skill and ease. This includes basic skills like using a computer, navigating the internet, and understanding common software applications (Omar & Mohmad, 2023; Ajani & Govender, 2023). Being aware is realising the benefits and opportunities that information and communication technology (ICT) presents in a variety of spheres of life, including as business, education, healthcare, and communication, as well as in the broader advancement of society. being familiar with navigating and using the internet, including searching for information, utilising online communication tools, and understanding security and safety procedures (Bakari & Ali, 2023). In the current world, which is heavily reliant on technology, having a solid grasp of ICT is crucial. People may participate in the digital society, take advantage of opportunities, and advance social and economic advancement thanks to it. Governments, universities, and other organisations often work to increase the general public's awareness and comprehension of information and communication technology (ICT) (Desai, 2023; Sawyerr & Agyei, 2023). The aforementioned initiatives include training programmes, awareness campaigns, and legislative measures aimed at mitigating disparities in access to digital resources and fostering equitable engagement in the digital domain.

Development of ICT knowledge

Information and communication technology (ICT) knowledge acquisition, enhancement, and application refers to the process by which individuals or groups become proficient and expert users of digital technology (Gözüm et al., 2023; Lomos et al., 2023). In today's technologically advanced world, where information and communication technology (ICT) plays a major role in a number of areas like business, education, daily life, and social growth, the importance of this invention cannot be emphasised. The development of ICT knowledge requires a variety of strategies, including formal education, training programmes, workshops, seminars, and academic and instructional preparation. Schools and training centres provide structured learning experiences to teach the fundamental skills and theoretical understanding of ICT concepts (Bolaji & Jimoh, 2023; Maddukelleng et al., 2023). Growth in ICT knowledge depends on a solid grasp of digital literacy. Proficiency with digital devices, software navigation, understanding online safety and security procedures, and the ability to evaluate digital material critically are all components of digital literacy. Given how quickly technology is advancing, it is crucial to continue learning in order to stay up to date on the newest advancements and enhancements in information and communication technology (Toma et al., 2023; Kilag et al., 2023). It is recommended that individuals engage in self-directed learning, attend professional development courses, and actively pursue opportunities to expand their areas of competence. Developing ICT skills is an ongoing, dynamic process that calls for initiative and adaptability. It is recommended that people improve their ICT proficiency in order to navigate the complexities of the digital age, whether for career advancement or personal growth (Yang, Guo & Cui, 2023).

Finding

In order to measure the reliability of each item, the factor loading should be measured. According to (Ringle et. al.,2023), a threshold value of equal or greater than 0.7 for each item's loading is considered as reliable. In addition, the Cronbach's Alpha and composite reliability values should be equal or greater than 0.7. Besides, the average variance extracted (AVE) is defined as the grand mean value of the squared loadings of the items related to the construct, and the common measure for establishing the convergent validity. A value of 0.5 or greater for the AVE specifies that the construct elucidates more than half of the variance of its items (Ringle et. al.,2023). As shown in Table 1, the Cronbach's Alpha and composite reliability values are greater than 0.7, and the AVE values are greater than 0.5. Thus, the constructs' convergent validity is established.

In order to establish the discriminant validity, the Fornell-Larcker criterion, cross loadings, and the Heterotrait-Monotrait Ratio should be examined. In terms of the Fornell-Larcker criterion, the square root of AVE (diagonal value) for each variable should exceed the correlation of latent variables, which is met in the present study as described in Table 3. With regard to the cross loadings, the loading of each indicator should be higher than the loadings of its corresponding variables' indicators. Based on Table 2, we can observe that the cross loadings criterion is fulfilled (Ringle et. al.,2023). Regarding the Heterotrait-Monotrait ratio (HTMT), a value of less than 0.85 for HTMT should be confirmed. According to Table 3, it can be deduced that the HTMT criterion is met, thus indicating that the discriminant validity is established.

