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FUTURE TEACHERS NEED DIGITAL COMPETENCE, PROFESSIONAL IDENTITY AND INNOVATIVE TEACHING SKILLS

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ABSTRACT

The changing educational landscape has transformed the roles and responsibilities of teachers. In the twenty-first century, teachers are expected not only to possess subject knowledge but also to integrate digital technologies, demonstrate professional values, and adopt innovative teaching approaches. Digital competence enables teachers to use technological resources effectively and responsibly, while professional identity shapes their values, ethical commitments, and understanding of their responsibilities towards learners and society. Innovative teaching skills help teachers create engaging, inclusive, and learner-centered educational environments. These three dimensions are interconnected and essential for preparing future-ready teachers. The present paper examines their significance in contemporary teacher education, identifies the major challenges associated with their development, and suggests practical strategies for strengthening teacher preparation. It emphasizes the importance of technology-integrated pedagogy, reflective practice, school internships, collaborative learning, and continuous professional development. The paper argues that teacher education institutions must move beyond theoretical instruction and provide opportunities for prospective teachers to develop practical competencies. An integrated approach to digital competence, professional identity, and innovative teaching can prepare teachers to respond effectively to changing educational needs and contribute to a more inclusive, equitable, and meaningful system of education.

Keywords:*Digital Competence, Professional Identity, Innovative Teaching Skills, Teacher Education, Educational Technology, Future Teachers, Learner-Centered Education.*

INTRODUCTION

Education is undergoing significant transformation due to technological advancements, changing social expectations, and the emergence of new pedagogical approaches. Traditional classroom practices, which frequently emphasizememorization and teacher-centered instruction, are increasingly being complemented by methods that encourage critical thinking, creativity, collaboration, communication, and independent learning.

These changes have significantly influenced the role of teachers. A teacher is no longer merely a transmitter of information but also a facilitator, mentor, reflective practitioner, and lifelong learner. Teachers are expected to understand the diverse needs of students, integrate technology meaningfully, create engaging learning experiences, and maintain high standards of professional conduct.

Preparing teachers for these responsibilities requires a comprehensive approach to teacher education. Three competencies are particularly important: digital competence, professional identity, and innovative teaching skills.

Digital competence enables teachers to select and use digital resources effectively. Professional identity helps them understand their ethical obligations, professional values, and responsibilities. Innovative teaching skills allow them to develop meaningful learning experiences that encourage active participation and independent thinking.

These competencies cannot be developed effectively in isolation. A teacher may possess technical knowledge but lack the pedagogical understanding necessary to use technology appropriately. Similarly, a teacher may demonstrate professional commitment but struggle to address the diverse learning needs of students without suitable instructional strategies.

Therefore, contemporary teacher education must integrate technological proficiency, professional responsibility, and pedagogical innovation. Developing these qualities among prospective teachers is essential for improving educational quality and preparing learners for the challenges of a rapidly changing world.

OBJECTIVES OF THE PAPER

The major objectives of this paper are:

- To examine the importance of digital competence in preparing future teachers.

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- To understand the role of professional identity in developing responsible and reflective teachers.
- To identify innovative teaching skills required for effective classroom practices.
- To analyze the challenges associated with developing these competencies.
- To suggest strategies for integrating digital competence, professional identity, and innovative pedagogy into teacher education programs.

RESEARCH METHODOLOGY

The paper adopts a descriptive and analytical approach based on selected educational policy documents, competency frameworks, and scholarly literature related to teacher education, educational technology, professional identity, and innovative pedagogy. It examines the significance of the three competencies and proposes strategies for their development in teacher education institutions. The paper is conceptual in nature and does not report original empirical research.

DIGITAL COMPETENCE: AN ESSENTIAL REQUIREMENT FOR FUTURE TEACHERS

Digital competence has become an essential component of contemporary teaching. However, it extends beyond the ability to operate computers, smartphones, projectors, or educational applications. It involves using digital technologies critically, creatively, safely, and responsibly to improve teaching and learning.A digitally competent teacher understands that technology is a means of achieving educational objectives rather than an end in itself.

DIMENSIONS OF DIGITAL COMPETENCE

Technological proficiency: Future teachers should be able to use digital devices, educational software, online learning platforms, and multimedia resources. These skills help them organize instructional materials, communicate with students, and manage classroom activities effectively.

