



International Journal of Innovative Technologies in Social Science

e-ISSN: 2544-9435

Operating Publisher
SciFormat Publishing Inc.
ISNI: 0000 0005 1449 8214

2734 17 Avenue SW,
Calgary, Alberta, T3E0A7,
Canada
+15878858911
editorial-office@sciformat.ca

ARTICLE TITLE

THE MODEL OF THE 21st CENTURY UNIVERSITY TEACHER:
INTERNATIONAL TRENDS AND PRACTICES

DOI

[https://doi.org/10.31435/ijitss.2\(50\).2026.5571](https://doi.org/10.31435/ijitss.2(50).2026.5571)

RECEIVED

15 April 2026

ACCEPTED

27 June 2026

PUBLISHED

30 June 2026

LICENSE



The article is licensed under a **Creative Commons Attribution 4.0 International License**.

© The author(s) 2026.

This article is published as open access under the Creative Commons Attribution 4.0 International License (CC BY 4.0), allowing the author to retain copyright. The CC BY 4.0 License permits the content to be copied, adapted, displayed, distributed, republished, or reused for any purpose, including adaptation and commercial use, as long as proper attribution is provided.

THE MODEL OF THE 21st CENTURY UNIVERSITY TEACHER: INTERNATIONAL TRENDS AND PRACTICES

Oyuntsetseg Densmaa

Chief of Department, National Defense University, Mongolia

Ankhubayar Davaanyam

Lecturer, National Defense University, Mongolia

Ariunzul Enkhbat

Lecturer, National Defense University, Mongolia

ABSTRACT

The rapid transformation of higher education in the 21st century, driven by technological advancements, globalization, artificial intelligence, and changing labor market needs, has reshaped the role and expectations of university educators. Traditional views of teachers as mere knowledge transmitters are no longer adequate for preparing students for the complexities of today's world. Modern university instructors must adapt to a digital, interdisciplinary, and student-focused learning environment, necessitating a reevaluation of their professional identity and skills.

This article presents a comprehensive model of the contemporary university teacher, encompassing six interconnected roles: learning facilitator, researcher-innovator, digital creator, promoter of inclusive education, ethical leader, and collaborative leader. Drawing on established theoretical frameworks such as the TPACK model, the European Digital Competence Framework for Educators, and the Darling-Hammond model of effective professional development, this model offers a solid foundation for understanding the multifaceted nature of academic teaching today.

By examining higher education teacher reform efforts in various countries, including Finland, Singapore, the United Kingdom, Australia, and the United States, common principles and unique strategies are identified to inform the development of effective teaching models. While approaches differ among countries, such as Finland's autonomy-based system and the US's competency-focused education with AI integration, a shared commitment to ongoing professional development, digital literacy, and the recognition of teaching as a scholarly pursuit is evident.

The study underscores the importance of a diverse skill set for 21st century university teachers, encompassing content knowledge, pedagogical expertise, technological proficiency, research skills, ethical values, and social responsibility.

The article concludes with tailored recommendations for enhancing higher education in Mongolia, emphasizing the necessity of systemic reforms in professional development, digital infrastructure, research culture, and international partnerships to align with global standards.

KEYWORDS

21st Century Competencies, University Teachers, TPACK Model, Digital Competencies, Professional Development, Pedagogy, Teacher Models, International Experience

CITATION

Oyuntsetseg Densmaa, Ankhubayar Davaanyam, Ariunzul Enkhbat. (2026) The Model of the 21st Century University Teacher: International Trends and Practices. *International Journal of Innovative Technologies in Social Science*. 2(50). doi: 10.31435/ijitss.2(50).2026.5571

COPYRIGHT

© The author(s) 2026. This article is published as open access under the **Creative Commons Attribution 4.0 International License (CC BY 4.0)**, allowing the author to retain copyright. The CC BY 4.0 License permits the content to be copied, adapted, displayed, distributed, republished, or reused for any purpose, including adaptation and commercial use, as long as proper attribution is provided.

Introduction

Since the start of the 21st century, there have been significant changes in the global education system in terms of structure and content. The impact of technology, globalization, and the information age has been profound on all aspects of society, particularly on the role and perception of university teachers. In today's context, university teachers are not just providers of knowledge but also fulfill multiple roles such as facilitators of learning, researchers, innovators, and ethical leaders.

There are several reasons driving the need for this transformation. Firstly, the demands of the job market have evolved, necessitating high-level skills like critical thinking, creativity, communication, and collaboration.^{1,2} Secondly, the integration of digital technologies has revolutionized the learning environment, requiring teachers to possess new technological competencies.³ Lastly, student's learning preferences and expectations have shifted, calling for the adoption of active and student-centered teaching approaches.⁴

This presentation seeks to explore the modern model and perception of a university teacher in the 21st century, drawing on insights from prominent international research and real-world practices from countries like Finland, Singapore, the United Kingdom, Australia, and the United States.

Theoretical Basis and Framework for 21st Century Competencies

The concept of 21st century competencies is widely utilized in international education policy and research. The Partnership for 21st Century Skills (P21) framework categorizes learning skills into three main groups: learning and innovation skills are 4C including Critical thinking, Communication, Collaboration, Creativity,⁵ information, media, and technology skills, and life and career skills. Trilling and Fadel (2009)⁶ in their publication "21st Century Skills: Learning for Life in Our Times" systematically outlined a model of 21st century competencies for both learners and educators, emphasizing the shift from traditional knowledge-based instruction to more interactive and creative learning approaches.