Table 1; CR, CA and AVE

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Development of ICT knowledge (D ICT)	0.957	0.958	0.966	0.752
ICT Awareness (ICT A)	0.963	0.963	0.971	0.770
Professional education (PE)	0.947	0.950	0.960	0.726
Profesional training (PT)	0.966	0.966	0.974	0.782
Perceive usefulness (PU)	0.957	0.959	0.967	0.752

Technilogy acceptance attitude (TAA)	0.939	0.954	0.952	0.700
Teaching Facilities (TF)	0.936	0.941	0.951	0.795

Table 2; Discriminant Validity

	D ICT	ICT A	PE	PT	PU	TAA	TF
D ICT	0.823						
ICT A	0.905	0.833					
PE	0.962	0.880	0.809				
PT	0.830	0.903	0.843	0.839			
PU	0.869	0.944	0.893	0.925	0.823		
TAA	0.751	0.865	0.780	0.867	0.891	0.835	
TF	0.784	0.885	0.806	0.910	0.913	0.942	0.822

Table 3; HTMT

	D ICT	ICT A	PE	PT	PU	TAA	TF
D ICT							
ICT A	0.843						
PE	0.710	0.820					
PT	0.864	0.736	0.881				
PU	0.907	0.982	0.739	0.861			
TAA	0.772	0.892	0.806	0.891	0.820		
TF	0.822	0.928	0.850	0.751	0.759	0.805	

Table 4; Direct Relationship

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
PE -> ICT A	0.371	0.375	0.078	4.760	0.000
PT -> ICT A	0.330	0.332	0.077	4.278	0.000
TF -> ICT A	0.285	0.280	0.068	4.205	0.000
ICT A -> D ICT	0.795	0.804	0.044	17.922	0.000

The first hypothesis claimed that professional education has a substantial influence on ICT awareness. The findings reported in Table 4 indicate a substantial influence, as shown by the score ($\beta = 0.371$, $t = 4.760$, $p < 0.001$). Thus, hypothesis 1 is confirmed. Hypothesis 2 posited that professional training had a substantial influence on ICT awareness. The data shown in Table 4 indicate a statistically significant finding, with a score of $\beta = 0.303$, $t = 4.278$, and $p < 0.001$. Furthermore, hypothesis 3 demonstrates a substantial influence of teaching facility on ICT awareness, as shown by the score ($\beta = 0.285$, $t = 4205$, $p < 0.001$). In addition, hypothesis 4 yielded a statistically significant result with a score of $\beta = 0.795$, $t = 17.922$, $p < 0.001$, indicating that hypothesis 4 is accepted. ICT awareness greatly enhances the growth of ICT knowledge among private vocational teachers.

Table 5; Mediating effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
PE -> ICT A -> D ICT	0.295	0.301	0.063	4.713	0.000
PT -> ICT A -> D ICT	0.263	0.267	0.064	4.080	0.000
TF -> ICT A -> D ICT	0.227	0.225	0.057	3.970	0.000

Hypothesis 5 suggests that ICT awareness plays a crucial role in moderating the link between professional education and the development of ICT knowledge. Hypothesis 5 was confirmed based on the findings in Table 5, with a score of $\beta = 0.0295$, $t = 4.713$, and $p < 0.001$. Hypothesis 6 posited that ICT awareness plays a crucial role in mediating the link between professional training and the development of ICT knowledge. The findings, as shown in Table 5, indicate a substantial mediation connection with the score ($\beta = 0.263$, $t = 4.080$, $p < 0.001$). This indicates that hypothesis 6 is corroborated. Hypothesis 7 suggests that there is a considerable mediation impact of ICT awareness on the link between instructional facilities and the development of ICT knowledge. The findings in Table 5 indicate a noteworthy mediation impact of ICT awareness in the connection between instructional facilities and the advancement of ICT knowledge, with a score of $\beta = 0.227$, $t = 3.970$, $p < 0.001$.

Table 6; Moderating effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ICT A * PU-> D ICT	0.087	0.066	0.071	1.239	0.216
ICT A * TAA -> D ICT	0.204	0.016	0.065	2.068	0.000

The moderating impact of perceived usefulness on the link between ICT awareness and the development of ICT knowledge is not significant, as shown by the score ($\beta = 0.087$, $t = 1.239$, $p < 0.001$). This suggests that hypothesis 8 is not substantiated. Technology acceptance has a significant role in moderating the association between ICT awareness and the development of ICT knowledge, as shown by the score ($\beta = 0.204$, $t = 2.068$, $p < 0.001$). This indicates that hypothesis 9 has been accepted.