Digital content creation: Teachers should develop the ability to prepare digital presentations, instructional videos, interactive worksheets, online quizzes, and electronic portfolios. These resources can make learning more accessible and engaging.

Digital assessment: Online quizzes, digital assignments, and educational platforms can support formative assessment and provide timely feedback. Teachers can use assessment information to identify learning difficulties and plan remedial activities.

Digital safety and ethics: Responsible digital practice requires awareness of privacy, copyright, cyberbullying, misinformation, academic integrity, and appropriate online communication. Teachers must model safe and ethical behaviour for their students.

Artificial intelligence literacy: Artificial intelligence tools can assist teachers in preparing lesson plans, generating practice questions, and adapting learning materials. However, teachers must verify the accuracy of AI-generated information, recognize possible biases, protect confidential information, and follow institutional guidelines.

IMPORTANCE OF DIGITAL COMPETENCE

Digital competence offers several educational advantages. It expands access to learning resources, supports interactive teaching, and creates opportunities for collaboration beyond the physical classroom. Videos, simulations, digital maps, and virtual demonstrations can make difficult concepts easier to understand.Teachers may provide additional practice to students who require assistance and enrichment activities to advanced learners. Digital platforms can facilitate communication among teachers, students, parents, and educational institutions. Furthermore, digital competence enables teachers to participate in online professional development, access current educational research, and collaborate with other educators.

Nevertheless, technology alone cannot guarantee effective learning. Its educational value depends on appropriate instructional planning, accessibility, the relevance of the selected resources, and the teacher's ability to connect technology with learning objectives.

DEVELOPING DIGITAL COMPETENCE IN TEACHER EDUCATION

Teacher education institutions should integrate digital skills into lesson planning, microteaching, school internships, assessment, and research activities.For example, prospective teachers can prepare technology-integrated lesson plans, develop digital teaching-learning materials, conduct demonstration lessons, and evaluate the effectiveness of their selected resources.

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Such activities enable student-teachers to move beyond theoretical knowledge and develop the practical ability to use technology meaningfully in classrooms.

PROFESSIONAL IDENTITY: THE FOUNDATION OF RESPONSIBLE TEACHING

Professional identity refers to the understanding teachers develop about themselves as professionals, including their beliefs, values, responsibilities, relationships, and commitments.It develops gradually through educational experiences, interactions with teacher educators, school internships, professional relationships, and reflection on classroom practice. A strong professional identity enables teachers to recognise teaching as a responsibility involving the intellectual, emotional, and social development of learners.

ESSENTIAL ELEMENTS OF PROFESSIONAL IDENTITY

Professional ethics: Honesty, fairness, empathy, impartiality, confidentiality, and accountability are fundamental to teaching. Teachers must respect the dignity of every learner regardless of socioeconomic background, language, gender, disability, or academic performance.

Commitment to learners: Students differ in their abilities, interests, experiences, and learning requirements. Professional commitment involves creating supportive learning environments in which every learner receives meaningful opportunities to participate.

Reflective practice: Reflective teachers examine their instructional methods, classroom interactions, and assessment practices. They identify weaknesses, learn from experience, and make improvements.

Professional accountability: Teachers are responsible for lesson planning, fair assessment, classroom management, appropriate professional relationships, and compliance with institutional policies.

Collaboration: Professional identity develops through constructive relationships with colleagues, parents, school leaders, and communities. Collaboration encourages the exchange of ideas and collective responsibility for educational improvement.

FACTORS INFLUENCING PROFESSIONAL IDENTITY

Teacher education curricula introduce prospective teachers to educational philosophy, psychology, sociology, pedagogy, and professional ethics. These subjects help them understand the wider purposes of education.Teacher educators and school mentors also influence professional identity through their attitudes, teaching methods, and professional conduct. School internships provide opportunities to observe classroom realities, understand institutional expectations, and respond to diverse learner needs. Peer discussions, collaborative projects, reflective journals, and professional portfolios further support professional growth. These activities enable prospective teachers to connect theoretical knowledge with practical experiences.