Teacher Knowledge Structure Theory: The TPACK Model

The TPACK (Technological Pedagogical Content Knowledge) model, developed by Mishra and Koehler (2006)⁷, is a significant theoretical framework for understanding teacher knowledge in the 21st century. It comprises three main knowledge layers: content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK). The intersection of these layers results in TCK, TPK, and PCK, culminating in TPACK, which represents the integrated knowledge of technology, pedagogy, and content. TPACK builds upon Shulman's (1986)⁸ PCK model by incorporating a technological dimension and has become a foundational theory in educational technology research.⁹

In the TPACK framework, what teachers need to know is characterized by three broad knowledge bases technology, pedagogy, and content and the interactions between and among these knowledge bases. In this approach, technology in teaching is characterized as something well beyond isolated knowledge of specific hardware or software. Rather, technology that is introduced into teaching contexts "causes the representation of new concepts and requires developing a sensitivity to the dynamic, transactional relationship between all three components". Good teaching with technology, therefore, cannot be achieved by simply adding a new piece of technology upon existing structures. Good teaching, with technology, requires a shift in existing pedagogical and content domains.

¹ Partnership for 21st Century Skills. (2008). 21st century skills, education & competitiveness: A resource and policy guide. P21.

² Trilling, B., & Fadel, C. (2009). 21st-century skills: Learning for life in our times. Jossey-Bass/Wiley.

³ Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054.

⁴ Bonwell, C. C., & Eison, J. A. (1991). Active learning: Creating excitement in the classroom. ASHE-ERIC Higher Education Report No. 1. The George Washington University.

⁵ Ibid¹

⁶ Ibid²

⁷ Ibid³

⁸ Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14.

⁹ Wagner, M., Helm, C., & Poecze, F. (2024). Exploring teacher educators' challenges in the context of digital transformation and their self-reported TPACK. *European Journal of Teacher Education*, 47(4), 623–645. <https://doi.org/10.1080/02619768.2024.2340689>

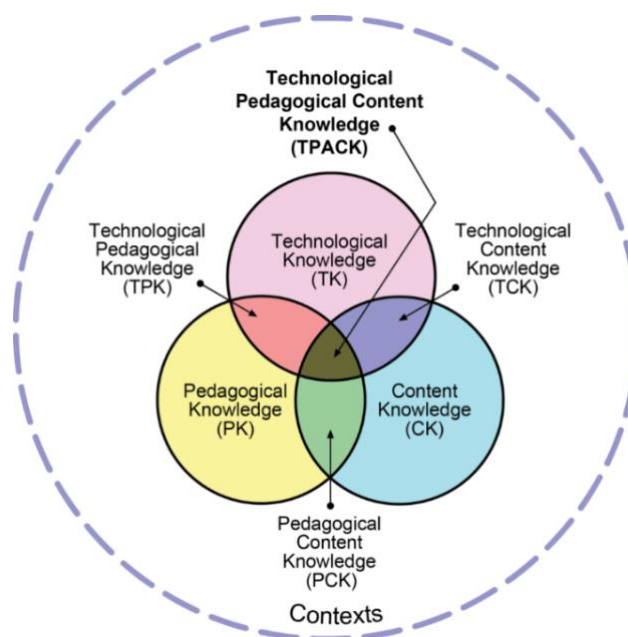


Fig. 1. TPACK Framework. Source from <http://tpack.org>

The TPACK framework also emphasizes the role of the context within teaching and learning occurs. Ignoring context leads to “generic solutions to the problem of Teaching is a context-bound activity, and teachers with developed TPACK use technology to design learning experiences tailored for specific pedagogies, crafted for specific content, as instantiated in specific learning contexts. teaching”. Teaching is a context-bound activity, and teachers with developed TPACK use technology to design learning experiences tailored for specific pedagogies, crafted for specific content, as instantiated in specific learning contexts.

Technological Knowledge (TK) TK includes an understanding of how to use computer software and hardware, presentation tools such as document presenters and projects, and other technologies used in educational contexts. Most importantly, TK covers the ability to adapt to and learn new technologies. It is important to note that TK exists in a state of flux, due to the rapid rate of change in technology and due to the protean nature of technology. For instance, modern computer hardware and software become quickly obsolete, and computers can be used for a variety of pedagogical tasks, such as research, communication, and media consumption and creation.

Content Knowledge (CK) CK refers to the knowledge or specific nature of a discipline or subject matter. CK varies greatly between different educational contexts (e.g. the differences between the content of primary school math and graduate school math), and teachers are expected to master the content they teach. Content knowledge is also important because it determines the discipline-specific modes of thinking unique to each field.

Pedagogical Knowledge (PK) PK describes the “general purpose” knowledge unique to teaching. It is the set of skills that teachers must develop in order to manage and organize teaching and learning activities for intended learning outcomes. This knowledge involves, but is not limited to, an understanding of classroom management activities, the role of student motivation, lesson planning, and assessment of learning. PK may also describe knowledge of different teaching methods, such as knowing how to organize activities in a way conducive to students’ constructive building of knowledge.¹

Pedagogical Content Knowledge (PCK) PCK reflects Shulman’s (1986) assertion that effective teaching requires more than separate understanding of content and pedagogy. PCK also acknowledges the fact that different content lends itself to different methods of teaching. For example, the teaching of speaking skills for a foreign language teacher requires student centered activities where students engage in meaningful and authentic communicative tasks. Contrast this to a graduatelevel art appreciation seminar where a teacher-centered lecture may be an appropriate way for the professor to describe and model ways of engaging with art.

