

## RESEARCH ARTICLE

# National Certificate Qualifications in Teacher Education Academic Programs: Assessing Credential Confidence

Ivy M. Nazareth<sup>1\*</sup>, JoeAn G. Cuaresma<sup>2</sup>, Salman E. Albani<sup>3</sup>, Jeansorraine U. Atari<sup>4</sup>, Rolly G. Salvaleon<sup>5</sup>, Jason V. Chavez<sup>6</sup>, Michael Angelo A. Legarde<sup>7</sup>

<sup>1</sup> College of Teacher Education, Zamboanga Peninsula Polytechnic State University, Zamboanga City 7000, Philippines

<sup>2</sup> Commission on Higher Education Region IX, Zamboanga City 7000, Philippines

<sup>3</sup> College of Education, Mindanao State University – Sulu, Jolo, Sulu 7400, Philippines

<sup>4</sup> Tawi-Tawi Regional Agricultural College, Tawi-Tawi, Philippines

<sup>5</sup> Office of the Vice President for Administration and Finance, North Eastern Mindanao State University, Tandag City, Surigao del Sur 8300, Philippines

<sup>6</sup> School of Business Administration, Zamboanga Peninsula Polytechnic State University, Zamboanga City 7000, Philippines

<sup>7</sup> Graduate Education Department, Palawan State University, Puerto Princesa City 5300, Philippines

\* Corresponding author: Ivy M. Nazareth, ivynazareth@zppsue.edu.ph

## ABSTRACT

In the context of 21st-century teacher education, there is a growing demand for educators who possess not only pedagogical expertise but also technical and practical competencies that enhance their employability and professional credibility. Despite this, a gap persists in understanding how National Certificate (NC) skills, typically associated with technical-vocational qualifications, contribute to the professional preparedness and credential confidence of teacher education graduates. This exploratory qualitative study conducted in the Philippines examined how pre-service and in-service teachers perceived the relevance of National Certificate (NC) skills in shaping professional preparedness and employability confidence within teacher education programs. Anchored in Human Capital Theory, the study explored how participants interpreted technical-vocational competencies as contributing to perceived professional value and labor-market positioning. Twenty participants participated in semi-structured interviews analyzed using reflexive thematic analysis. Findings indicated that participants perceived NC skills as supporting experiential teaching practices, enhancing perceived instructional readiness, and strengthening credential confidence during hiring processes. Its findings highlight how teachers interpret NC credentials as symbolic and experiential resources that contribute to perceived employability rather than demonstrating causal curriculum effects. The study provides insight into how teacher education stakeholders understand technical-vocational integration within academic pathways in the Philippine context. The study explored how pre-service and in-service teachers in the Philippines perceived the relevance of National Certificate competencies in shaping their sense of professional preparedness, instructional readiness, and

### ARTICLE INFO

Received: 13 October 2025 | Accepted: 21 February 2026 | Available online: 26 February 2026

### CITATION

Nazareth IM, Cuaresma JG, Albani SE, et al. National Certificate Qualifications in Teacher Education Academic Programs: Assessing Credential Confidence. *Environment and Social Psychology* 2026; 11(2): 4241 doi:10.59429/esp.v11i2.4241

### COPYRIGHT

Copyright © 2026 by author(s). *Environment and Social Psychology* is published by Arts and Science Press Pte. Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), permitting distribution and reproduction in any medium, provided the original work is cited.

employability positioning. Participants reported that NC-related experiences were interpreted as supporting experiential teaching practices, awareness of industry expectations, and confidence when presenting technical competencies during hiring processes. Rather than demonstrating curriculum effects, the findings reflect participants' perceptions that certification functions as a symbolic and experiential resource influencing how they position themselves professionally. Participants also described variability in exposure to NC training, indicating uneven integration across teacher education programs. The study contributes to understanding how teachers interpret technical-vocational credentials within academic pathways and how these interpretations relate to perceived professional value and labor-market positioning.

**Keywords:** National Certificate; Qualifications in Teacher education; Academic Programs; Credential Confidence

---

## 1. Introduction

In today's competitive and rapidly evolving professional landscape, educational institutions are expected to equip future teachers not only with pedagogical knowledge but also with practical and technical skills that enhance their employability and adaptability<sup>[1,2]</sup>. In the Philippines, the National Certificate (NC) issued by the Technical Education and Skills Development Authority (TESDA) serves as formal recognition of an individual's competencies in specific technical or vocational areas. While the National Certificate is widely recognized across various industries, its integration into the teacher education curriculum, particularly in teacher education techvoc programs, remains a complex challenge for many institutions. Technical and vocational courses in teacher education polytechnic institutions, such as Bachelor of Technical Vocational Teacher Education with majors in Drafting Technology, Automotive Technology, and Electronics Technology, among others, and Bachelor of Technology and Livelihood Education with majors in Industrial Arts, Information and Communication Technology, and Home Economics (CMO no. 79, s. 2017), have integrated in their curriculum the National Certificate (NC) competencies consisting of Automotive Servicing NC II, Automotive Electrical Assembly NC II, Driving NC II, Electronics Products Assembly Servicing NC II, Computer System Servicing NC II, Electrical Installation and Maintenance NC II, Rough Carpentry NC II, Masonry NC II, Plumbing NC II, Finishing Carpentry NC II, Construction Painting NC II, Food and Beverage NC II, Food Processing NC II, Bread and Pastry NC II, Cookery and Baking NC II, Domestic Refrigeration and Air Conditioning NC II, RAC Servicing, Dressmaking NC II and Tailoring NC II (TESDA-CAR, 2021). In order to complete the NC requirements in the teacher education curriculum, BTVTED and BTLED students are required to undergo the NC training from the institution and to be assessed by institutions accredited by TESDA to obtain National Certificates, thus enhancing their qualifications for teaching positions in senior high schools. Consequently, BTVTED and BTLED graduates are better positioned for employment opportunities even in the junior high school curriculum compared to those from traditional academic programs who may also pursue NCs for added qualifications in technology and vocational education but are not aligned to their program competencies (ZPPSU Board Resolution no. 017-2020). According to the recommendations of the EDCOM, the Department of Education (DepED), the Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority, together with the Professional Regulation Commission, should work collaboratively to meet the needs of the learners, particularly the trend in education (EDCOM II, 2023). However, what curriculum innovations do the teacher education institutions do to satisfy the demands of their graduates and ensure that their institutions generate graduates who are competitive and employable? This presents a gap in understanding how NC skills contribute to professional preparedness and credential confidence among teacher education graduates.

Just like the BTVTED and BTLED graduates, teacher education graduates of the academic programs can also be at par with the teacher education tech-voc programs. Hence, by integrating TESDA National

Certificates into BSED and BEED majors, institutions can innovate their teacher education academic curriculum and successfully bridge the gap in students' practical skill development. Significant certifications include CCT NC II for English majors focusing on communication, NC III in Bookkeeping for Mathematics majors, and NC II in Laboratory Services for Science majors, merging practical skills with theory. BEED graduates in early childhood need caregiving certifications, while BCAED and BPED graduates can pursue arts and fitness certifications to enhance job readiness in their fields that have remained underexplored. This presents a gap in understanding how NC skills contribute to professional preparedness and credential confidence among teacher education graduates.

