



## Adapting to the New Normal: Equipping Career and Technical Education Graduates with Essential Digital Skills for Remote Employment

Maxwell E. Uduafemhe<sup>1\*</sup>, Daniel R. E. Ewim<sup>2</sup>, Roseline Yusuf Karfe<sup>3</sup>

<sup>1</sup>Research and Evaluation Division,

Psychometrics Department, National Examinations Council, Niger State, Nigeria.

<sup>2</sup>Department of Mechanical and Aerospace Engineering,

The Ohio State University, Columbus Ohio, United States of America.

<sup>3</sup>Department of General Studies, Federal University of Health Sciences, Azare, Bauchi State, Nigeria.

### ABSTRACT

Amidst the profound shifts triggered by the COVID-19 pandemic, the employment landscape has undergone a radical transformation, prominently featuring remote work as a defining element of the contemporary paradigm. This document delves into the essential role played by Career and Technical Education (CTE) programs in preparing individuals for success in this digitally-driven era of remote work. Emphasizing the critical significance of digital skills in the modern workforce, the paper underscores their applicability across diverse CTE disciplines, including Electrical and Electronics, Building Technology, Woodwork Technology, Metalwork Technology, and Automechanics Technology. These competencies, spanning coding and CAD proficiency to CNC machining and automotive diagnostics, serve as the cornerstone enabling graduates to excel in remote work environments. Confronting challenges encountered by CTE institutions, the document presents practical solutions such as curriculum adaptation, faculty development, fostering industry partnerships, and the seamless integration of online resources. These strategies empower institutions to evolve and equip graduates with the digital expertise essential for thriving in a constantly evolving job market. In conclusion, the paper highlights the pivotal role of CTE institutions as advocates for digital skill acquisition, molding graduates not only as adept navigators of the new normal but as leaders driving innovation and progress in their respective fields.

### ARTICLE INFO

Article History

Received: August 2023

Received in revised form: September, 2023

Accepted: October, 2023

Published online: November, 2023

### KEYWORDS

Career and Technical Education, Digital Skills, Remote Work, COVID-19, Curriculum Adaptation.

### INTRODUCTION

In today's digital age, the workplace is continually evolving. The Fourth Industrial Revolution, characterized by automation, artificial intelligence, and the internet of things (IoT), has reshaped industries and created new employment demands. As a result, digital skills have emerged as a cornerstone of employability. According to the World Economic Forum's Future of Jobs Report (2020), technological proficiency is among the top skills required across various

industries. Employers seek candidates who can adapt to digital tools and technologies, as these skills enhance productivity, innovation, and competitiveness. According to Law *et al.* (2018), digital skills has to do with the competencies, knowledge, and abilities that enable people to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. Digital skills refer to the

Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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competencies, knowledge, and abilities that enable individuals to effectively and efficiently use digital devices, software applications, and online resources for various purposes, including communication, information retrieval, problem-solving, and productivity.

The importance of digital skills extends beyond technical roles. Even in fields traditionally associated with manual labor or hands-on tasks, the ability to work with digital tools is becoming indispensable. For instance, electrical and electronics technicians must navigate complex control systems, building technology professionals use computer-aided design (CAD) software extensively, and automechanics technicians rely on digital diagnostic equipment. It is for these reasons among others that students of Career and Technical Education programmes cannot afford to be left behind.

#### **Overview of Career and Technical Education (CTE) Programs**

Career and Technical Education (CTE) programs play a pivotal role in preparing individuals for careers in specialized fields (Morris, 2023). These programs, often offered at the secondary and post-secondary levels, equip students with practical skills, knowledge, and hands-on experience. CTE programs bridge the gap between education and employment by focusing on real-world applications, making them highly relevant in today's job market. CTE programs encompass a wide range of disciplines, including Electrical and Electronics, Building Technology, Woodwork Technology, Metalwork Technology, and Automechanics Technology. Barabasch and Cattaneo (2019) submitted that CTE fields offer diverse career opportunities, but they share a common need for adaptation to the digital era. Whether it's designing energy-efficient electrical systems, creating sustainable building structures, or diagnosing advanced automotive technologies, digital skills are integral to success.