¹ Matthew J. Koehler, Punya Mishra, Mete Akcaoglu, Joshua M. Rosenberg. () The Technological Pedagogical Content Knowledge Framework for Teachers and Teacher Educators. Michigan State University Department of Counseling, Educational Psychology, and Special Education East Lansing, MI.

In this sense, PCK means going beyond being a content expert or just knowing general pedagogic guidelines, to understanding the unique interplay between content and pedagogy.

Technological Content Knowledge (TCK) TCK describes knowledge of the reciprocal relationship between technology and content. Technology impacts what we know, and introduces new affordances as to how we can represent certain content in new ways that was not possible before. For example, today, students can learn about the relationship between geometric shapes and angles by touching and playing with these concepts on the screens of handheld, portable devices. Similarly, visual programming software now allows even primary school students to pick up programming by designing and creating digital games.

Technological Pedagogical Knowledge (TPK) TPK identifies the reciprocal relationship between technology and pedagogy. This knowledge makes it possible to understand what technology can do for certain pedagogic goals, and for teachers to select the most appropriate tool based on its appropriateness for the specific pedagogical approach. Technology can also afford new methods and venues for teaching, and ease the way certain classroom activities are implemented. For example, collaborative writing can take place with Google Docs or Google Hangouts instead of face-to-face meetings, extending collaborative activities over distances. Also, the advent of online learning and more recently, massively open online courses (MOOCs) require teachers to develop new pedagogical approaches that are appropriate for the tools at hand.

Technological Pedagogical Content Knowledge (TPACK) TPACK describes the synthesized knowledge of each of the bodies of knowledge described above, with a focus upon how technology can be uniquely crafted to meet pedagogical needs to teach certain content in specific contexts. Alone, each of the constituent bodies of knowledge, that comprise TPACK, represents a necessary and important aspect of teaching. But effective teaching is much more than each of the pieces TK, PK and CK.

For the teacher with TPACK, knowledge of technology, pedagogy, and content is synthesized and put to use for the design of learning experiences for students. The TPACK framework also functions as a theoretical and a conceptual lens for researchers and educators to measure preservice and in-service teacher's readiness to teach effectively with technology. The TPACK framework is a testament to the complexity of teaching. The framework proposes that tackling all of the variables at once creates effective teaching with technology.

The TPACK framework also functions as a theoretical and a conceptual lens for researchers and educators to measure pre-service and in-service teacher's readiness to teach effectively with technology. For this purpose, researchers have developed a range of instruments, quantitative and qualitative, to measure TPACK.¹

European Digital Competence Framework for Education (DigCompEdu)

The DigCompEdu framework, established by the European Commission, outlines teacher's digital competences across six key areas: *professional engagement, digital resources, teaching and learning, assessment, learner empowerment, and developing learner's digital competences*.² Unlike traditional views of digital competences as solely technical skills, this framework emphasizes competencies closely linked to pedagogy.³

Professional Engagement Educator's digital competence is expressed in their ability to use digital technologies not only to enhance teaching, but also for their professional interactions with colleagues, learners, parents and other interested parties, for their individual professional development and for the collective good and continuous innovation in the organisation and the teaching profession.

Organisational communication is to use digital technologies to enhance organisational communication with learners, parents and third parties. To contribute to collaboratively developing and improving organisational communication strategies.

Professional collaboration is to use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experience, and collaboratively innovating pedagogic practices.

Reflective practice is to individually and collectively reflect on, critically assess and actively develop one's own digital pedagogical practice and that of one's educational community.

¹ Koehler, Shin & Mishra, 2011; Schmidt, et al., (2009). <https://doi.org/10.1080/02619768.2024.2340689>

² Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (DigCompEdu). *European Journal of Education*, 54(3), 356–369. <https://doi.org/10.1111/ejed.12345>

³ European Commission. (2022). *European Framework for the Digital Competence of Educators (DigCompEdu)*. Publications Office of the European Union.

Digital Continuous Professional Development (CPD). It is to use digital sources and resources for continuous professional development.¹

The European Digital Competence Framework for Teachers, commonly known as DigCompEdu1, was developed by the Joint Research Centre (JRC) to promote the development of teacher's digital competences and foster innovation in European education. By analysing and connecting numerous resources to describe the facets of digital competence for educators, the DigCompEdu is a scientifically sound framework. The DigCompEdu outlines 22 educator specific digital competencies organised into six dimensions across three main areas.