Teacher education programs traditionally focus on theoretical and instructional competence. However, the demands of the 21st-century education sector require teachers who can blend pedagogical proficiency with technical versatility <sup>[3,4]</sup>. Employers increasingly seek educators who demonstrate not only teaching ability but also practical competencies aligned with institutional and community needs. This creates a need to examine how National Certificate-acquired competencies aligned to teacher education academic programs can enhance the overall professional profile and employability of teacher education graduates <sup>[5, 6]</sup>. For example, a study of computer science graduates found that many regarded NC II certification as important in securing employment <sup>[7]</sup>.

This study is anchored on the Human Capital Theory <sup>[8]</sup>, which posits that investment in education, training, and skill development increases an individual's productivity, value, and competitiveness in the labor market. In this context, acquiring NC skills represents an additional form of human capital that can potentially improve the career prospects of teacher education graduates, both locally and internationally. By embedding these skills into the teacher education curriculum, institutions may foster graduates who are not only pedagogically competent but also professionally versatile <sup>[9]</sup>. Research on employability and career competencies among technical-vocational teachers underscores that competencies (including NC or certification) are significantly related to work engagement, adaptability, and professional confidence <sup>[10]</sup>.

Furthermore, curriculum innovation can be achieved by incorporating technical-vocational skills into the teacher education academic programs, though these are technical and vocational in context but hold significant relevance to the academic context of the teacher education academic programs. To exemplify, various bachelor's degree programs are aligned with TESDA National Certificates for teacher education not only for techvoc programs but also for academic programs that improve employability and practical skills. Certifications like Contact Center Services NC II and Scriptwriting (Radio and Audio Production NC III support audio education that are aligned for BSED English majors which focus on communication skills including audience analysis and oral communication. Graduates of the BSED Mathematics gain useful skills in Bookkeeping NC III and applied logic through Events Management Services NC III that enhances their knowledge of financial modeling, data management, and logistics in science event management. BSED Science majors combine real-world experiences with certifications such as Laboratory Services NC II and Medical Transcription NC II. BEED graduates in early childhood and special education require certifications such as Caregiving NC II, emphasizing child development. Furthermore, certifications such as Performing Arts NC II and Visual Graphics Design NC III that are relevant for teaching arts can improve the competencies of BCAED graduates with training in music and visual arts. Additional requirements for BPED graduates include certifications in Fitness Instructions NC II and Sports Coaching NC II. With emphasis on sports event planning, logistics, and stakeholders' management, the Events Management Services NC III certification is a very adaptable, providing fundamental skills that can be applied to various degrees and improving job prospects education and beyond. This is supported by Ponomariovienè et al. <sup>[11]</sup> that Competency-based education as an educational paradigm with the primary goal of combining theoretical

knowledge and practical skills, giving students the opportunity to effectively apply learning outcomes in real-life situations. Adopting this holistic approach, teacher education graduates of academic programs can acquire similar skills, knowledge, and competencies as their techvoc-related teacher education counterparts, enabling them to compete effectively in the job market and access similar opportunities locally, globally, and internationally.

The study aims to explore how pre-service and in-service teachers in the Philippines interpret the relevance of National Certificate competencies within teacher education academic programs and how participants perceive these credentials as shaping their sense of instructional preparedness, professional identity, and employability positioning based on their experiences and interpretations. Furthermore, the study aims to provide insights for curriculum developers and policymakers to strengthen teacher education academic programs by incorporating technical-vocational elements that promote global competitiveness and lifelong learning. Prior research in technical-vocational education shows that when teacher competencies and NC or certificate trainings are aligned with the curriculum, schools report higher performance, greater adaptability, and more positive perceptions from employers <sup>[12,13]</sup>. The study aims to explore how pre-service and in-service teachers perceive the relevance of National Certificate skills within teacher education programs and to examine how participants interpret the influence of these credentials on professional preparedness, credential confidence, and perceived employability positioning. This study contributes by examining how teachers interpret National Certificate competencies within the teacher education academic pathways rather than technical-vocational institutions alone. It extends Human Capital Theory by focusing on perception-based interpretations of skill investment and professional identity formation within Philippine teacher education programs.

## **2. Literature review**

*The Evolving Demands of Teacher Education and Professional Preparedness.* The field of teacher education has undergone continuous transformation to address the growing expectations of 21st-century learners and employers. Teacher preparation programs now emphasize not only pedagogical knowledge but also practical competencies that align with labor market needs <sup>[14]</sup>. According to UNESCO (2021), effective teacher preparation should integrate both theoretical foundations and applied skills that ensure graduates' employability and adaptability.

In this context, the inclusion of National Certificate (NC) skills offered by technical and vocational education and training (TVET) systems such as TESDA in the Philippines serves as a bridge between traditional academic training and real-world professional demands. Integrating these technical competencies within teacher education curricula aims to produce graduates who are both pedagogically competent and professionally versatile. Recent studies also emphasize that the evolving role of educators requires adaptive attributes in instructional delivery, particularly when handling multiple subject areas <sup>[15]</sup>, and a deep awareness of professional rights and responsibilities <sup>[16]</sup>. These competencies strengthen teachers' preparedness for diverse classroom and workplace contexts.

*The Role and Relevance of National Certificate (NC) Skills in Higher Education.* National Certificates are industry-recognized credentials designed to certify an individual's competence in specific occupational skills. These certifications reflect mastery of practical, job-related tasks that enhance employability and professional credibility (TESDA, 2020). Incorporating NC skills into teacher education curricula reinforces curricular relevance, as it aligns academic programs with global competency frameworks and local industry standards <sup>[17]</sup>. Studies show that pre-service teachers who obtain NC certifications such as in Computer

Systems Servicing, Food and Beverage Services, or Caregiving gain supplementary expertise that broadens their career opportunities beyond traditional teaching <sup>[18]</sup>.

Moreover, research highlights how teacher training programs are gradually incorporating inclusive education policies and compliance mechanisms that promote equitable teaching environments <sup>[19]</sup>. Similarly, reconfigured assessment strategies and digital competency development particularly in online teaching contexts enhance teachers' ability to adapt to modern pedagogical standards <sup>[20]</sup>. Thus, NC integration in teacher education contributes not only to producing versatile educators but also to shaping graduates who are responsive to both educational and socio-economic needs.

*Strengthening Professional Preparedness through Skill Integration.* Professional preparedness refers to the readiness of graduates to transition from academic training to professional practice. Integrating NC skills equips future teachers with hands-on competencies that support classroom management, technical instruction, and resourcefulness in diverse teaching contexts. Research suggests that teachers with NC certifications demonstrate improved problem-solving abilities, technological adaptability, and practical understanding of vocational subjects <sup>[21]</sup>. Such skills enhance their teaching performance and confidence, especially in implementing experiential learning approaches mandated by outcomes-based education (OBE) frameworks. In addition, teachers' awareness of policies and compliance with the Magna Carta for Women strengthens their sense of professional ethics and workplace security <sup>[22]</sup>. Professional interest and integrity also play a significant role in how teachers balance multiple administrative responsibilities, reflecting their professional identity and commitment to lifelong learning <sup>[23]</sup>. In sum, NC integration fosters a balance between academic competence and technical proficiency, which are both critical in ensuring teacher readiness for the dynamic educational landscape.