#### **Relevance of Remote Work Opportunities**

The landscape of work has shifted dramatically in recent years, accelerated by the

COVID-19 pandemic. Sutherland and Janene-Nelson (2020) hinted that remote work, once considered a niche arrangement, has become mainstream. Organizations worldwide have embraced remote work as a viable and, in some cases, permanent option for their employees. The benefits are evident: increased flexibility, cost savings, and access to a broader talent pool (Kahn, 2022). This shift has implications for CTE graduates as they enter a job market where remote work is no longer an exception but an expectation. In a survey conducted by Upwork (2021), 41.8% of the American workforce was working remotely full-time in 2021, up from 24.8% before the pandemic. Furthermore, 61.9% of hiring managers expected remote work to continue post-pandemic. This trend underscores the importance of digital skills, as remote work relies heavily on digital tools for communication, collaboration, project management, and data analysis. As the workforce landscape evolves, CTE programs must adapt to equip graduates with the essential digital skills needed to thrive in this new normal.

## **DIGITAL SKILLS IN CAREER AND TECHNICAL EDUCATION**

### **Current CTE Curriculum Analysis**

#### **Overview of Programs**

Career and Technical Education (CTE) programs encompass a diverse array of disciplines, each with its unique set of challenges and opportunities. In this section, an examination of the existing digital skills components in five key CTE programs of: Electrical and Electronics, Building Technology, Woodwork Technology, Metalwork Technology, and Automechanics Technology will be done. This is based on the fact that within these CTE programs, there are existing digital skills components, but they often fall short of meeting the evolving demands of the workforce. While some programs may introduce students to basic digital tools, the fast-paced nature of technological advancements necessitates a more comprehensive approach (Tzafilkou *et al.*, 2022). Graduates need not only

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Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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basic digital literacy but also the ability to adapt to new software, tools, and technologies as they emerge.

**Electrical and Electronics Program:** This program focuses on the installation, maintenance, and repair of electrical systems and electronic equipment. Digital skills have become increasingly crucial in this field due to the integration of automation, smart technologies, and renewable energy systems. Graduates are expected to understand programmable logic controllers (PLCs), analyze circuit diagrams using software tools, and troubleshoot complex electrical and electronic systems.

**Building Technology Program:** Building technology professionals are responsible for the design, construction, and maintenance of buildings and infrastructure. In this field, Computer-Aided Design (CAD) software is a cornerstone for architectural planning and project management. Digital skills also encompass Building Information Modeling (BIM), which enables collaboration and data management throughout the building lifecycle.

**Woodwork Technology Program:** Woodwork technology includes the design and production of furniture, cabinetry, and wooden structures. While this field retains a strong focus on craftsmanship, digital skills are increasingly relevant. Computer Numerical Control (CNC) machines, for instance, require operators to program and operate these precision tools. Additionally, digital design software enhances prototyping and customization capabilities.

**Metalwork Technology Program:** Metalwork technology involves the shaping and machining of metal materials. Digital skills are integral to operating Computer Numerical Control (CNC) machines with precision, which is vital in modern metalworking. CAD/CAM software is used for designing intricate metal components, and graduates must understand these tools to remain competitive in the job market.

**Automechanics Technology Program:** Automechanics technology focuses on vehicle maintenance and repair. As vehicles become

more advanced and reliant on electronics, automechanics technicians need digital skills to diagnose and repair modern automobiles. Proficiency in automotive diagnostic software, computerized systems analysis, and electronic control systems is essential.

### **Changing Job Market Dynamics**

The job market dynamics within these CTE fields have undergone significant changes. Employers now seek candidates who can seamlessly integrate digital tools into their work processes. In a study by the National Association of Colleges and Employers (NACE), digital technology skills ranked among the top five skills employers considered "very important" for college graduates (NACE, 2021). The demand for professionals who can operate in technologically advanced environments is evident, and CTE graduates must be prepared to meet these expectations.