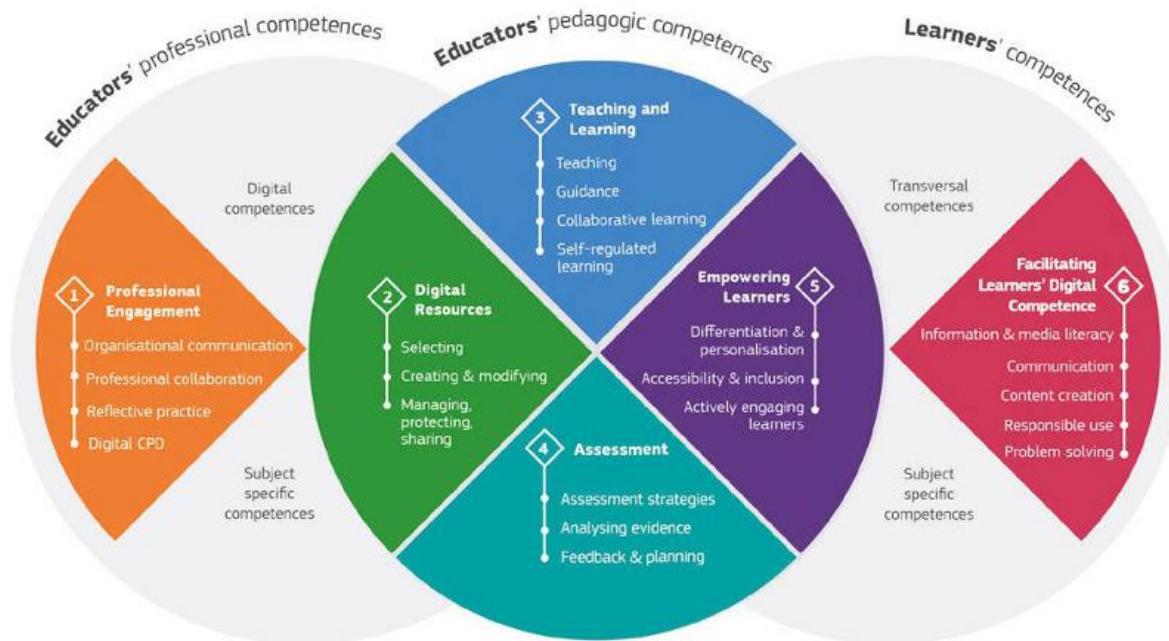


Fig. 2. The original DigCompEdu framework. Source from Redecker, 2017.

Teaching and Learning Digital technologies can enhance and improve teaching and learning strategies in various ways. Regardless of the pedagogical strategy chosen, educators must effectively integrate digital technologies throughout the learning process. Teaching involves utilizing digital devices and resources to enhance effectiveness, managing digital teaching strategies, and exploring new instructional methods. Guidance utilizes digital technologies to enhance interaction with learners, provide targeted assistance, and experiment with new support methods. Collaborative learning leverages digital tools to promote learner collaboration and communication, encouraging the use of digital tools for collaborative assignments and knowledge creation. Self-regulated learning is supported by digital technologies to help learners plan, monitor, and reflect on their progress, enabling them to share insights and find creative solutions.

Assessment plays a crucial role in education innovation. When integrating digital technologies into teaching and learning, educators should consider how these tools can enhance existing assessment methods and develop innovative approaches. Educators proficient in digital tools should integrate them into assessment practices with these objectives in mind. Digital technologies in education generate valuable data on individual learner's behavior, which can inform decision-making alongside traditional evidence. These tools aid in monitoring progress, providing feedback, and adjusting teaching strategies. Assessment strategies should leverage digital technologies for formative and summative assessment, diversify formats, and enhance approaches. Analyzing evidence involves generating, selecting, evaluating, and interpreting digital evidence on learner activity, performance, and progress to guide teaching and learning. Feedback and planning should utilize digital tools to deliver personalized and timely feedback, adjust teaching methods based on evidence, and empower learners and parents to make decisions using digital evidence.

¹ <https://publications.jrc.ec.europa.eu/repository/handle/JRC107466>

Empowering Learners are ensuring accessibility of learning resources and activities for all learners, including those with special needs, by considering digital expectations, abilities, and constraints. Using digital technologies to cater to diverse learning needs, allowing learners to progress at their own pace and pursue individual objectives. Promoting active engagement with the subject matter through hands-on activities and real-world contexts to enhance critical thinking and creative expression.

Facilitating Learner's Digital Competence is activities to help learners find, process, and evaluate information, enhance communication and collaboration, create and modify digital content while understanding copyright, ensure safety and well-being while using technology, and develop problem solving skills in technology.

Effective professional development models

A systematic review conducted by Darling-Hammond, Hyler, and Gardner (2017)¹ analyzed 35 studies to identify seven characteristics of effective professional development for teachers: content-focused, active learning-based, collaborative, effective practice models, coaching and peer support, reflection and feedback, and sustained duration. This research underscores the importance of long-term, collaborative, practice-based professional development over short, one-time training sessions. Professional development that focuses on teaching strategies related to specific curriculum content is essential for supporting teacher learning in their classroom settings. For instance, the Science Teachers Learning from Lesson Analysis (STeLLA) program aims to enhance teacher's ability to effectively teach science.

The program's primary objective is to deepen teacher's comprehension of students' scientific thinking, enabling them to anticipate and address student's ideas and misconceptions constructively. Additionally, it aims to help teachers sequence science concepts to help students develop a coherent understanding. Through over 100 hours of engagement, STeLLA teachers analyze video cases of teaching, conduct model lessons, and collaborate with colleagues to refine their teaching practices. This collaborative approach resulted in significant learning gains for students, surpassing those of students whose teachers only received content training.

Active learning in professional development allows teachers to practice new teaching strategies hands-on. Programs like Reading Apprenticeship immerse teachers in learning activities they can later implement in their classrooms, leading to improved student outcomes. Collaboration among teachers fosters a supportive environment for sharing ideas and enhancing instructional practices, ultimately benefiting the entire educational system.