INNOVATIVE TEACHING SKILLS: PROMOTING MEANINGFUL LEARNING

Innovative teaching skills involve designing and implementing instructional approaches that make learning engaging, relevant, inclusive, and responsive to students' needs.Innovation does not always require expensive technology. Teachers can innovate by connecting lessons with real-life experiences, encouraging collaborative problem-solving, asking thought-provoking questions, and providing students with greater responsibility for learning. The purpose of innovation is to improve learning rather than simply introduce something new.

MAJOR INNOVATIVE TEACHING APPROACHES

Experiential learning: Experiential learning connects theoretical knowledge with practical experiences. Educational visits, fieldwork, demonstrations, surveys, and school internships help learners understand concepts through direct participation.

Project-based learning: This approach engages students in exploring meaningful questions or solving real-world problems. Projects related to environmental conservation, inclusive education, local history, and community development encourage research, collaboration, and critical thinking.

Inquiry-based learning: Inquiry-based learning encourages students to ask questions, investigate evidence, compare explanations, and develop conclusions. The teacher guides the process instead of providing every answer directly.

Collaborative learning: Group discussions, peer teaching, cooperative assignments, and collaborative presentations promote communication, teamwork, and mutual respect.

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Flipped classroom: Students engage with learning materials before class, allowing classroom time to be used for discussion, problem-solving, clarification, and practical application. Alternative materials should be available to learners who lack reliable internet access.

Differentiated instruction: Differentiated teaching recognizes that students have different abilities, interests, and learning requirements. Teachers adapt learning activities, resources, and support to provide meaningful learning opportunities for everyone.

Gamification: The use of educational games, quizzes, challenges, and progress indicators can increase participation and provide immediate feedback. Such activities should promote genuine understanding rather than competition alone.

INNOVATIVE TEACHING AND CRITICAL THINKING

Contemporary education must prepare learners to think independently, evaluate information, and solve problems. Future teachers should therefore develop skills in questioning, discussion facilitation, evidence-based reasoning, and real-world problem-solving.For example, instead of asking students merely to memorize the definition of environmental pollution, a teacher may ask them to investigate a local environmental problem, identify its causes, examine its effects, and propose practical solutions. This approach connects classroom knowledge with observation, analysis, creativity, and social responsibility.

THE TEACHER AS A FACILITATOR

Innovative teaching encourages students to participate actively in learning. The teacher remains responsible for instructional planning, subject accuracy, classroom management, and assessment while guiding learners towards independent understanding.This does not mean that direct instruction should be abandoned. Effective teachers select methods according to the learning objectives, subject matter, classroom context, and needs of their students.

INTERRELATIONSHIP BETWEEN THE THREE COMPETENCIES

Digital competence, professional identity, and innovative teaching skills are closely interconnected.Digital competence provides the ability to use technological resources. Innovative teaching skills help teachers integrate these resources into meaningful learning experiences. Professional identity ensures that their use remains ethical, inclusive, and educationally appropriate.

Consider a teacher preparing a lesson on environmental conservation using an AI tool. Digital competence enables the teacher to operate the tool and evaluate the information it generates. Innovative teaching skills help transform the information into an inquiry-based activity involving discussion and problem-solving. Professional identity guides the teacher to verify factual claims, protect students' privacy, acknowledge sources where required, and ensure that the activity meets learners' needs.

If one of these dimensions is missing, the effectiveness of teaching may be reduced. Technical knowledge without pedagogical understanding may result in superficial technology use. Innovation without professional judgement may fail to address students' actual needs. Professional commitment without contemporary skills may limit a teacher's ability to respond to changing educational requirements.

Therefore, all three competencies must be developed together through an integrated approach to teacher education.

CHALLENGES IN DEVELOPING FUTURE TEACHERS' COMPETENCIES

Several challenges may restrict the development of these competencies.

Unequal access to technology: Differences in internet connectivity, digital devices, electricity, and institutional facilities can limit opportunities for technology-integrated learning.

Insufficient practical training: When teacher education focuses mainly on theoretical instruction, prospective teachers may lack the confidence to apply digital tools and innovative methods in real classrooms.

Resistance to change: Established teaching habits and examination-oriented practices may discourage experimentation with learner-centered approaches.