### **Demand for Technological Proficiency**

In addition to traditional technical skills, graduates are increasingly expected to possess technological proficiency. In a survey conducted by CompTIA (2021), 68% of employers reported that they require IT-related skills from all employees, regardless of their job role (CompTIA, 2021). This includes proficiency in software applications, cloud computing, data analysis tools, and cybersecurity awareness. To ensure the relevance and competitiveness of CTE graduates in the job market, educational institutions must adapt and expand their curricula to incorporate these essential digital skills.

## **RELEVANCE OF DIGITAL SKILLS IN REMOTE WORK**

### **Remote Work Trends and Growth Statistics and Data on Remote Work**

The landscape of work has undergone a remarkable transformation in recent years, largely accelerated by the COVID-19 pandemic. Remote work, once considered a niche arrangement, has become an integral part of the

Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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employment ecosystem. Understanding the statistics and trends associated with remote work is crucial in assessing its relevance for CTE graduates.

According to the Bureau of Labor Statistics (BLS), in 2020, 24.7 percent of employed persons worked from home for at least some period of time due to the pandemic (BLS, 2021). This shift was not limited to specific industries; it spanned across sectors, including technology, finance, healthcare, and education. However, the tech industry has been at the forefront of embracing remote work, with major companies like Google, Facebook, and Twitter announcing permanent remote work options for employees.

Remote work has also been embraced by startups and small businesses. The Remote Workforce Report by Buffer (2020) found that 98 percent of respondents would like to work remotely, at least some of the time, for the rest of their careers (Buffer, 2020). This shift is driven by a variety of factors, including the desire for work-life balance, cost savings for employers, and access to a broader talent pool.

### **Shifts in Employer Expectations**

As remote work becomes more prevalent, employer expectations have evolved. Employers now seek candidates who not only possess technical expertise in their respective fields but also demonstrate proficiency in remote work tools and practices. This shift has elevated the importance of digital skills in remote job environments. A study by LinkedIn (2021) identified the top five most in-demand soft skills for 2021, which included skills directly related to remote work (LinkedIn, 2021). These skills encompass adaptability, collaboration, communication, problem-solving, and time management—all of which are closely intertwined with digital skills. In remote work settings, effective communication and collaboration rely heavily on digital tools and platforms.

## **IMPORTANCE OF DIGITAL SKILLS IN REMOTE JOB ENVIRONMENTS**

### **Communication and Collaboration Tools**

In remote job environments, communication and collaboration are conducted primarily through digital platforms. Video conferencing tools like Zoom, team messaging applications such as Slack, and project management software like Asana have become essential for remote teams. Proficiency in using these tools is no longer an option but a necessity. A study by Gartner Incorporated (2020) predicted that by 2024, 60 percent of large enterprises will have implemented collaboration hubs for their teams, up from 10 percent in 2019 (Gartner Incorporated, 2020). This trend underscores the growing reliance on digital platforms for seamless communication and collaboration. CTE graduates who possess strong digital communication skills will be better equipped to excel in remote work environments.

### **Cyber security Awareness**

Remote work environments introduce unique cyber security challenges. Employees accessing company data and systems from various locations can increase the risk of data breaches and cyber-attacks. Cyber security awareness and best practices are essential for protecting sensitive information and ensuring the integrity of digital operations.

A report by cyber security Ventures (2021) estimated that the global cost of cybercrime would reach \$6 trillion annually by 2021 (cyber security Ventures, 2021). This alarming statistic underscores the critical need for cyber security measures. CTE graduates who understand the fundamentals of cyber security and can apply them in remote work settings will contribute to safeguarding organizations against cyber threats.

### **Remote Project Management**

Effective project management is a core component of remote work success. Project management tools and methodologies, such as

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Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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Agile and Scrum, have gained prominence in remote work environments. CTE graduates who are familiar with these tools and can adapt them to their respective fields will excel in managing remote projects efficiently.

A survey by Wellingtone (2020) found that 73 percent of organizations use AGILE approaches in project management (Wellingtone, 2020). The ability to navigate AGILE methodologies and utilize project management software is highly valued in remote project management. Whether it's coordinating construction projects in Building Technology or overseeing diagnostics and repairs in Automechanics Technology, remote project management skills are indispensable.