*National Certificate Skills and Employability Confidence.* Employability confidence reflects how individuals perceive their competitiveness and market value in the job market. For teacher education graduates, possessing additional NC qualifications may strengthen their self-assurance during job applications <sup>[24]</sup>. Employers often associate NC credentials with reliability, work readiness, and specialized expertise <sup>[25]</sup>. Consequently, teacher applicants with NC certifications are viewed as possessing dual competencies pedagogical and technical making them more attractive to both local and international employers. Furthermore, NC certifications serve as portable credentials, recognized across industries and geographical borders. This recognition enhances graduates' global mobility and opportunities for cross-sector employment <sup>[26]</sup>. For instance, Chavez, Garil, Padirque, and colleagues <sup>[27]</sup> highlighted that leadership, innovation, and responsiveness among young professionals directly influence their employability and career advancement. Similarly, Garil, Entong, and Muarip <sup>[28]</sup> emphasized the importance of communication and presentation skills in academic training as key components of lasting professional success.

Therefore, the integration of NC skills not only builds professional confidence but also elevates the institutional credibility of teacher education programs. *Building Stronger Professional Profiles through Lifelong Learning.* The integration of NC skills within teacher education reflects the growing paradigm of lifelong learning, where educators continually enhance their qualifications to remain relevant in evolving professional contexts (OECD, 2020). Teacher education institutions that embed NC training in their curricula foster a culture of continuous upskilling. This integration encourages future teachers to pursue professional certifications as part of their long-term career development, thereby improving the reputation of teacher education graduates in both local and international settings. Furthermore, the rise of digital learning environments and emerging technologies, particularly in technical and vocational education, continues to reshape professional preparation. Mundo, Reyes, and Gervacio <sup>[29]</sup> found that tech-voc educators'

experiences with generative AI illustrate the importance of maintaining ethical, adaptive, and innovative approaches in professional learning. Similarly, Avdiel and Blau <sup>[30]</sup> emphasized that developing adaptive strategies amid economic and professional disruptions enhances educators' resilience and lifelong learning orientation.

The alignment between NC frameworks and teacher education curricula promotes holistic professional development linking knowledge, skills, and attitudes essential for sustainable career growth. While previous studies highlight the employability benefits of technical-vocational certifications, limited research explores their integration within teacher education programs. There is a need to examine how such integration enhances professional preparedness, credential credibility, and employment confidence among pre-service teachers. This study addresses that gap by exploring the perceived relevance and impact of NC skills in shaping the professional profiles of teacher education graduates. This study contributes to the literature by examining how teachers in the Philippine context interpret the role of National Certificate competencies within academic teacher education pathways, offering insight into how technical-vocational credentials are understood as forms of professional capital that shape perceived preparedness, instructional versatility, and career positioning within contemporary educational environments.

### **3. Methodology**

#### **3.1. Research design**

This study employed an exploratory qualitative research design to explore how pre-service and in-service teachers perceived the role of National Certificate skills in shaping their professional preparedness and credential confidence based on their experiences and interpretations of teacher education graduates. The exploratory approach was deemed appropriate because it allows for an in-depth understanding of participants' experiences, perceptions, and interpretations of the role of NC skills within the teacher education curriculum. According to Creswell and Poth <sup>[31]</sup>, exploratory designs are suitable when the researcher aims to uncover new insights and themes related to underexplored phenomena. The study sought to explore how participants perceived National Certificate skills as shaping their sense of professional confidence, instructional preparedness, and employability positioning based on their experiences and interpretations.

#### **3.2. Population and sampling**

The study utilized a purposive sampling technique to select participants who could provide rich, relevant, and informed perspectives on the topic. A total of 20 participants from teacher education programs in selected higher education institutions and public senior high schools in Mindanao, Philippines participated in the study. The sample included 10 pre-service teachers enrolled in teacher education programs and 10 in-service teachers currently teaching in academic or technical-vocational tracks. Participants were selected purposively based on their direct experience with National Certificate training or integration within teacher education contexts.

#### **3.3. Instrument**

Semi-structured interviews were conducted using a guide aligned with the study objectives, allowing participants to describe their experiences and interpretations of National Certificate competencies within teacher education contexts. It was carefully designed and divided into two main sections aligned with the research objectives. The first section focused on determining the relevance of National Certificate (NC) skills within the teacher education curriculum and their contribution to professional preparedness, while the second section explored how NC skills influence the credibility, confidence, and employability of teacher education graduates. The guide contained semi-structured questions that allowed participants to share detailed insights

based on their experiences. The interview guide was developed based on Human Capital Theory and existing literature on teacher employability and technical-vocational education. Initial questions were constructed to explore perceptions of skill investment, professional value, and employability confidence. The instrument underwent expert validation by three specialists in teacher education, technical-vocational training, and qualitative research. A pilot interview was conducted with two teachers not included in the final sample to refine wording, sequencing, and clarity of questions before data collection. Their feedback was incorporated to refine the phrasing, sequencing, and relevance of the interview items, ensuring that the instrument effectively captured the intended data. Table 1 presents the list of guide questions used by this research study.

**Table 1.** Instrument of the study

Objectives	Interview question
1. To determine the relevance of National Certificate skills in the teacher education curriculum resulting in professional preparedness.	1. In what ways do the current practices in your teacher education curriculum reflect the relevance of National Certificate skills to your program? 2. How do you view the relevance of National Certificate skills to the outcomes of your teacher education program? 3. How do National Certificate skills reflect your readiness to work in professional environments?
2. To examine how participants interpret the Influence of National Certificate credentials on employability confidence, professional credibility, and perceived hiring experiences.	1. How do employers view applicants who possess National Certificate skills? 2. How do National Certificate skills influence your confidence when applying for teaching positions? 3. How do National Certificate skills affect your competitiveness in local or International hiring processes?

### 3.4. Data gathering procedure

Data were collected through semi-structured one-on-one interviews, which provided the flexibility to probe participants' responses while maintaining consistency across the central themes of the study. An interview guide was developed based on the research objectives, focusing on two key areas: the relevance of National Certificate (NC) skills in the teacher education curriculum as they relate to professional preparedness, and the influence of NC skills on graduates' employability, confidence, and competitiveness in the job market. The interviews were conducted either face-to-face or via virtual platforms, depending on the participants' availability and accessibility. Each interview session lasted approximately 30 to 45 minutes and was audio-recorded with the participants' consent to ensure accuracy during transcription and subsequent data analysis. Throughout the data collection process, the researcher strictly adhered to ethical research standards, ensuring that participant confidentiality, voluntary participation, and informed consent were maintained at all stages of the study.

### 3.5. Data analysis

The study employed Reflexive Thematic Analysis (RTA) as outlined by Braun and Clarke <sup>[32]</sup>, emphasizing the researcher's active role in identifying, analyzing, and interpreting patterns of meaning within qualitative data. The researchers acknowledge their professional involvement in teacher education and technical-vocational programs, which informed their familiarity with NC integration. Reflexive practices were maintained through memo writing, peer debriefing, and iterative theme review to minimize assumptions and foreground participants' interpretations. Theme construction followed six-phase reflexive thematic analysis: familiarization with transcripts, generation of initial codes, development of candidate themes, review and refinement of themes, definition and naming of themes, and production of the analytic report. Codes were iteratively compared across transcripts to ensure themes represented shared participant

interpretations. Throughout the process, the researcher maintained reflexive engagement, ensuring analytical transparency and sensitivity to participants' contexts, experiences, and interpretations.