The use of models and coaching provides teachers with clear examples of effective practices and individualized support to address their specific needs. Feedback and reflection opportunities help teachers refine their instructional methods, leading to improved student performance. Sustained professional development over an extended period allows teachers to deepen their understanding and implement new strategies effectively, resulting in lasting positive impacts on student learning.²

The 21st Century University Teacher Model: A Multi-Dimensional Role

Transitioning from being a knowledge transmitter to a learning facilitator is a key shift for the 21st century university teacher.³ Active learning, as defined by Bonwell and Eison (1991)⁴, involves engaging students in activities that require them to think and do, aligning with the teaching approach of modern educators. Recent studies indicate a rapid evolution towards this new role. Salgado et al. (2025)⁵ highlighted the impact of AI tools in transforming teachers into facilitators of learning by automating processes, analyzing performance, and generating educational materials.

¹ Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. Learning Policy Institute. <https://doi.org/10.54300/122.311>

² Linda Darling-Hammond, Maria E. Hyler, and Madelyn Gardner, with assistance from Danny Espinoza (2017). Effective Teacher Professional Development. <https://learningpolicyinstitute.org/product/teacher-prof-dev>.

³ Dochia, I. (2025). The changing role of teachers in the digital age: From knowledge transmitter to learning facilitator. International Journal of Social and Educational Innovation, 12(23), 109–118.

⁴ Bonwell, C. C., & Eison, J. A. (1991). Active learning: Creating excitement in the classroom. ASHE-ERIC Higher Education Report No. 1. The George Washington University.

⁵ Salgado, M. A., Buele, J., et al. (2025). Transformations in academic work and faculty perceptions of artificial intelligence in higher education. Frontiers in Education, 10, Article 1603763. <https://doi.org/10.3389/educ.2025.1603763>

The Research-Innovative Teacher, Boyer's (1990)¹ classification of academic work into discovery, integration, application, and teaching scholarship has gained significance in the 21st century. Teachers are increasingly involved in research within their disciplines and the scholarship of teaching and learning (SoTL).

Boyer suggested that traditional research, known as the scholarship of discovery, was essential for academic progress but needed to evolve to address new social and environmental challenges. He advocated for a broader and more flexible approach to scholarship that encompassed a range of activities beyond the campus and reflected the realities of modern life. His proposal aimed to redefine the research mission of universities by introducing four distinct categories of scholarship:

- The scholarship of discovery, which involves original research that contributes to knowledge advancement (e.g., basic research);
- The scholarship of integration, which entails synthesizing information across disciplines, topics, or time periods (e.g., interdisciplinary education, science communication);
- The scholarship of application (later termed the scholarship of engagement), which extends beyond faculty service responsibilities to engage with internal or external stakeholders, applying disciplinary expertise rigorously and sharing results for peer evaluation (e.g., Cooperative State Research, Education, and Extension Service, science diplomacy);
- The scholarship of teaching and learning, which focuses on systematically studying teaching and learning processes. This category requires that the work be publicly accessible, subject to peer review, and meet established standards for reproducibility and applicability to other scholars.

Boyer's framework has been widely adopted in academia, with some adaptations tailored to specific disciplines.

Digitally Competent Teachers, In the digital era, it is crucial for university educators to possess advanced technological skills. As per the TPACK model, teachers should be adept at integrating technology with pedagogy and subject matter.² According to the DigCompEdu framework, digitally competent teachers should be capable of selecting, creating, and managing digital resources; organizing digital learning environments; supporting student digital engagement; and conducting digital assessments.³

Recent post COVID-19 studies indicate that hybrid learning models are expected to become the norm by 2025, offering a flexible and blended approach to cater to diverse student needs.⁴ Teachers must be proficient in both in-person and online teaching environments.

Inclusive Education and Diversity Respect, The Universal Design for Learning (UDL) framework presents a model for designing learning experiences that are responsive, flexible, and accessible to all learners.⁵ Kary (2022)⁶ identified 7 essential competencies based on the UDL framework, including clarifying concepts, fostering student creativity, and utilizing technology in an inclusive manner.

Ethical Leadership and Social Responsibility, In the 21st century, it is essential for university teachers to uphold high standards of professional ethics.⁷ Embracing social responsibility, teachers should actively contribute to addressing critical societal issues through their research and teaching efforts. This necessitates an instructional approach that aligns closely with the Sustainable Development Goals.⁸

Collaboration and Leadership Skills, According to Darling-Hammond et al. (2017)⁹, Professional Learning Communities are among the most effective methods for teacher development and enhancing teaching quality. Every modern university teacher should possess the ability to lead in their field, community, and among their students.

¹ Boyer, E. L. (1990). Scholarship reconsidered: Priorities of the professoriate. The Carnegie Foundation for the Advancement of Teaching.

² Ibid³

³ Ibid¹⁰

⁴ QuadC. (2025, March 6). The biggest higher education trends of 2025 you need to know. <https://www.quadc.io/blog/top-trends-in-higher-education>

⁵ CAST. (2018). Universal Design for Learning guidelines version 2.2. <http://udlguidelines.cast.org>

⁶ Kary, S. (2022). The 7 core 21st century teacher competencies. New EdTech Classroom.

⁷ Karacaoğlu, Ö. C. (2022). Basic skills of 21st century teachers. Faculty of Education.