Discussion

Professional education provides teachers with the opportunity to expand their knowledge and comprehension of ICT, which is why it is crucial for private vocational instructors to improve their comprehension of ICT. By effectively integrating ICT into their teaching approaches, they gain knowledge about the latest tools, technologies, and instructional methodologies (Yang, Guo & Cui, 2023). Moreover, professional education programmes often place equal emphasis on the pedagogical components of incorporating ICT into teaching as well as the learning of technical skills. To increase student learning and engagement, teachers acquire the information and abilities necessary to seamlessly integrate ICT into their lectures. Teachers may learn about the vast array

of information and communication technology resources available for use in teaching and learning via professional education (Toma et al., 2023; Kilag et al., 2023). These include educational software, online resources, multimedia content, and interactive technology that might improve students' educational experiences. Furthermore, new technologies are always emerging in the field of information and communication technology (ICT), which is always evolving (Bolaji & Jimoh, 2023; Maddukelleng et al., 2023). Professional education also ensures that teachers stay up to date on these developments and have the knowledge and abilities to modify their teaching strategies accordingly. The ability to adjust is crucial to preparing students for the demands of the modern workforce. In the future, many professional education programmes will certify or accredit teachers in order to confirm their ICT proficiency (Gözüm et al., 2023; Lomos et al., 2023). This recognition not only increases teachers' self-confidence but also presents their qualifications to parents, students, and employers. Enhancing ICT knowledge among private vocational instructors requires professional education. It gives individuals chances to improve their abilities, learn about pedagogy, get resources, adjust to shifting trends, participate in peer learning, be acknowledged, and maintain their motivation. Together, these elements improve the quality of ICT instruction and provide students with the tools they need to succeed in the digital age (Desai, 2023; Sawyerr & Agyei, 2023).

Professional training helps vocational instructors to acquire the technical skills necessary for effectively utilising ICT resources and technologies in their instructional practices, which has a substantial impact on their ICT knowledge (Bakari & Ali, 2023). This involves having proficiency with hardware, software, and online resources related to vocational education. Furthermore, training programmes place equal emphasis on the development of technical skills and the pedagogical aspects of integrating ICT into vocational education. Instructors get the information and abilities necessary to design and carry out ICT-enhanced curricula that satisfy the particular needs and learning styles of vocational students (Omar & Mohmad, 2023; Ajani & Govender, 2023). Additionally, there are close ties between vocational education and a number of industries and professions. With professional training, teachers may understand the value of ICT skills in certain fields of work and how to best prepare their students for the demands of the job market (Gallardo-Montes et al., 2023; Smith & Hunter, 2023). Since new breakthroughs and technologies are always emerging, technological improvements in the field of ICT need adaptation (Sutiyono et al., 2023; Abedi, 2023). Permanent professional development ensures that vocational educators stay up to date on the latest developments and trends, which enables them to easily incorporate contemporary technology into their instructional strategies (Mansurjonovich & Davronovich, 2023). Additionally, in order to enhance communication and connections among vocational teachers, training programmes often promote peer collaboration and networking. This allows them to share best practices, share ideas, and learn from one other's experiences integrating ICT into vocational education. To increase their ICT understanding, vocational instructors must complete professional training. When combined, these components improve the quality of ICT-enhanced vocational education and provide students the tools they need to succeed in their chosen fields of work (Abbas et al., 2023; Bolaji & Jimoh, 2023).