## 4. Results

**Research Objective 1.** To determine the relevance of National Certificate skills in the teacher education curriculum resulting in professional preparedness.

**Question No. 1.** In what ways do the current practices in your teacher education curriculum reflect the relevance of National Certificate skills to your program?

### 1.1 *Employable and Flexible*

Ten (10) respondents expressed that their curriculum integrates NC II competencies, especially in areas like Computer Systems Servicing and Bread and Pastry Production, through elective courses and practicum activities. These skills make them more employable and flexible, especially if they plan to teach in technical-vocational tracks. It also helps them appreciate the practical side of education, not just the theoretical. Additionally, they mentioned that this experience made them realize that NC training is not only about gaining technical competence but also about developing instructional strategies suitable for hands-on learning environments. It shows that teaching today goes beyond academic theory; it also involves preparing learners for employability and livelihood.

"Our curriculum integrates NC II competencies, especially in areas like Computer Systems Servicing and Bread and Pastry Production, through elective courses and practicum activities. "

" This experience made me realize that NC training is not only about gaining technical competence but also about developing instructional strategies suitable for hands-on learning environments."

### 1.2 *Assessing the students*

Ten (10) respondents shared that they thought those NC-related activities were just additional requirements. But once they started teaching, they saw how essential they are in helping students meet industry-level expectations. The structure of TESDA-based training where performance, demonstration, and mastery are emphasized which mirrors what they now have to implement in their classroom. It gave them a framework for assessing not just knowledge, but actual skills. Additionally, they mentioned that they also realized that being familiar with NC standards makes lesson planning easier. They can design learning activities that directly prepare students for their assessment and certification. They now appreciate how the integration of NC competencies in their teacher education curriculum helped bridge the gap between theory and practice. It equipped them to become not just a teacher, but a trainer and facilitator of skills that students can use beyond school.

"I thought those NC-related activities were just additional requirements. But once I started teaching, I saw how essential they are in helping students meet industry-level expectations."

"I also realized that being familiar with NC standards makes lesson planning easier. I can design learning activities that directly prepare students for their assessment and certification."

### *1.3 Teaching and Managing the class*

Five (5) respondents expressed that in their experience, the curriculum was relevant in theory and it prepared them to teach and manage classes. But it didn't provide the practical NC-based skills required by the K-12 TVL track. They had to self-learn and attend NC training after graduation. The teacher education program focused more on lesson planning, pedagogy, and assessment, which are important, but it lacked exposure to actual technical competencies aligned with TESDA standards. Additionally, they shared that when they started teaching in the TVL strand, they realized that understanding how to teach a skill is different from actually performing it. The experience made them realize that there's a gap between teacher preparation and industry certification.

" In my experience, the curriculum was relevant in theory and it prepared us to teach and manage classes. "

" When I started teaching in the TVL strand, I realized that understanding how to teach a skill is different from actually performing it."

**Question No. 2.** How do you view the relevance of National Certificate skills to the outcomes of your teacher education program?

#### *2.1 Practical Relevance*

Ten (10) respondents expressed that their curriculum focuses more on teaching strategies and theories, but they see how NC skills could make them more employable and versatile, especially if they'll handle the TVL track. The NC provides concrete technical competencies that go beyond theoretical knowledge which allows them to connect lessons with real-world applications. Right now, it feels like an optional add-on instead of an integrated part of their training. Additionally, they mentioned that integrating NC training could also help them gain confidence in teaching technical subjects, promote lifelong learning, and make them more flexible in career opportunities. It would also ensure that teacher education graduates are not just competent educators but also skilled practitioners capable of guiding students in both theory and practice.

" Our curriculum focuses more on teaching strategies and theories, but I see how NC skills could make us more employable and versatile, especially if we'll handle the TVL track."

"Integrating NC training could also help us gain confidence in teaching technical subjects, promote lifelong learning, and make us more flexible in career opportunities. "

#### *2.2 Theory and Practice Gap*

Ten (10) respondents expressed that the program outcomes talk about producing globally competitive teachers, but they don't get much exposure to NC-based competencies. It would be more relevant if the curriculum included hands-on training aligned with TESDA standards. Integrating TESDA-aligned modules or workshops would allow them to develop not only teaching competence but also actual technical expertise. This combination would enhance their credibility and readiness to teach subjects that require applied skills. Additionally, they mentioned that including NC-based competencies would also help future teachers become more flexible and responsive to the needs of learners, particularly in vocational and livelihood education. It would close the gap between what's taught in universities and what's expected in real classroom and community settings. This approach could raise the quality of teaching and ensure that teacher education graduates truly meet global and local standards of competency.

" The program outcomes talk about producing globally competitive teachers, but we don't get much exposure to NC-based competencies."

"Including NC-based competencies would also help future teachers become more flexible and responsive to the needs of learners, particularly in vocational and livelihood education."

### *2.3 Bridging Competency Gaps*

Five (5) respondents mentioned that the NC validates their practical skills. If it were already part of the teacher education program, new teachers would transition more smoothly into the workforce, especially in the K-12 setup. The inclusion of NC competencies would also strengthen their professional confidence. Additionally, they mentioned that having a National Certificate means their skills are recognized not only in the education sector but also in industries outside of teaching making them more adaptable and employable. This would create a smoother transition from pre-service to in-service teaching, ensuring that they are entering the workforce fully equipped to handle both theoretical and practical components of the K-12 curriculum.

" The NC validates our practical skills. If it were already part of the teacher education program, new teachers would transition more smoothly into the workforce, especially in the K-12 setup."

"Having a National Certificate means our skills are recognized not only in the education sector but also in industries outside of teaching making us more adaptable and employable."

**Question No. 3.** How do National Certificate skills reflect your readiness to work in professional environments?

### *3.1 Boosting Confidence*

Ten (10) respondents expressed that having NC skills makes them feel more confident that they can handle real-world tasks, not just theoretical teaching. It's like proof that they can apply what they learned in a professional setup. The NC training exposed them to industry standards, which they think is very important for future employability. Additionally, they mentioned that it also gave them hands-on experience that can't always be gained inside the classroom. This made them more aware of workplace expectations and how to perform tasks efficiently and professionally. Knowing that they've met competency standards recognized nationwide makes them feel more prepared to face employers and handle responsibilities once they start working.

"Having NC skills makes me feel more confident that I can handle real-world tasks, not just theoretical teaching."

" It also gave me hands-on experience that can't always be gained inside the classroom. This made me more aware of workplace expectations and how to perform tasks efficiently and professionally."

### *3.2 Increase Credibility and Competitiveness*

Ten (10) respondents expressed that when they entered the workforce, having an NC gave them an advantage. It showed employers that they could perform specific tasks efficiently and safely. It's not just about teaching but it's about being credible and competent in a professional environment. Additionally, they mentioned that it also helped them adapt quickly to the demands of the workplace because they were already

familiar with the procedures and expectations of the industry. This gave them a strong foundation to not only deliver lessons effectively but also model industry practices to their students, making their teaching more relevant and authentic.