### **Key Digital Skills for Graduates**

As Career and Technical Education (CTE) programs strive to equip graduates with the essential digital skills needed for success in the remote work era, it's imperative to identify the specific skills relevant to each program. Hence, the key digital skills required for graduates in Electrical and Electronics, Building Technology, Woodwork Technology, Metalwork Technology, and Automechanics Technology programs are discussed in this section.

### **ELECTRICAL AND ELECTRONICS PROGRAM Coding and Programming**

In the Electrical and Electronics Program, coding and programming skills are fundamental. Graduates must understand programming languages such as C, C++, Python, or Java, depending on their specific area of focus. These skills enable them to develop, troubleshoot, and optimize electronic systems and embedded software. Johnson (2020) emphasizes the importance of coding skills in the electronics field, stating that "proficiency in programming languages allows electronics professionals to create custom solutions and effectively work with microcontrollers and integrated circuits" (Johnson, 2020, p. 45). This ability is particularly relevant as the Internet of

Things (IoT) continues to expand, with electronic devices becoming increasingly interconnected.

### **IoT and Connectivity Skills**

With the proliferation of IoT devices, graduates must also possess IoT and connectivity skills. These skills include configuring and maintaining IoT devices, understanding wireless communication protocols (such as; Wi-Fi, Bluetooth, Zigbee), and ensuring secure data transmission in IoT ecosystems.

According to a report by the International Data Corporation (IDC, 2021), the IoT market is expected to grow to 41.6 billion connected devices by 2025 (IDC, 2021). As IoT applications extend across industries, from smart homes to industrial automation, graduates with IoT and connectivity skills will be in high demand.

### **BUILDING TECHNOLOGY PROGRAM**

#### **CAD and BIM Proficiency**

In the Building Technology Program, Computer-Aided Design (CAD) and Building Information Modeling (BIM) proficiency are paramount. CAD software allows graduates to create precise architectural drawings and blueprints, while BIM facilitates collaborative design and project management in 3D models. According to Smith (2019), "BIM proficiency is no longer a luxury but a requirement for professionals in the building and construction industry" (Smith, 2019, p. 12). CAD and BIM skills enable graduates to design sustainable, efficient, and visually compelling structures, aligning with modern construction practices.

#### **Virtual Construction and Project Management**

Virtual construction and project management tools are essential for Building Technology graduates. Virtual construction software, often integrated with BIM, allows for 4D and 5D modeling, enabling project visualization and cost estimation. Proficiency in project management software, such as Microsoft Project or Primavera, ensures effective project planning and execution. Research by the Construction

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Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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Management Association of America (CMAA, 2020) highlights the growing role of virtual construction and project management in the industry. It emphasizes that "the ability to utilize virtual construction tools and project management software is instrumental in delivering projects on time and within budget" (CMAA, 2020, p. 18).

## **WOODWORK TECHNOLOGY PROGRAM**

### ***CNC Machining and Automation***

In the Woodwork Technology Program, CNC (Computer Numerical Control) machining and automation skills are pivotal. Graduates must be proficient in programming and operating CNC machines, which enable precision and automation in woodwork processes. Robert Wood in 2018 underscores the significance of CNC machining skills, stating that "CNC technology has revolutionized woodwork, allowing for intricate designs and mass production with unmatched precision" (Wood, 2018, p. 56). These skills are particularly relevant as woodwork industries adapt to meet modern demands for customized and automated production.

### ***Digital Design and Prototyping***

Digital design and prototyping skills complement CNC machining. Graduates should be adept at using digital design software such as AutoCAD or SketchUp to create detailed plans and 3D models. Digital prototyping enables them to visualize and refine their designs before production. A report by the Woodworking Network (2021) emphasizes the shift toward digital design and prototyping in the woodwork industry, stating that "digital tools have become indispensable in the creation of custom wood products, streamlining the design process and reducing material waste" (Woodworking Network, 2021, p. 28).

## **METALWORK TECHNOLOGY PROGRAM**

### ***3D Printing and Additive Manufacturing***

Metalwork Technology graduates must possess skills in 3D printing and additive

manufacturing. These skills enable the creation of intricate metal components and prototypes using additive techniques. Graduates should understand 3D printing technologies and software tools for design and preparation of 3D-printed metal parts. Research by Deloitte (2021) highlights the transformative potential of 3D printing in metalwork, stating that "metal additive manufacturing has the capacity to revolutionize traditional metalworking processes, offering cost savings and design flexibility" (Deloitte, 2021, p. 9). Proficiency in this technology is essential for remaining competitive in the metalwork industry.

