

TRAINING OF PRE-UNIVERSITY TEACHERS IN ORDER TO STREAMLINE THE TRANSITION PROCESS TO ONLINE ACTIVITIES

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Abstract: *The conduct of teaching activities in Romanian educational institutions was based until March 2020 almost exclusively on traditional learning methods, namely they were organized face to face in a classroom. The sudden outbreak of the Covid-19 pandemic shook the world and forced the education system in all parts of the world to switch to online teaching overnight. The school environment has been reluctant to take over the changes in technology, often emphasizing the risks of using them compared to its benefits, but in the crisis the existence of technology facilitated the transition when the only option was to move entirely to an online teaching-learning system. Teachers were given the opportunity to rethink the methods by which the instructive-educational processes were carried out and to find a balance between their traditional role and the new roles assigned through digitization. In order to achieve this balance, teachers need to be trained for today's education. This article aims to analyze the factors that determine an effective transition to online activities and to explain the need for an interdependence between specialized, pedagogical and technological knowledge in the context of teacher training for online teaching - learning activities.*

Keywords: *online activities, training, TPACK model, specialized knowledge, pedagogical knowledge, technological knowledge*

JEL Classification: *I21, O15.*

1. Introduction

The COVID-19 pandemic has forced the entire globe to find coping mechanisms to adapt to the changes that have occurred and to find rapid and workable solutions to the challenges brought about by this experience.

In the two decades preceding the COVID-19 pandemic, the proportion of people working remotely increased steadily but at a relatively modest rate. While organisations and workers have gradually shifted to telework over time, the sudden shock of the COVID-19 pandemic presented a massive and unexpected challenge to many managers, workers and the organisations in which they worked, as well as to the education system worldwide.

Telework, also known as 'telecommuting' or 'remote working', refers to the ability of employees to work remotely using technology to facilitate communication with the workplace, with online activities taking the place of telecommuting in the instructional-educational process.

The conduct of teaching activities in educational institutions in Romania was until March 2020 based almost exclusively on traditional learning methods, i.e. face-to-face in a classroom. The sudden outbreak of the Covid-19 pandemic shook the whole world and forced education systems everywhere to switch to online teaching overnight. Many academic institutions that had previously been reluctant to change their traditional pedagogical approach had no choice but to switch entirely to an online teaching-learning system.

More than 1 billion and 575 million students in some 188 countries have been affected by the closure of schools and universities due to preventive measures taken by them to prevent the spread of COVID-19 (UNESCO, 2020). Because of this, the use of technology has been considered the most appropriate (if not the only) alternative to keep education systems functioning in most institutions. Despite implementation challenges, multiple advantages in the transition to online activities have been recognised, including the opportunity for rapid progress in digital education that would otherwise take years but also a good opportunity for teachers and students to become more creative. There are

numerous studies worldwide focused on identifying factors that successfully integrate technology into classroom teaching and learning. It is assumed that the same factors influence the level of use of technology in the processes of moving learning from face-to-face to online activities, but also the quality of learning in both formats.

2. Factors involved in teacher education

At a time when quality of work is of paramount importance, efficiency can only be achieved through the successful use and training of human resources. There is a consensus in the field of human resource management that in order to remain competitive and to achieve organisational goals, managers need to incorporate human resource management strategies into their overall planning. Human capital theory aims to effectively and proactively use human resource management to increase the value of the organisation's human capital and the value of anticipated returns such as labour productivity.

Organisations and institutions that invest in developing human resource competencies seek to create working conditions that are compatible with their requirements and desires, and thus are the ones that achieve success. Employees are the essential resource that institutions need in times of change, so organisations that have managed to please their employees and have been able to implement loyalty and trust, can get through difficult times with greater ease. The COVID-19 pandemic has provided a completely new perspective on traditional work organisation and thus highlighted the importance of achieving productive management in the conduct of online activities.

The transition to remote activities represents an important organisational change for economic agents, institutions and the educational environment and is driven by a number of forces. In order to survive the various changes, organisations need to be aware of the dangers to which they are exposed as well as the opportunities in the market. They must therefore be able to adapt consistently and cope with the environment in which they operate, which automatically implies a degree of flexibility on their part.

Table 1. Factors of organisational change

Factor name	Implications for organisational change
<i>Develop the technology domain</i>	<ul style="list-style-type: none"> • New technologies are used in a beneficial, personalised way.
	<ul style="list-style-type: none"> • Attention is directed towards digitization and robotization
<i>Economic factor</i>	<ul style="list-style-type: none"> • Actions in the area of foreign exchange, national and international markets are directly influenced by it.
<i>Socio-cultural factor</i>	<ul style="list-style-type: none"> • Demographics, income distribution, corruption, education, attitudes, beliefs, mentality, trends, living conditions, labour flexibility.
<i>Political-legislative factor</i>	<ul style="list-style-type: none"> • existing international relations as well as taxation policies, competition policies, social protection, job security.
<i>Ecological factor</i>	<ul style="list-style-type: none"> • natural resources, pollution levels and climate

Source: processing and adaptation after Şendrea, 2017

Communication plays an important role in training human resources to make the transition to online activities more efficient. Sharing information with all employees and managers, producing information, distributing it and reflecting it in daily life and services

is the main structure of communication in the internal and external environment of the organisation.