" When I entered the workforce, having an NC gave me an advantage. It showed employers that I could perform specific tasks efficiently and safely."

"It also helped me adapt quickly to the demands of the workplace because I was already familiar with the procedures and expectations of the industry."

### *3.3 School Learning and Actual Work Gap*

Five (5) respondents expressed that the NC helps bridge the gap between school learning and actual work. During their training, they realized that employers value those certifications because they show that they've undergone hands-on assessment. It gives them a sense of readiness, especially for the technical-vocational tracks in Senior High. Additionally, they mentioned that the NC training exposed them to industry-based tools, equipment, and processes, allowing them to experience how things are actually done outside the classroom. This made them more confident in their ability to meet job expectations and deliver quality work. It also aligns their teaching skills with what students need to learn to be job-ready, making their future instruction more relevant and responsive to industry demands.

"The NC helps bridge the gap between school learning and actual work. During our training, I realized that employers value those certifications because they show that you've undergone hands-on assessment."

" The NC training exposed me to industry-based tools, equipment, and processes, allowing me to experience how things are actually done outside the classroom."

**Research Objective 2.** *To examine how participants interpret the influence of National Certificate credentials on employability confidence, professional credibility, and perceived hiring experiences.*

**Question No. 1.** How do employers view applicants who possess National Certificate skills?

#### *Application Proof*

Ten (10) respondents expressed that when they had their internship, they noticed that schools and industries prefer applicants who already have NCs because it shows they have hands-on skills. Employers see it as proof that the applicant can do the job and not just talk about it. It gives them an advantage, especially in TVL tracks. It shows that they are not only equipped with theoretical knowledge but also capable of applying these skills in real work settings. Additionally, they mentioned that in many cases, applicants with NCs are prioritized because employers view them as 'ready to work' which means less time and resources are needed for training. This practical edge makes NC holders more competitive in the hiring process, particularly in fields that require specialized expertise.

"When we had our internship, I noticed that schools and industries prefer applicants who already have NCs because it shows they have hands-on skills."

" In many cases, applicants with NCs are prioritized because employers view them as 'ready to work' which means less time and resources are needed for training."

### *1.2 Valuable Assets*

Five (5) respondents expressed that based on their experience, employers view NC holders as assets. They know these applicants have undergone competency assessment, so they can be trusted with technical tasks. This is especially important for Senior High TVL tracks where skills application is critical. This certification builds a strong level of trust, as employers can rely on NC holders to demonstrate technical accuracy, efficiency, and professionalism in carrying out specific tasks. Additionally, they mentioned that NC holders are perceived as capable of facilitating hands-on learning experiences, operating equipment confidently, and ensuring that industry-relevant competencies are effectively transferred to students. As a result, employers often prioritize them during hiring, recognizing their potential to contribute meaningfully to both instruction and program development.

" Based on my experience, employers view NC holders as assets. They know these applicants have undergone competency assessment, so they can be trusted with technical tasks."

" NC holders are perceived as capable of facilitating hands-on learning experiences, operating equipment confidently, and ensuring that industry-relevant competencies are effectively transferred to students."

### *1.3 Save Time and Resources*

Ten (10) respondents expressed that some employers prioritize NC holders because it allows them to save both time and resources in employee training and orientation. Since NC holders have already demonstrated mastery of specific competencies through national assessment, employers can confidently assign them to technical tasks without the need for extensive preliminary instruction. Additionally, they mentioned that it also reflects a level of professionalism and accountability that aligns with industry expectations. This readiness reduces the learning curve and enables organizations, particularly schools offering TVL programs to operate more efficiently. In this way, having an NC is not only a credential but also a strategic advantage for both the applicant and the employer.

"Some employers prioritize NC holders because it allows them to save both time and resources in employee training and orientation. "

"It also reflects a level of professionalism and accountability that aligns with industry expectations."

**Question No. 2.** How do National Certificate skills influence your confidence when applying for teaching positions?

### *2.1 Prepared and Competitive*

Ten (10) respondents expressed that they may not have years of experience yet, but holding an NC proves they have the technical skills needed for TVL teaching. It boosts their confidence during interviews because they can show actual credentials, not just academic grades. It gives them a clear advantage especially for specialized TVL subjects. Additionally, they mentioned that the NC serves as tangible proof that they've undergone skills training and assessment, which makes them feel more credible in front of school administrators. They know they can contribute to the TVL program because they're not only trained in teaching strategies but also in practical skills that students need to learn. This lessens their anxiety during

interviews since they can confidently talk about their competencies and how they can apply it in the classroom.

"I may not have years of experience yet, but holding an NC proves I have the technical skills needed for TVL teaching."

"The NC serves as tangible proof that I've undergone skills training and assessment, which makes me feel more credible in front of school administrators."

### *2.2 Lessens fear of being questioned*

Five (5) respondents expressed that before, they were unsure if they could meet industry-based expectations. But with the NC, they feel more credible and confident to answer technical questions during hiring. The training and assessment they underwent helped them understand not just the skills, but also the standards that industries follow. Additionally, they mentioned that it gave them a clearer picture of what's expected from TVL teachers who are preparing students for real-world work. So when interviewers ask about specific procedures, tools, or techniques, they can confidently explain and demonstrate them. The NC made them feel more prepared not just academically, but professionally as well.

"Before, I was unsure if I could meet industry-based expectations. But with the NC, I feel more credible and confident to answer technical questions during hiring."

"It gave me a clearer picture of what's expected from TVL teachers who are preparing students for real-world work."

### *2.3 Stand out among other applicants.*

Ten (10) respondents expressed that there were many applicants with teaching degrees, but not everyone had NCs. That certification gave them an advantage, especially in specialized subjects. While others focused mainly on their teaching qualifications, they were able to offer both pedagogical skills and technical competencies. It may increase chances of hiring or being assigned to more specialized and in-demand subjects. Additionally, they mentioned that employers saw them as someone who could handle both theory and practice, making them a more competitive candidate. It also gave them more confidence during the hiring process because they knew they had something additional that met industry and curriculum standards.

"There were many applicants with teaching degrees, but not everyone had NCs. That certification gave me an advantage, especially in specialized subjects."

"Employers saw me as someone who could handle both theory and practice, making me a more competitive candidate."

**Question No. 3.** How do National Certificate skills affect your competitiveness in local or international hiring processes?

### *3.1 Application stand out.*

Ten (10) respondents expressed that there are many applicants with teaching degrees, but not all have NCs. That certification makes them more marketable, especially for TVL tracks. It gives employers the impression that they can immediately manage workshops and practical lessons. Having the NC sets them apart because it shows that they already have hands-on competence aligned with industry standards, not just theoretical knowledge. Additionally, they mentioned that the NC strengthens their credibility as a TVL teacher, since it proves that they went through an assessment process and met national standards. It also makes them more flexible, they can be assigned to specialized subjects or practical components, giving them more opportunities to be chosen over applicants without NCs.

" There are many applicants with teaching degrees, but not all have NCs. That certification makes me more marketable, especially for TVL tracks."