### ***CNC Machining and Precision Engineering***

Similar to the Woodwork Technology Program, Metalwork Technology graduates require proficiency in CNC machining and precision engineering. These skills enable graduates to operate CNC machines, ensuring precision and accuracy in metalworking processes. The National Institute for Metalworking Skills (NIMS, 2020) emphasizes the importance of CNC machining skills in metalworking, stating that "CNC machining is a cornerstone of modern metalworking, allowing for high-precision manufacturing and complex geometries" (NIMS, 2020, p. 14). CNC skills are vital for fabricating metal components used in various industries, from aerospace to automotive.

## **AUTOMECHANICS TECHNOLOGY PROGRAM**

### ***Automotive Diagnostics Software***

In the Automechanics Technology Program, proficiency in automotive diagnostics software is essential. Graduates must understand and effectively use diagnostic tools and software to identify and troubleshoot issues in modern vehicles. This includes interpreting diagnostic codes, analyzing sensor data, and performing system diagnostics. Mitchell highlights the significance of automotive diagnostics skills, stating that "modern vehicles are equipped with sophisticated electronic systems, making diagnostic software a crucial tool for automechanics" (Mitchell, 2017).

Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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Accurate diagnostics are essential for efficient repairs and vehicle maintenance.

### **Electric and Hybrid Vehicle Maintenance**

With the rise of electric and hybrid vehicles, Automechanics Technology graduates must acquire skills in the maintenance and repair of these advanced automotive technologies. This includes knowledge of electric vehicle (EV) systems, battery management, and hybrid drivetrains. The Electric Drive Transportation Association (EDTA) emphasizes the importance of EV maintenance skills, stating that "as electric and hybrid vehicles become more prevalent, automechanics must adapt to meet the unique maintenance requirements of these vehicles" (EDTA, 2020, p. 5). Proficiency in EV and hybrid maintenance is crucial for servicing the vehicles of the future.

### **CHALLENGES AND SOLUTIONS**

While the importance of equipping Career and Technical Education (CTE) graduates with digital skills for remote employment is evident, several challenges hinder their acquisition of these essential skills.

#### **Challenges in Acquiring Digital Skills**

##### **Limited Resources and Access to Technology**

One of the primary challenges CTE institutions encounter is limited resources and access to technology. Inadequate funding, outdated equipment, and insufficient access to digital tools can impede the development of digital skills among students. This challenge is particularly pronounced in underserved communities and educational institutions with tight budgets. According to Anderson (2018), CTE programs in resource-constrained environments face significant barriers in providing students with access to modern technology and tools. Without access to up-to-date technology, students may struggle to gain the practical skills required for remote employment.

### **Resistance to Change**

Resistance to change is another challenge that CTE institutions must address. Educators and administrators may be resistant to integrating digital skills into existing curricula due to concerns about the disruption of traditional teaching methods and the need for additional training. John Davis highlights the importance of addressing resistance to change, noting that "institutions that fail to adapt to changing technological landscapes risk falling behind and failing to meet the evolving needs of the job market" (Davis, 2019, p. 14). Overcoming resistance requires a strategic approach that emphasizes the benefits of digital skills for students' career prospects.

### **Solutions for CTE Institutions**

#### **Integrating Digital Training into Existing Curricula**

To address the challenge of limited resources and resistance to change, CTE institutions can take steps to integrate digital training into existing curricula. This approach ensures that digital skills become an integral part of the learning experience, rather than a separate add-on. Embedding digital skills within existing courses allows students to apply these skills in real-world contexts, making learning more relevant and effective (Roberts, 2020). CTE programs can identify key points within their curricula to incorporate digital training, aligning it with program-specific needs.