Limited reflection: When assessment focuses primarily on written examinations, student-teachers may receive insufficient opportunities to examine their professional values and teaching decisions.

Challenges associated with artificial intelligence: Inaccurate information, privacy risks, algorithmic bias, and academic integrity concerns require teachers to develop critical judgement and responsible digital practices.

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Diverse learning needs: Differences in language, ability, socioeconomic circumstances, and educational experiences require teachers to develop inclusive and flexible instructional strategies.

Limited professional development: Without regular opportunities to update their knowledge and skills, teachers may struggle to respond to changing technologies and pedagogical expectations.

STRATEGIES FOR STRENGTHENING TEACHER EDUCATION

The following strategies can support the integrated development of digital competence, professional identity, and innovative teaching skills.

INTEGRATING DIGITAL COMPETENCE ACROSS THE CURRICULUM

Digital competence should not remain limited to a single educational technology course. It should be incorporated into subject pedagogy, lesson planning, assessment, internships, and research activities. Subject-specific applications can help prospective teachers understand how technology supports different learning objectives.

STRENGTHENING SCHOOL INTERNSHIPS

School internships should provide opportunities to prepare lesson plans, conduct interactive classroom activities, use formative assessment, observe experienced teachers, and maintain reflective journals. Mentors should provide constructive feedback on teaching performance and professional conduct.

PROMOTING REFLECTIVE AND ETHICAL PRACTICE

Teacher education programs should include professional ethics discussions, case studies, self-assessment, and reflective writing. Scenarios involving student privacy, discrimination, academic dishonesty, and responsible technology use can help prospective teachers develop ethical decision-making skills.

ENCOURAGING MICROTEACHING AND PEER LEARNING

Microteaching allows student-teachers to practice specific teaching skills in a controlled environment. Peer observation, feedback, video-based reflection, and repeated practice can improve questioning, explanation, classroom communication, and lesson design.

PROMOTING ACTION RESEARCH

Prospective teachers should be encouraged to investigate practical classroom problems. For example, they may examine whether group discussions improve participation or whether visual teaching aids help students understand difficult concepts. Such activities develop evidence-based decision-making and reflective practice.

DEVELOPING RESPONSIBLE AI LITERACY

Teacher education institutions should train future teachers to verify AI-generated information, protect confidential data, recognize potential bias, and follow academic integrity guidelines. AI should support professional judgement rather than replace independent thinking.

ESTABLISHING PROFESSIONAL LEARNING COMMUNITIES

Workshops, seminars, demonstration lessons, collaborative projects, and peer-sharing sessions can bring together teacher educators, student-teachers, and schoolteachers. These opportunities encourage professional exchange and continuous improvement.

ADOPTING COMPETENCY-BASED ASSESSMENT

Future teachers should be assessed through a combination of theoretical examinations and practical activities, including digital portfolios, demonstration lessons, internship performance, reflective journals, teaching-learning material development, and professional ethics case studies.

Such assessment provides a broader understanding of their readiness for professional responsibilities.

CONCLUSION

The future of education depends significantly on the quality of teachers and the effectiveness of their preparation. In an environment characterized by technological change, diverse learner needs, and evolving educational expectations, teachers require competencies that extend beyond subject knowledge and conventional teaching methods.

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Digital competence enables teachers to use technology critically, safely, and purposefully. Professional identity provides the ethical foundation, values, and sense of responsibility required for effective educational practice. Innovative teaching skills empower teachers to design engaging, inclusive, and learner-centered experiences that promote creativity, collaboration, critical thinking, and independent learning.

These competencies are complementary and must be developed together. Technological knowledge without pedagogical understanding may lead to ineffective technology use. Innovation without professional judgement may overlook learners' needs, while professional commitment without contemporary skills may restrict a teacher's ability to respond to educational change.

Teacher education institutions must therefore adopt an integrated, reflective, and practice-oriented approach. Digital resources should be connected with sound pedagogy, professional values should guide classroom decisions, and innovative practices should be evaluated according to their contribution to learning.

Ultimately, the teacher of the future must be a responsible digital practitioner, a reflective professional, an inclusive educator, and a creative facilitator of learning. Preparing such teachers is an investment in educational quality, equity, and the development of future generations.

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