"The NC strengthens my credibility as a TVL teacher, since it proves that I went through an assessment process and met national standards."

### *3.2 Advantage for international opportunities.*

Ten (10) respondents shared that some international programs and schools look for teachers with both teaching qualifications and technical skills. Having an NC proves that their skills are aligned with national standards, which can be an asset when applying abroad or in TESDA-accredited institutions overseas. Since the NC is competency-based and recognized by certain international partners, it strengthens their credibility not only as an educator but also as a skilled professional. Additionally, they mentioned that in many overseas schools, especially those offering technical-vocational programs, employers prefer candidates who can both teach theory and demonstrate actual skills. This dual qualification gives them an advantage because it shows that they can adapt to different teaching contexts and meet industry expectations.

"Some international programs and schools look for teachers with both teaching qualifications and technical skills. "

"In many overseas schools, especially those offering technical-vocational programs, employers prefer candidates who can both teach theory and demonstrate actual skills."

### *3.3 Supports Career Growth and Flexibility.*

Five (5) respondents mentioned that the NC made them more versatile. They can handle TVL subjects confidently and even do sideline work in the industry. This makes them more employable not just locally but also internationally. Having an NC gives them multiple career options they're not limited to teaching alone. They can apply their skills in various workplaces, which makes them more adaptable to different job demands. Additionally, they shared that the NC gives them opportunities for additional income through part-time industry work or training services. This kind of flexibility is attractive to employers, especially in international settings where schools value teachers who can contribute to both instruction and skill-based training.

"The NC made me more versatile. I can handle TVL subjects confidently and even do sideline work in the industry."

"The NC gives me opportunities for additional income through part-time industry work or training services."

## **5. Discussion**

The findings indicate that participants interpreted National Certificate (NC) competencies as shaping how they understood professional preparedness within contemporary teacher education contexts. Rather than describing direct curricular outcomes, participants emphasized how exposure to competency-based training influenced their awareness of applied teaching practices and workplace expectations. Participants described uneven exposure to NC competencies, indicating that perceived benefits were shaped by individual training experiences rather than uniform curriculum implementation. Technical training represented an additional layer of professional capital that participants believed strengthened their instructional versatility and

workplace readiness <sup>[33]</sup>. Rather than describing curriculum outcomes, participants focused on how hands-on learning and competency assessments influenced their confidence in facilitating applied teaching practices. Several narratives reflected an emerging awareness that teaching roles increasingly require the integration of technical skills alongside pedagogical expertise, particularly within technical-vocational learning environments <sup>[34]</sup>. Participants described how exposure to performance-based standards influenced their understanding of authentic assessment and experiential instruction. This interpretation suggests that competency-based learning shaped how participants perceived the practical relevance of their training to contemporary classroom demands. The transition from theoretical knowledge to applied teaching practice was frequently interpreted as a movement from academic preparation toward professional functionality. Human Capital Theory helps explain this transition by framing technical skills as resources that individuals believe increase their professional value and effectiveness <sup>[35]</sup>. Participants' reflections also revealed variability in perceived preparedness depending on access to NC-aligned experiences, highlighting how uneven exposure influenced the perceived accumulation of professional capital. These differences suggest that perceived readiness was constructed through individual learning experiences rather than standardized program structures. The narratives demonstrate that professional preparedness was understood as the outcome of accumulated competencies interpreted through anticipated workplace expectations. The participants' interpretations illustrate how skill investment was perceived as shaping professional identity and readiness within evolving educational contexts.

Participants also described NC credentials as influencing their perceived labor-market positioning, which reflects the second stage of the human capital pathway from perceived value to employability advantage. Rather than reporting verified employer perspectives, participants interpreted certification as signaling technical competence and readiness for specialized teaching roles. These perceptions influenced how they evaluated their competitiveness in hiring processes, particularly in contexts requiring applied or vocational instruction. Human Capital Theory provides a framework for understanding how individuals interpret credentials as indicators of enhanced productivity and employability potential <sup>[36]</sup>. Participants frequently described how certification strengthened their confidence during interviews and teaching demonstrations, suggesting that credential confidence functioned as an internalized form of perceived professional capital. Similar research on employability highlights that technical certifications often contribute to self-perceived market value even when objective employment outcomes are not directly measured <sup>[37]</sup>. Participants' narratives emphasized symbolic advantages, such as feeling more credible when discussing technical skills or demonstrating practical competencies. These perceptions reinforced the belief that technical expertise complemented pedagogical qualifications, thereby strengthening their professional profiles. Literature on technical-vocational teacher development similarly notes that multidisciplinary competencies may enhance perceived adaptability and career mobility <sup>[38]</sup>. Participants also interpreted NC credentials as expanding their professional pathways beyond traditional teaching roles, illustrating how human capital accumulation can influence career expectations and aspirations. Importantly, these interpretations were grounded in personal experiences rather than institutional claims about employability outcomes. The findings therefore highlight how perceived labor-market advantage emerges through individual meaning-making processes linked to credential acquisition. This perspective underscores the role of certification as a symbolic and experiential resource that shapes how participants position themselves within professional hiring contexts.

Mapping the findings across the human capital framework reveals a sequential interpretive process connecting competency acquisition to perceived professional growth and career adaptability. Participants described technical training as an investment that enhanced their perceived instructional capability, which

they associated with increased confidence and professional legitimacy, as supported by Abedi et al. [39]. This progression reflects the pathway from skill acquisition to perceived value to perceived labor-market positioning emphasized within Human Capital Theory by Becker in 1964. Participants interpreted technical competencies as strengthening their ability to respond to evolving educational demands, particularly within multidisciplinary and skills-based teaching environments. The narratives also illustrated how credential attainment contributed to a sense of lifelong learning and professional adaptability, consistent with contemporary views on continuous skill development in education [40]. Several participants emphasized that certification encouraged them to pursue additional competencies, reinforcing an ongoing cycle of professional capital accumulation. However, according to Limbong and Lumbantoruan [41] and Ulfa et al. [42], the variability in training exposure revealed that perceived benefits were shaped by personal engagement with NC programs rather than uniform institutional implementation. This finding highlights the interpretive nature of human capital development within educational settings, where individuals construct meaning from their learning experiences. Participants' accounts also demonstrated how technical competencies were associated with increased professional agency, allowing them to envision broader teaching and industry roles. Research on technical-vocational educators similarly emphasizes that diversified competencies support adaptive professional identities in rapidly changing learning environments [43]. The integration of Human Capital Theory across the findings clarifies how participants interpreted NC credentials not simply as additional qualifications but as resources contributing to perceived professional advancement. The study shows that participants' perceptions of preparedness and employability were shaped by a coherent pathway linking skill investment, perceived value, and anticipated labor-market advantage.