Modern teaching facilities enable vocational instructors to use a wide range of information and communication technology (ICT) tools and resources, including computers, tablets, interactive whiteboards, and specialised software. As a result, improving instructional facilities may significantly increase ICT awareness among vocational instructors. Teachers are encouraged to research and integrate ICT into their teaching methods by the easy access to these resources (Osborne, 2023; Bokhodirovna, 2023). Because there are well-equipped teaching facilities, vocational teachers may also actively engage in hands-on learning experiences with the use of ICT tools and resources. Participating in this hands-on approach will help teachers become more knowledgeable and comfortable with integrating technology into their lessons, which will increase their awareness of and proficiency with information and communication technology (ICT) (Abbas et al., 2023; Bolaji & Jimoh, 2023). Additionally, ICT training and professional development courses tailored to vocational teachers may be held at teaching facilities. According to Gallardo-Montes et al. (2023) and Smith & Hunter (2023), these courses are designed to increase teachers' ICT skills, introduce new technologies, and provide advice on effective integration techniques. In addition, modern educational institutions often facilitate the development of cooperative learning settings, which allow career educators to share best practices, resources, and ideas on the use of ICT. Teachers become more aware of and creative with ICT as a consequence of collaborative learning, which encourages peer support and knowledge sharing (Mansurjonovich & Davronovich, 2023).

Since ICT awareness is the foundation for gaining more ICT knowledge, raising ICT awareness significantly aids private vocational teachers in gaining ICT competence. When educators are aware of the potential applications and benefits of ICT in the classroom, their desire to acquire new techniques and expand their expertise in this area rises (Gràcia et al., 2023; Zhuraev, 2023). Teachers who are knowledgeable about Information and Communication Technology (ICT) are also better able to identify areas in which they need to improve and what their own learning needs are. They are able to recognise gaps in their knowledge and actively seek out possibilities for specialised training or professional growth to fill them. Teachers must be aware of technology and skillfully integrate it into their lesson plans in order to integrate ICT into their teaching practice (Odefunsho et al., 2023; Lomos, Luyten & Tieck, 2023). With their skills, they may create engaging lesson plans, provide learners interactive materials, and lead meaningful virtual learning experiences. Keeping up with developments and advancements in the rapidly evolving field of Information and Communication Technology (ICT) requires awareness. In order to keep up to date with their teaching practices, educators who are aware of emerging trends may actively improve their knowledge and skills (Umrzaqov, 2023; Zhuraev, 2023). Arima et al., 2023; Moses et al., 2023) state that instructors with ICT expertise are ultimately better equipped to use technology's transformative potential to improve their students' learning experiences in vocational education settings.

The relationship between professional education, professional training, quality teaching facilities, and the growth of ICT knowledge is mediated by ICT awareness. A quality educational environment, professional development, and training provide educators with specialised technical skills and pedagogical expertise. Developing ICT awareness, however, calls for a more all-encompassing strategy that prioritises the development of a creative, cooperative, and lifelong learning culture (Gallardo-Montes et al., 2023). This entails giving teachers the chance to research information and communication technology resources, exchange their best practices, engage in critical analysis, and stay current with new advancements in the field of education technology. By promoting ICT awareness in combination with official professional education programmes, educational institutions may prepare teachers to fully use ICT for transformative teaching and learning experiences (Bolaji & Jimoh, 2023; Yazici & Atay, 2023).

The concept of perceived usefulness concerns an individual's subjective assessment of the significance and benefits of a technology or innovation in achieving certain goals or outcomes. It is often known that perceived usefulness affects how technology is accepted and used. It may, however, have limited impact on the relationship between ICT awareness and progress in ICT expertise among private vocational teachers (Lee & Jang, 2023; D'Angelo et al., 2023). Research suggests that career educators—particularly those working in private schools—are fully aware of the educational benefits and inherent value of information and communication technology. Vocational instructors are expected to see ICT as essential for enhancing their teaching efficacy and bettering student outcomes due to the fierce competition in private vocational education and the increasing need for digital skills in the labour market (Dhendup & Sherab, 2023). Because vocational teachers already have a strong belief in the usefulness of ICT and a thorough understanding of it, the influence of perceived utility as a moderator may not have much of an impact (Lomos, Luyten & Tieck, 2023). Furthermore, rather than depending solely on perceived utility, the motivations and attitudes of vocational instructors regarding the integration of ICT may be more strongly influenced by factors like their technical self-efficacy, organisational support, and outside incentives (Kolesnik et al., 2023). Early opinions of ICT held by vocational educators may be influenced by perceived benefit. When weighed against other contextual factors, its influence on the relationship between ICT awareness and ICT knowledge development could be less pronounced. By recognising the intrinsic value of ICT in vocational education and providing vocational teachers with the necessary tools, training, and support networks, educational institutions may foster a culture of continuous learning and innovation (Biasutti et al., 2023; Soliyevna, 2023). VET can effectively harness the transformative power of ICT to improve teaching and learning experiences in private vocational institutions by acknowledging the direct influence of ICT awareness on the development of ICT knowledge and accounting for the minimal moderating effect of perceived usefulness.