⁸ Markauskaite, L., & Reimann, P. (2023). The role of teachers in a sustainable university: From digital competencies to postdigital capabilities. Educational Technology Research and Development, 71, 163–189. <https://doi.org/10.1007/s11423-023-10199-z>

⁹ Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. Learning Policy Institute. <https://doi.org/10.54300/122.311>

Table 1. Comprehensive model of the 21st century university teacher

Teacher's image	Core competencies and activities	Theoretical basis
Learning facilitator	Student-centered learning, active learning, and group work	Bonwell & Eison, 1991; Dochia, 2025
Researcher-innovator	Creating new knowledge, SoTL research, and teaching innovation	Boyer, 1990
Digital creator	TPACK competencies, digital learning environments, and AI applications	Mishra & Koehler, 2006; Caena & Redecker, 2019
Peer educator	UDL model and respect for diversity	CAST, 2018; Kary, 2022
Ethical leader	Professional ethics and social responsibility	Karacaoglu, 2022; Markauskaite & Reimann, 2023
Collective leader	Professional learning groups and interdisciplinary collaboration	Darling-Hammond et al., 2017

Comparative Analysis of International Practices

To gain insight into how the theoretical model mentioned above is put into practice, we will examine the approaches to higher education teacher reform in various countries, including Finland, Singapore, the United Kingdom, Australia, and the United States.

A Model Based on Trust and Autonomy in Finland

Finland's education system is widely recognized for its emphasis on professional autonomy and trust-based leadership among teachers. In Finland, all teachers are required to hold a master's degree, which enhances the status of the profession and attracts top graduates to pursue teaching careers. The development and implementation of 21st-century competencies have been carried out collaboratively through the national curriculum and teacher education programs, with decentralization and autonomy closely tied to the professional competence of Finnish teachers.¹

Starting in 2025, Finland will introduce a new performance-based funding model that will reward schools with high initial enrollment and on-time graduation rates.²

Additionally, a specialized program for teacher training focusing on curriculum development, teaching methods, and leadership was launched in 2020 and will continue until 2025.³

Interdisciplinary, experiential model in Singapore

Singapore's top universities, such as NTU and NUS, are transforming the role of educators with an interdisciplinary, experiential approach. NTU has established the Institute for Innovation Research and Excellence in Teaching (InsPIRE) to enhance the integration of teaching methods, technology, and research in collaboration with education and learning technology experts.⁴ NTU's curriculum is centered on two key principles: interdisciplinary and experiential learning.

The National Institute of Education (NIE) is creating an "Experiential, Multimodal, Interdisciplinary, and Connected" (EMIC) learning environment to cater to the needs of modern learners.⁵ In March 2025, the "Faculty Tech-Enabled Learning" (FacTEL) professional development series was launched, offering teachers practical modules on topics such as developing artificial intelligence chatbots, AI-based assessment, and learning analytics.

¹ Vaatainen, H., & Aksela, M. (2022). Curriculum and teacher education reforms in Finland that support the development of competences for the twenty-first century. In *Teaching and learning for the twenty-first century*. Springer.

² National Center on Education and the Economy. (2025, December 17). Finland. <https://ncee.org/finland/>

³ OECD. (2022). Expanding and steering capacity in Finnish higher education (No. 50). OECD Education Policy Perspectives.

⁴ Nanyang Technological University. (2021). NTU 2025 strategic plan: Education. <https://www.ntu.edu.sg/about-us/ntu-2025/education>

⁵ National Institute of Education, NTU. (2025). Learning & teaching @NIE: Teaching and learning framework. <https://www.ntu.edu.sg/nie/>

Rebalancing the teaching-research dynamic in United Kingdom

The UK is currently grappling with the issue of finding the right balance between teaching and research. UKRI is in the process of reorganizing its research funding, allocating 50% towards independent research, strategic priorities (such as artificial intelligence), and support for business innovation. There is a noticeable shift towards a more defined separation between teaching-focused universities and research-focused universities.¹

This aligns with Boyer's (1990)² four-tier model of academic work, allowing universities to specialize in either teaching or research based on their respective strengths.

Universities Accord Reform in Australia

The Australian Universities Accord reform aims to enhance the transition between vocational education and higher education and enhance credit recognition.³ The establishment of the Australian Higher Education Commission in July 2025 as an independent governing body for the higher education system directly influences the working environment and professional development policies of educators.

Transitioning to a flexible, AI-driven model in United States of America

The landscape of university faculty in the US is undergoing significant changes. As per a Deloitte report from 2025, academic advisors are transitioning to staff roles, with faculty increasingly taking on the role of mentors for students. Artificial intelligence is revolutionizing the education sector by facilitating personalized learning. Institutions like Western Governors University have successfully embraced a competency-based education (CBE) approach, focusing on the mastery of relevant skills in a field rather than traditional semester-based learning. Google has introduced its 2026 Higher Ed Faculty AI Fellowship program to support faculty members who are actively integrating AI into their teaching, research, and institutional practices.

APRU's Collaborative Strategy in the Asia-Pacific

The Association of Pacific Universities (APRU) released a white paper in 2025 titled "Generative AI in Higher Education" and introduced the CRAFT (Culture, Rules, Access, Familiarity, Trust) framework developed by Liu and Bates (2025). This framework emphasizes the integration of five key components for AI adoption in universities: culture, rules, access, familiarity, and trust.