## **6. Conclusion**

This exploratory qualitative study examined how pre-service and in-service teachers interpret the relevance of National Certificate (NC) skills within teacher education and how these credentials shape their perceived professional preparedness and employability confidence. Participants in this study perceived that integrating TESDA National Certificates (NC) into teacher education programs may enhance graduates' sense of competitiveness and professional positioning. Rather than demonstrating measurable labor-market superiority, the findings reflect how participants interpreted NC credentials as contributing to the development of a "hybrid" professional identity that combines pedagogical knowledge with technical competencies. Participants believed that possessing NC qualifications could strengthen their perceived eligibility for Technical-Vocational-Livelihood (TVL) teaching roles and potentially broaden employment opportunities. These interpretations suggest that NC credentials are viewed as complementary to academic qualifications, contributing to perceived versatility and adaptability within both academic and technical environments. Beyond teaching, participants described how NC skills expanded their perceived career flexibility, illustrating how certification shaped their professional self-concept within an evolving job market.

Participants described NC training as contributing to their sense of readiness for applied teaching contexts, particularly through exposure to competency-based standards, hands-on learning, and industry-aligned assessment practices. Many participants reported that these experiences strengthened their confidence in delivering practical lessons and navigating technical-vocational teaching environments. Participants also shared perceptions that holding NC credentials enhanced their professional credibility during hiring processes. Rather than demonstrating verified employer perspectives, the findings reflect participants' beliefs that NC qualifications signal technical competence, reduce perceived training needs, and increase competitiveness in specialized teaching roles. These perceptions influenced how participants positioned themselves professionally and how they evaluated their readiness for employment. Viewed

through Human Capital Theory, NC credentials were interpreted by participants as an additional form of skill investment that contributed to their perceived value in the education labor market. Participants linked the acquisition of technical competencies to increased self-confidence, perceived employability advantages, and broader professional opportunities. This interpretation reflects how individuals understand the accumulation of practical skills as enhancing their professional capital and adaptability. Therefore, the findings highlight how teachers perceive NC integration as shaping their confidence, perceived labor-market positioning, and professional identity rather than demonstrating direct causal effects of curriculum integration. The findings are limited by reliance on participant perceptions within a qualitative exploratory design and by the regional Philippine sample, which may affect transferability. Future studies may incorporate curriculum documents, employer perspectives, or longitudinal designs. Implications include informing curriculum discussions on experiential learning, professional identity formation, and perceived employability positioning within teacher education programs. The study contributes to understanding how teacher education stakeholders interpret technical-vocational credentials within academic pathways and how these interpretations influence professional self-assessment and career expectations.

## **7. Recommendations**

### ***A. National Certificate Competencies within Teacher Education Academic Programs***

In light of participants' interpretations that National Certificate (NC) exposure contributed to their sense of instructional readiness and credential confidence, teacher education institutions may consider reviewing how discipline-relevant technical competencies are positioned within academic programs. Rather than prescribing uniform integration, institutions may explore context-appropriate strategies such as curriculum mapping, elective certification pathways, supplemental training opportunities, or practicum enrichment aligned with existing program outcomes. Any alignment should preserve the theoretical and pedagogical foundations of teacher preparation while creating structured opportunities for experiential and competency-based exposure where relevant. Careful implementation and institutional discretion are essential to ensure that technical elements complement, rather than dilute, academic rigor. Such initiatives may support the development of instructional versatility and reflective professional identity formation, consistent with the perception-based findings of this study.

### ***B. Development of a Conceptual Career Positioning Framework***

Given participants' accounts that NC credentials influenced how they perceived their professional positioning during hiring processes, institutions may also consider articulating a conceptual career positioning framework for teacher education graduates. This framework may illustrate how pedagogical qualifications, when combined with selected technical certifications, can broaden potential instructional roles, particularly in applied or skills-oriented educational settings. Importantly, this should be presented as a guiding reference rather than a guarantee of employment outcomes. Clarifying possible intersections between academic expertise and competency-based credentials, institutions may assist graduates in understanding pathways for professional adaptability, interdisciplinary engagement, and continued skill development. Collaborative dialogue with relevant regulatory and training bodies such as the Commission on Higher Education and the Technical Education and Skills Development Authority may further support coherent standards and program alignment where appropriate.

## **Conflict of interest**

The authors declare no conflict of interest

## References

1. Barrientos, A. A. (2025). Encouraging environmental sensitivity and Earth science performance: Perceptions from first-year teacher education students. *Journal of Environmental & Earth Sciences*, 7(4), 180–192. <https://doi.org/10.30564/jees.v7i4.8039>
2. Chavez, J. V., & Unga, N. H. (2024). Confidence of implementation of new BSND curriculum among program administrators and faculty. *Environment and Social Psychology*, 9(6), 2128. <https://doi.org/10.54517/esp.v9i6.2128>
3. Calzada, K. P. D. (2024). Anti-dependency teaching strategy for innovation in the age of AI among technology-based students. *Environment and Social Psychology*, 9(8), 3026. <https://doi.org/10.59429/esp.v9i8.3026>
4. Carpio, L. B., Caburnay, A. L. S., Nollo, S. M., et al. (2024). Technology-based teaching among nursing instructors: Confidence and apprehension in using simulation equipment for training. *Environment and Social Psychology*, 9(8), 2591. <https://doi.org/10.59429/esp.v9i8.2591>
5. Cencero, C. C. (2025). Characterizing workshops promoting motivated engagement and retention beyond the sessions: Experiential narratives from education, language, and social science instructors. *Forum for Linguistic Studies*, 7(4), 51–65. <https://doi.org/10.30564/fls.v7i4.8373>
6. Verdeflor, R. N. (2024). Choosing science and mathematics programs in college: Practical and psychological arbiters in career-pathing. *Environment and Social Psychology*, 9(9), 2777. <https://doi.org/10.59429/esp.v9i9.2777>
7. Meneses, J. M., De Veyra, R. T., & Lubiano, M. A. (2025). Relevance of technical and vocational education and training in the employability of computer science graduates. *Jurnal Pendidikan Progresif*, 15(1), 45–59. <https://jpp.fkip.unila.ac.id/index.php/jpp/article/view/413>
8. Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
9. Garil, B. A., Abbas, T. S. C., & Limen, M. V. (2024). Analyzing the demographic-based grammatical competence and its relationship to academic performance in higher education setting. *Forum for Linguistic Studies*, 6(3), 343–356. <https://doi.org/10.30564/fls.v6i3.6453>
10. Paredes, V. S., & Buenaventura, V. P. (2025). Employability skills and career competencies as predictors of work engagement among technical-vocational teachers. *European Journal of Education Studies*, 12(8), 112–128. <https://oapub.org/edu/index.php/ejes/article/view/5254>
11. Ponomariovienė, J., Jakavonytė-Staškuvienė, D., & Torterat, F. (2025). Implementing Competency-Based Education Through the Personalized Monitoring of Primary Students' Progress and Assessment. *Education Sciences*, 15(2), 252. <https://doi.org/10.3390/educsci15020252>
12. Dela Calzada, K. P., Tacobo, C. M. P., Lualhati, M. E. C., et al. (2025). Alternating environmental teaching through AI: Potential benefits and limitations. *Journal of Environmental & Earth Sciences*, 7(4), 138–151. <https://doi.org/10.30564/jees.v7i4.8340>
13. Galit, J. G. (2025). Competencies integrating 21st century skills in teaching practices among technology and livelihood education (TLE) teachers in the technical-vocational schools in the Division of Northern Samar. *Asian Journal of Education and Social Studies*, 48(3), 1–12. <https://journalajess.com/index.php/AJESS/article/view/2189>
14. Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? *European Journal of Teacher Education*, 40(3), 291–309.
15. Castro, F. L. T., Ventura, B. L. O., Estajal, R. S., et al. (2024). Teachers handling multiple subject areas: Difficulties and adaptive attributes in the delivery of instructions. *Environment and Social Psychology*, 9(9), 2520. <https://doi.org/10.59429/esp.v9i9.2520>
16. Bucoy, R. K., Enumerabellon, K. M., Amilhamja, A. J., et al. (2024). Knowledge deficits and analysis on comprehension of teachers on their common legal rights as teachers. *Environment and Social Psychology*, 9(9), 2559. <https://doi.org/10.59429/esp.v9i9.2559>
17. Cañete, R., & Dizon, A. (2019). Bridging skills and education: The role of NC certifications in higher education employability. *Philippine Journal of Education Studies*, 35(2), 44–58.
18. Garcia, J., & Ramos, E. (2021). TESDA certifications and employability of education graduates: A Philippine perspective. *Journal of Technical Education and Training*, 13(4), 89–102.
19. Leon, A. J. T. D., Jumalon, R. L., Chavez, J. V., et al. (2024). Analysis on the implementation of inclusive classroom: Perception on compliances and obstructions of selected public-school teachers. *Environment and Social Psychology*, 9(9), 2537. <https://doi.org/10.59429/esp.v9i9.2537>
20. Chavez, J. V., & Lamorinas, D. D. (2023). Reconfiguring assessment practices and strategies in online education during the pandemic. *International Journal of Assessment Tools in Education*, 10(1), 160–174.
21. Flores, M. (2022). Integrating technical skills in teacher education: Implications for professional development. *Asia Pacific Education Review*, 23(1), 65–78.