Additionally, the moderating effect of technology acceptance suggests that the association between increase in ICT knowledge and awareness may vary depending on how open and accepting vocational teachers are to include technology into their lesson plans. Vocational teachers who have

high levels of technology acceptance are more likely to have positive attitudes towards ICT, to perceive it as useful and beneficial, and to have a strong desire to include technology into their lessons (Inderanata & Sukardi, 2023; Merrick & Joseph, 2023). In these situations, the positive impact of ICT awareness on the development of ICT knowledge may be amplified, as tech-receptive educators are more motivated and willing to acquire new ICT-related knowledge and abilities to enhance their pedagogical approaches. They have a propensity to actively seek out opportunities to further their professional development, look at cutting-edge ICT tools and resources, and participate in cutting-edge, technologically effective teaching practices (Kolesnik et al., 2023). Conversely, even if they are fully aware of ICT, vocational teachers who have a low level of acceptance of technology may reject it or be reluctant to include it. In these situations, instructors might not see the benefits or practical significance of gaining more knowledge and skills related to information and communication technology (ICT), which could weaken or reduce the link between ICT awareness and the growth of ICT knowledge (Tzafilkou et al., 2023). Understanding the connection between information and communication technology (ICT) awareness, technology adoption, and the development of ICT competence has significant implications for initiatives aimed at enhancing the ability of vocational teachers to integrate ICT. Policymakers and educational institutions can design targeted interventions and training programmes that address the various factors that impact technology adoption in addition to enhancing knowledge of information and communication technology (ICT) (Abdazimov, Medeshev & Muminjonova, 2023). The development of positive attitudes towards technology, access to relevant ICT resources and support systems, and an environment that encourages experimentation and innovation are all ways that educational stakeholders can support students' acquisition of the ICT knowledge and skills that are essential for success in the digital workforce. In conclusion, vocational education can leverage technology's transformative potential to improve teaching and learning experiences in private vocational institutions by recognising the importance of technology acceptance as a mediator in the relationship between ICT awareness and ICT knowledge development (Tzafilkou et al., 2023).

Conclusion

In the end, a variety of factors influence how well-versed in ICT private vocational instructors are; these factors have a significant impact on teachers' awareness of and proficiency in integrating technology into their teaching practices. Increasing vocational educators' proficiency with ICT requires professional development. Training courses and seminars provide teachers with the knowledge, skills, and teaching strategies they need to effectively utilise ICT tools and resources in vocational education settings. Moreover, encouraging awareness and comprehension of ICT requires adequate educational facilities and resources. Institutions have an obligation to ensure that teachers have access to the necessary tools and resources so they may explore ICT integration and innovate their teaching strategies. Another critical factor is the organisational culture seen in educational establishments. It is made easier for educators to utilise ICT and experiment with new technologies by institutional regulations, supporting leadership, and a creative culture.

Furthermore, realising the value and benefits of information and communication technology (ICT) in the classroom motivates career educators to invest time and resources in improving their ICT skills. Peer collaboration and networking serve as additional catalysts to enhance vocational teachers' ICT proficiency. Working together with colleagues helps teachers share best practices, talk about ideas, and learn from each other's experiences using ICT in the classroom. via outside support and incentives from educational authorities, governmental organisations, and corporate partners, vocational teachers' grasp of ICT may be improved via financial incentives, prizes, and recognition for innovative ICT practices. It is essential that these components be addressed in tandem in order to advance ICT awareness and the growth of ICT proficiency among private vocational educators. By making investments in professional development, giving teachers access to technology and resources, building a supportive organisational culture, highlighting the value and advantages of ICT, encouraging peer collaboration, and providing outside support and incentives, vocational education institutions can enable teachers to use technology in teaching and learning effectively. In the end, this will get vocational students ready for the job and the digital world.

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