The Comparison of International Experiences

Table 2. Comparison of teacher model reforms across the countries

Country	Main strategy	Teacher role	Features	Source
Finland	Trust, independence, and a master's degree	Independent expert	Joint program development	NCEE, 2025; OECD, 2022
Singapore	Interdisciplinary, EMIC model, InsPIRE Institute	Experience-based guidance	FacTEL professional development	NTU, 2021; NIE, 2025
Great Britain	Determining the balance between teaching and research	Qualified trainer or researcher	UKRI structural reform	THE, 2025
Australia	Universities Accord, VET-HE coordination	Flexible specialist	Higher Education Commission	DEWR, 2025
USA	AI integration, CBE, mentoring	Mentor-guide	Competency-based model	Deloitte, 2025

¹ Times Higher Education. (2025, November). UK research faces a radical overhaul. <https://www.timeshighereducation.com/depth/uk-research-faces-radical-overhaul>

² Boyer, E. L. (1990). Scholarship reconsidered: Priorities of the professoriate. The Carnegie Foundation for the Advancement of Teaching.

³ Department of Employment and Workplace Relations. (2025, July 4). Australian Universities Accord reforms. Australian Government. <https://www.dewr.gov.au/skills-reform/australian-universities-accord-reforms>

The Recommendations for University Teachers In Mongolia

The higher education system in Mongolia has undergone significant reforms in the past two decades, but there is still work to be done to fully align it with the modern teacher model of the 21st century. Key areas that require attention include digital infrastructure, teacher's technological proficiency, fostering a research culture, and promoting international collaboration.

Drawing from international best practices, the following recommendations can be proposed:

Taking inspiration from Finland is implementing a curriculum development model that emphasizes teacher autonomy, trust-based systems, and collaborative efforts. Enhancing the standards of teacher training programs and focusing on cultivating specialists with strong research skills.

Learning from Singapore's approach it is promoting an interdisciplinary approach, establishing specialized institutes for teaching innovation, and encouraging the practical application of teacher's technological expertise. Creating a learning environment that follows the EMIC model.

From the experience of the UK and Australia it is based on the lessons learned from the UK and Australia, it is important to ensure a proper balance between teaching and research responsibilities for educators and allocate their workloads accordingly. Additionally, enhancing the link between vocational training and higher education is crucial.

Drawing from the US experience, it is recommended to pilot and implement a competency-based education approach. Furthermore, establishing guidelines for the effective integration of artificial intelligence in educational settings and consistently enhancing teachers' understanding of AI technology is essential.

Future Trends

The rapid advancement of artificial intelligence (AI) is profoundly changing the roles of university educators. AI tools are being integrated into higher education through personal learning assistants, automated assessment systems, intelligent tutoring platforms, and knowledge recommendation engines. These technologies are transforming the pedagogical landscape by enabling personalized learning pathways, real-time performance analytics, and adaptive content delivery. Teachers must collaborate with AI systems, evaluate AI-generated outputs, address ethical considerations, and educate students on responsible AI use.¹

In their white paper for APRU, Liu and Bates (2025)² stress the importance of universities adopting AI strategically. Their CRAFT framework emphasizes attention to institutional culture, governance rules, equitable access, faculty familiarity with AI tools, and trust among stakeholders. This holistic perspective suggests that AI integration requires coordinated efforts across institutional leadership, faculty development programs, and curriculum design.

Beyond AI, trends like education for sustainable development and hybrid learning models will redefine the university teaching profession. Educators must embed sustainability principles, foster critical awareness of global challenges, and adapt to blended learning environments. Themes of social justice, equity, and intercultural understanding will become more prominent, requiring teachers to be interculturally competent and create inclusive learning environments.

Additionally, lifelong learning and micro-credentialing are reshaping how educators attain professional competence, positioning teachers as perpetual learners modeling intellectual curiosity and adaptability.

Conclusions

This study aimed to redefine the role of university teachers in the 21st century and has shown that the traditional view of educators as knowledge transmitters is insufficient for modern higher education. The proposed model identifies six interconnected roles: learning facilitator, researcher-innovator, digital creator, inclusive educator, ethical leader, and collaborative leader, grounded in established theoretical frameworks such as TPACK, DigCompEdu, and the Darling-Hammond model of effective professional development. These roles provide a comprehensive blueprint for the competencies modern university teachers need to develop.

Comparing international experiences reveals both common trends and diverse strategies. Finland's trust-based model emphasizes professional autonomy and rigorous teacher preparation; Singapore's interdisciplinary approach through initiatives like InsPIRE and EMIC highlights the importance of institutional

¹ Lai, I. K. W., & Bower, M. (2023). Teachers' AI digital competencies and twenty-first century skills in the post-pandemic world. *Educational Technology Research and Development*, 71, 137–161. <https://doi.org/10.1007/s11423-023-10203-6>

² Ibid³⁵

innovation in teaching excellence; the UK's teaching-research balance reform shows the challenge of aligning institutional missions with faculty roles; Australia's Universities Accord reform stresses the need for coordination between vocational and higher education; and the US's focus on competency-based education and AI integration points to a future where flexibility, personalization, and technological fluency are key in academia. The APRU's CRAFT framework underscores the significance of cultural sensitivity, institutional readiness, and trust-building in adopting emerging technologies.

For Mongolia, these international lessons have practical implications. The country's higher education system could benefit from a systematic approach to teacher professional development, enhancing digital infrastructure, promoting a research-oriented academic culture, and strengthening international partnerships. Educators must also embrace lifelong learning and continuously refine their pedagogical, technological, and ethical skills.