#### **Collaborations with Tech Industry Partners**

Collaborations with tech industry partners offer a valuable solution to address resource constraints and provide students with access to technology. These partnerships can take the form of equipment donations, access to industry-standard software, or guest lectures from industry professionals. A report by the National Association of Manufacturers, NAM (2021) emphasizes the benefits of industry collaborations, stating that "partnerships with tech industry leaders provide students with

Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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exposure to cutting-edge technology and real-world applications, enhancing their readiness for remote employment" (NAM, 2021, p. 10). Such collaborations not only address resource limitations but also bridge the gap between education and industry needs.

### **Offering Online Digital Skill Courses**

To enhance access to digital skills training, CTE institutions can consider offering online courses specifically focused on digital skills. Online courses provide flexibility for students to learn at their own pace and access resources remotely. These courses can cover a range of topics, from coding and software proficiency to digital project management. Walker (2019) asserts that online learning platforms offer a scalable and cost-effective way for CTE institutions to expand digital skills training and reach a broader audience. By offering online options, CTE programs can extend their reach beyond the physical classroom and cater to diverse student needs.

### **THE ROLE OF EDUCATIONAL INSTITUTIONS**

Educational institutions, particularly those offering Career and Technical Education (CTE) programs, play a pivotal role in equipping students with essential digital skills for remote employment. Some of the strategies and approaches that educational institutions can adopt to adapt to the new normal and prepare CTE graduates for the demands of the digital era are as follows.

### **CTE Program Adaptation Strategies**

#### **Curriculum Revision and Enhancement**

Adapting CTE programs to the digital age requires a proactive approach to curriculum revision and enhancement. Institutions must assess the relevance of existing curricula and identify areas where digital skills can be integrated seamlessly. This process involves aligning program outcomes with industry demands and emerging technologies. Turner (2019) agrees with this by that "keeping CTE curricula up-to-date is crucial to ensuring that

graduates are equipped with the skills demanded by employers in the evolving job market" (Turner, 2019, p. 28). Regular curriculum reviews and updates ensure that graduates remain competitive and industry-ready.

### **Faculty Training and Development**

Equipping faculty members with the necessary digital skills and teaching methods is equally essential. Faculty training and development programs should focus on enhancing educators' proficiency in digital tools, software, and instructional techniques. This empowers them to effectively convey digital skills to students. Martinez (2020) could not have agreed more when he stated that "investing in ongoing training for educators is an investment in the quality of CTE programs and the success of students" (Martinez, 2020, p. 12). Faculty who are well-versed in digital skills can guide and mentor students more effectively.

### **COLLABORATION WITH INDUSTRY AND ONLINE LEARNING PLATFORMS**

#### **Building Partnerships for Skill Training**

Collaboration with industry partners is a valuable strategy for educational institutions. These partnerships can take various forms, including internships, apprenticeships, and industry-sponsored skill training programs. Industry experts can provide students with insights into real-world applications of digital skills and offer mentorship opportunities. A report by the U.S. Chamber of Commerce Foundation (2021) highlights the benefits of industry collaborations, stating that "partnerships with local businesses and industry associations offer students access to practical experience and the latest industry-specific digital tools" (U.S. Chamber of Commerce Foundation, 2021, p. 7). Such collaborations bridge the gap between classroom learning and industry needs.

### **Utilizing Online Resources and Courses**

Incorporating online learning platforms and resources into CTE programs can expand

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Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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the range of digital skill training opportunities. Educational institutions can leverage online courses, tutorials, and digital resources to supplement traditional classroom instruction. This approach provides students with flexibility and access to a broader array of digital training materials. The potential of online resources are numerous. Rodriguez (2021) agrees by noting that online platforms offer a vast repository of digital skill courses and resources, allowing students to explore and specialize in areas of interest. Integrating online resources into CTE programs ensures that students have access to the latest digital tools and knowledge.

## CONCLUSION

The ever-evolving landscape of the modern workforce, influenced by the profound changes brought about by the COVID-19 pandemic, demands a swift and strategic response from Career and Technical Education (CTE) institutions. As the world adapts to the new normal, equipping CTE graduates with essential digital skills for remote employment has become not only a necessity but a mandate for educational institutions. In this journey of adaptation, we have explored the vital role of digital skills in the remote work era and their relevance across diverse CTE programs. We have examined the challenges faced by CTE institutions and proposed practical solutions that encompass curriculum revision, faculty development, industry collaborations, and the integration of online resources. As we reflect on the path forward, it is evident that the significance of digital skills extends far beyond the confines of the classroom. It is about empowering graduates to thrive in an increasingly digital and interconnected world, where remote work is no longer an exception but a fundamental aspect of the employment landscape.