22. Chavez, J. V., Gregorio, M. W., Araneta, A. L., & Bihag, C. D. (2024). Magna Carta for women health workers, teachers, and minimum-wage earners in the workplace: Policy awareness and organizational compliance. *Environment and Social Psychology*, 9(1), 1735. <https://doi.org/10.54517/esp.v9i1.1735>
23. Dagoy, T. H. S., Ariban, A. I., Chavez, J. V., et al. (2024). Discourse analysis on the teachers' professional interest and integrity among teachers with multiple administrative functions. *Environment and Social Psychology*, 9(12), 2521. <https://doi.org/10.59429/esp.v9i12.2521>
24. Gonzales, R. (2021). Credentialing and confidence: The role of NC in teacher employability. *Philippine Normal University Research Journal*, 12(1), 34–49.
25. TESDA. (2020). National Technical Education and Skills Development Plan 2018–2022.
26. ILO. (2022). Global framework for skills recognition and employability. International Labour Organization.
27. Chavez, J. V., Garil, B. A., Padirque, C. B., et al. (2024). Assessing innovative and responsive young leaders in public service: Lens from community clientele. *Environment and Social Psychology*, 9(9), 2876. <https://doi.org/10.59429/esp.v9i9.2876>
28. Garil, B. A., Entong, M. B. M., Muarip, V. C., et al. (2024). Language delivery styles in academic trainings: Analysis of speaker's emotional connection to audience for lasting learning. *Forum for Linguistic Studies*, 6(3), 326–342. <https://doi.org/10.30564/fls.v6i3.6533>
29. Mundo, M. A. D., Reyes, E. F. D., & Gervacio, E. M. (2024). Discourse analysis on experience-based position of science, mathematics, and Tech-Voc educators on generative AI and academic integrity. *Environment and Social Psychology*, 9(8), 3028. <https://doi.org/10.59429/esp.v9i8.3028>
30. Avdiel, O., & Blau, I. (2025). Building Resilience: Technological Adaptation and Enhancing Collaboration Among Educators and Learners in Flexible Emergency Learning Spaces. *Education Sciences*, 15(12), 1596. <https://doi.org/10.3390/educsci15121596>
31. Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.
32. Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis?. *Qualitative research in psychology*, 18(3), 328–352.
33. Kholifah, Nur & Nurtanto, Muhammad & Lukad Perdana Sutrisno, Valiant & Abdul Majid, Nur Wachid & Subakti, Hani & Daryono, Rihab & Achmadi, Achmadi. (2025). Unlocking workforce readiness through digital employability skills in vocational education Graduates: A PLS-SEM analysis based on human capital Theory. *Social Sciences & Humanities Open*. 11. 1-14. 10.1016/j.ssaho.2025.101625.
34. Selase, Gbadegbe & Amewu, Joseph & Krampa, Elikem & Buami, Edem & Gbadegbe, Richard. (2023). Technology Integration in Technical and Vocational Education and Training (TVET): The Role of the Art Teacher. *Journal of Technical Education and Training*. 73-88. 10.30880/jtet.2023.15.04.007.
35. Fantinelli, S., Cortini, M., Di Fiore, T., Iervese, S., & Galanti, T. (2024). Bridging the Gap between Theoretical Learning and Practical Application: A Qualitative Study in the Italian Educational Context. *Education Sciences*, 14(2), 198. <https://doi.org/10.3390/educsci14020198>
36. Leoni, S. (2025). A Historical Review of the Role of Education: From Human Capital to Human Capabilities. *Review of Political Economy*, 37(1), 227–244. <https://doi.org/10.1080/09538259.2023.2245233>
37. Belanich, James & Fedele, Emily & Dobbins, Christian & Morrison, John & Moses, Franklin & Madhavan, Poornima. (2019). Impact of Professional Credentials on Employability. 10.13140/RG.2.2.20406.96324.
38. Jaedun, Amat & Nurtanto, Muhammad & Mutohhari, Farid & Saputro, Ida & Kholifah, Nur. (2024). Perceptions of vocational school students and teachers on the development of interpersonal skills towards Industry 5.0. *Cogent Education*. 11. 10.1080/2331186X.2024.2375184.
39. Abedi, E.A. “We [teachers] first require basic technical [skills] training”: Investigating formal professional development pathways and knowledge needs of teachers for technology integration. *Educ Inf Technol* 29, 11793–11814 (2024). <https://doi.org/10.1007/s10639-023-12344-w>
40. Gamage, K. A. A., & Dehideniya, S. C. P. (2025). Unlocking Career Potential: How Micro-Credentials Are Revolutionising Higher Education and Lifelong Learning. *Education Sciences*, 15(5), 525. <https://doi.org/10.3390/educsci15050525>
41. Limbong, Mesta & Lumbantoruan, Jitu. (2022). The Effect of Government Teacher Certification on Teaching Performance: Certified vs uncertified. *Utamax : Journal of Ultimate Research and Trends in Education*. 4. 202-212. 10.31849/utamax.v4i3.11353.
42. Ulfa, Zahara & Usman, Nasir & Ismail, Ismail & AR, Murniati. (2025). Certified Teachers and Their Role in Enhancing Learning Outcomes: Challenges and Opportunities. *Formosa Journal of Applied Sciences*. 4. 1505-1520. 10.55927/fjas.v4i5.111.
43. Papier, Joy. (2021). 21st Century competencies in Technical and Vocational Education and Training: Rhetoric and reality in the wake of a pandemic. *Journal of Education*. 1-18. 10.17159/2520-9868/i84a04.