While this study provides a strong theoretical and comparative foundation, future research could focus on empirically validating the model through surveys, interviews, and longitudinal studies with Mongolian university teachers. Further research could explore assessment instruments to measure alignment with the six-role model, the impact of AI on faculty roles, and context-specific professional development programs. Ultimately, transforming university teaching is not just an institutional necessity but a societal one that shapes the quality of education for future leaders, innovators, and citizens.

REFERENCES

1. Bonwell, C. C., & Eison, J. A. (1991). *Active learning: Creating excitement in the classroom* (ASHE-ERIC Higher Education Report No. 1). The George Washington University.
2. Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (DigCompEdu). *European Journal of Education*, 54(3), 356–369. <https://doi.org/10.1111/ejed.12345>
3. CAST. (2018). *Universal Design for Learning guidelines version 2.2*. <http://udlguidelines.cast.org>
4. Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute. <https://doi.org/10.54300/122.311>
5. Deloitte Center for Higher Education Excellence. (2025, December 24). *2025 higher education trends*. Deloitte Insights. <https://www.deloitte.com/us/en/insights/industry/public-sector/2025-us-higher-education-trends.html>
6. Department of Employment and Workplace Relations. (2025, July 4). *Australian Universities Accord reforms*. Australian Government. <https://www.dewr.gov.au/skills-reform/australian-universities-accord-reforms>
7. Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181–199. <https://doi.org/10.3102/0013189X08331140>
8. Dochia, I. (2025). The changing role of teachers in the digital age: From knowledge transmitter to learning facilitator. *International Journal of Social and Educational Innovation*, 12(23), 109–118.
9. European Commission. (2022). *European framework for the digital competence of educators (DigCompEdu)*. Publications Office of the European Union.
10. Google. (2026). *Higher Ed Faculty AI Fellowship 2026*. <https://blog.google/outreach-initiatives/education/higher-ed-faculty-ai-fellowship/>
11. Higher Ed Dive. (2018, October 24). *Report: 5 models to guide the future of higher education*. <https://www.highereddive.com/news/report-5-models-to-guide-the-future-of-higher-education/540429/>
12. Karacaoglu, O. C. (2022). *Basic skills of 21st century teachers*. Faculty of Education.
13. Kary, S. (2022). *The 7 core 21st century teacher competencies*. New EdTech Classroom.
14. Lai, I. K. W., & Bower, M. (2023). Teachers' AI digital competencies and twenty-first century skills in the post-pandemic world. *Educational Technology Research and Development*, 71, 137–161. <https://doi.org/10.1007/s11423-023-10203-6>
15. Liu, D. Y. T., & Bates, S. (2025, January). *Generative AI in higher education: Current practices and ways forward* [White paper]. Association of Pacific Rim Universities. https://www.apru.org/wp-content/uploads/2025/01/APRU-Generative-AI-in-Higher-Education-Whitepaper_Jan-2025.pdf
16. Markauskaite, L., & Reimann, P. (2023). The role of teachers in a sustainable university: From digital competencies to postdigital capabilities. *Educational Technology Research and Development*, 71, 163–189. <https://doi.org/10.1007/s11423-023-10199-z>
17. Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054.
18. Nanyang Technological University. (2021). *NTU 2025 strategic plan: Education*. <https://www.ntu.edu.sg/about-us/ntu-2025/education>

19. National Center on Education and the Economy. (2025, December 17). *Finland*. <https://ncee.org/finland/>
20. National Institute of Education, NTU. (2025). *Learning & teaching @NIE: Teaching and learning framework*. <https://www.ntu.edu.sg/nie/>
21. OECD. (2022). *Expanding and steering capacity in Finnish higher education* (OECD Education Policy Perspectives No. 50).
22. Partnership for 21st Century Skills. (2008). *21st century skills, education & competitiveness: A resource and policy guide*. P21.
23. QuadC. (2025, March 6). *The biggest higher education trends of 2025 you need to know*. <https://www.quadc.io/blog/top-trends-in-higher-education>
24. Salgado, M. A., Buele, J., et al. (2025). Transformations in academic work and faculty perceptions of artificial intelligence in higher education. *Frontiers in Education*, 10, Article 1603763. <https://doi.org/10.3389/feduc.2025.1603763>
25. Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14.
26. Times Higher Education. (2025, November). *UK research faces a radical overhaul*. <https://www.timeshighereducation.com/depth/uk-research-faces-radical-overhaul>
27. Trilling, B., & Fadel, C. (2009). *21st-century skills: Learning for life in our times*. Jossey-Bass/Wiley.
28. Vaatainen, H., & Aksela, M. (2022). Curriculum and teacher education reforms in Finland that support the development of competences for the twenty-first century. In *Teaching and learning for the twenty-first century*. Springer.
29. Wagner, M., Helm, C., & Poecze, F. (2024). Exploring teacher educators' challenges in the context of digital transformation and their self-reported TPACK. *European Journal of Teacher Education*, 47(4), 623–645. <https://doi.org/10.1080/02619768.2024.2340689>
30. World Economic Forum. (2018, September). *10 reasons why Finland's education system is the best in the world*. <https://www.weforum.org/stories/2018/09/10-reasons-why-finlands-education-system-is-the-best-in-the-world/>