The key digital skills discussed in this paper, whether coding in Electrical and Electronics, CAD proficiency in Building Technology, CNC machining in Woodwork Technology, 3D printing in Metalwork Technology, or automotive

diagnostics software in Automechanics Technology, are the building blocks of the future workforce. They are the skills that enable graduates to navigate the digital terrain, communicate seamlessly, collaborate effectively, and contribute meaningfully to their chosen fields. Educational institutions have a pivotal role to play in this transformation. They must embrace the challenges and opportunities presented by the new normal, recognizing that innovation and adaptation are the cornerstones of progress. Curriculum enhancements, faculty development, industry partnerships, and the utilization of online resources are the tools that will shape the digital-ready CTE graduate of tomorrow.

## RECOMMENDATIONS

The following recommendations are made:

1. Educational institutions offering Career and Technical Education (CTE) programs should prioritize regular curriculum review and enhancement. This process should be dynamic, incorporating industry feedback, emerging technologies, and evolving digital skill requirements. By staying current and relevant, CTE programs can ensure that graduates are equipped with the skills demanded by employers in the ever-changing job market.
2. To effectively transmit digital skills to students, institutions must invest in faculty development. Faculty members should receive ongoing training and support to enhance their proficiency in digital tools, software, and instructional methods. This investment not only benefits educators but also ensures that students receive high-quality, up-to-date instruction.
3. Collaboration with industry partners is essential. CTE institutions should actively seek partnerships with local businesses, industry associations, and technology companies. These collaborations can provide students with access to cutting-edge technology, real-world experience, and

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Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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- mentorship opportunities. Strong industry ties bridge the gap between classroom learning and industry demands.
4. The integration of online learning resources and courses should be a fundamental part of CTE programs. Online resources offer flexibility, accessibility, and exposure to a wide range of digital skills and tools. CTE institutions should leverage these resources to supplement traditional classroom instruction, ensuring that students have access to the latest digital knowledge and training materials.
  5. Recognizing that each CTE program has unique requirements, institutions should customize digital skill training to align with program-specific needs. Flexibility in curriculum design allows educators to tailor instruction to industry standards and emerging technologies, ensuring that graduates are well-prepared for their chosen fields.
  6. It is vital to foster a culture of digital learning within CTE institutions. This involves creating an environment where both faculty and students embrace digital skills as essential competencies. Encouraging innovation, experimentation, and a growth mindset can help instill a passion for digital learning and adaptation among all stakeholders.
  7. Educational institutions should advocate for adequate funding to support the acquisition of digital resources, equipment, and infrastructure. Adequate financial support is essential to ensure that CTE programs have the necessary tools and technology to effectively teach digital skills.
  8. CTE institutions should remain vigilant and adaptable in embracing emerging technologies. They should continuously monitor technological trends and explore opportunities to incorporate these innovations into their programs. Staying ahead of the curve enables institutions to prepare graduates for the cutting-edge challenges and opportunities of the digital age.
  9. Encouraging cross-disciplinary learning can enhance the versatility of CTE graduates. Institutions can create opportunities for students to explore digital skills beyond their core programs, fostering a multidisciplinary approach to problem-solving and innovation.
  10. CTE institutions should implement robust mechanisms for measuring and assessing students' digital skill proficiency. Regular assessments can provide valuable feedback on program effectiveness and help identify areas for improvement. Data-driven decision-making ensures that graduates are truly equipped with essential digital skills.

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Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafehme@gmail.com](mailto:maxwelluduafehme@gmail.com)

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Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduaufemhe@gmail.com](mailto:maxwelluduaufemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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Corresponding author: Maxwell E. Uduafemhe

✉ [maxwelluduafemhe@gmail.com](mailto:maxwelluduafemhe@gmail.com)

Psychometrics Department, National Examinations Council, Niger State.

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