In order to meet the inherent challenges of doing work, employees need to continually update their knowledge, skills and work competences and organisations need to invest in human capital development. The need for adequate training and equipment for employees is the first step in effective employee training. Representatives of employers' associations stress the need to improve the managerial culture and digital skills of managers involved in coordinating and managing employees who will be working remotely, while others point to the risks associated with intrusive supervision which can affect the physical and mental well-being of employees and raise privacy issues.

In establishing an effective human resource training strategy for an effective transition to remote working, the following factors need to be considered:

- ✓ **the conditions under which remote work will be carried out, namely:**
 - ICT/digital equipment;
 - energy costs consumed at home;
 - speed and quality of broadband connection;
 - training on remote working, communication and management of virtual teams for teleworkers and their managers.
- ✓ **organisation/reorganisation of work and management style:**
 - degree of autonomy and flexibility of employees;
 - management expectations based on connection/presence;
 - management's ability to motivate, support and manage remote human resources.
- ✓ **the nature of the job/occupation, namely:**
 - degree of interdependence of teleworkers' tasks with other tasks;
 - the extent to which teleworkers' tasks can be performed independently.

3. TPACK Model

In education, the acquisition of digital competences comes with significant challenges, although some existing projects and planned initiatives aim to improve the situation. Romania's Skills Agenda 2025 lists digital competences as a priority for connectivity and the labour market, as well as essential life skills. In general, adults have to pay to acquire or improve their digital skills if they do not participate in dedicated projects or use open educational resources. Addressing systematically the provision of training for all segments of the population (older people, people living in rural areas or those in other vulnerable situations), including the provision of infrastructure and teacher training for digital skills, remains a challenge. During the crisis caused by the COVID-19 pandemic, steps were taken to make available the available training courses to all because even though at the level of the 2017-2018 school year teachers' confidence in their digital skills was quite high, the sudden shift to online teaching-learning activities proved the opposite (Figure 1.).

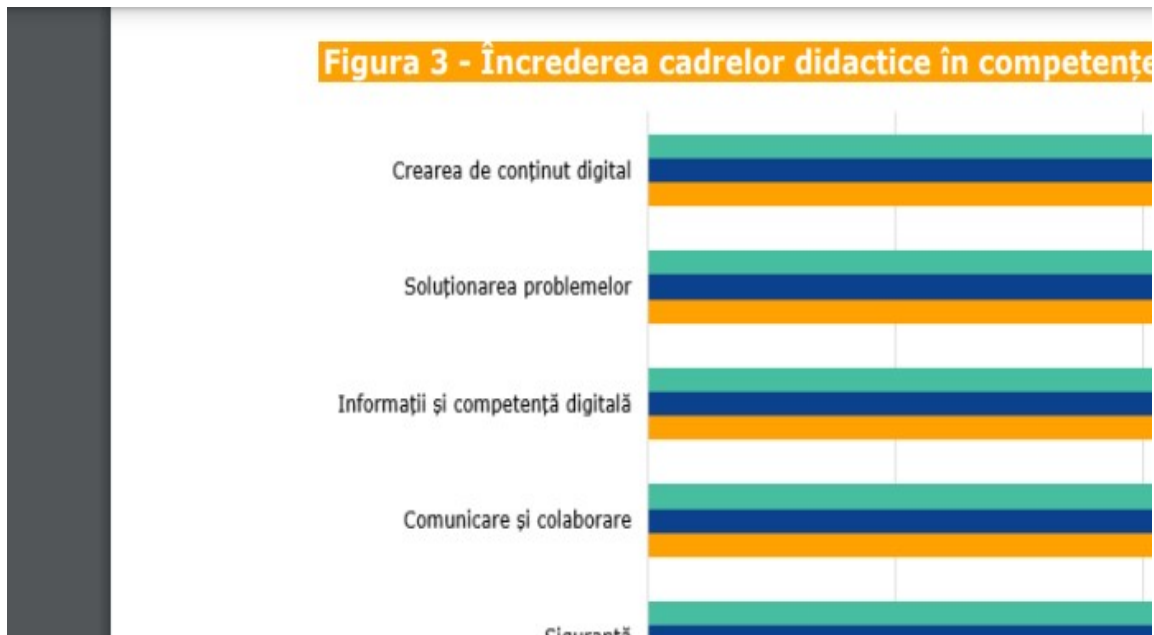


Figure 1. Teachers' confidence in their digital skills, 2017-2018

Source: 2nd Survey of Schools: ICT in Education, based on the DigComp framework

Education research has shown that in-service teacher training is one of the important factors influencing student outcomes. In the pandemic context, the need to use information and communication technology in the educational process has become even more evident and the possession of specialist and pedagogical knowledge is not sufficient if it is not combined with technological knowledge.

In order to analyse the dependence between these three types of knowledge, the international literature has devised various conceptual frameworks, the best known being the one synthesised by Koehler and his collaborators, namely the TPACK (Technological Pedagogical Content Knowledge) Model. They, starting from Shulman's model which considered only pedagogical knowledge in the implementation of effective educational activities, highlighted the need for the whole package of knowledge to improve the teacher education process.

Therefore, the three types of knowledge that are considered in the TPACK model are (Figure 2):

1. Content Knowledge (CK) - refers to that knowledge specific to the subject the teacher is teaching;
2. Pedagogical Knowledge (PK) - this refers to the teacher's knowledge of the methods, theories, practices and processes needed to carry out the educational act;
3. Technological Knowledge (TK) - refers to teachers' ability to use ICT and its associated resources.

All these types of knowledge interact and are in a close relationship of interdependence and thus result in three types of components that the TPACK Model integrates.

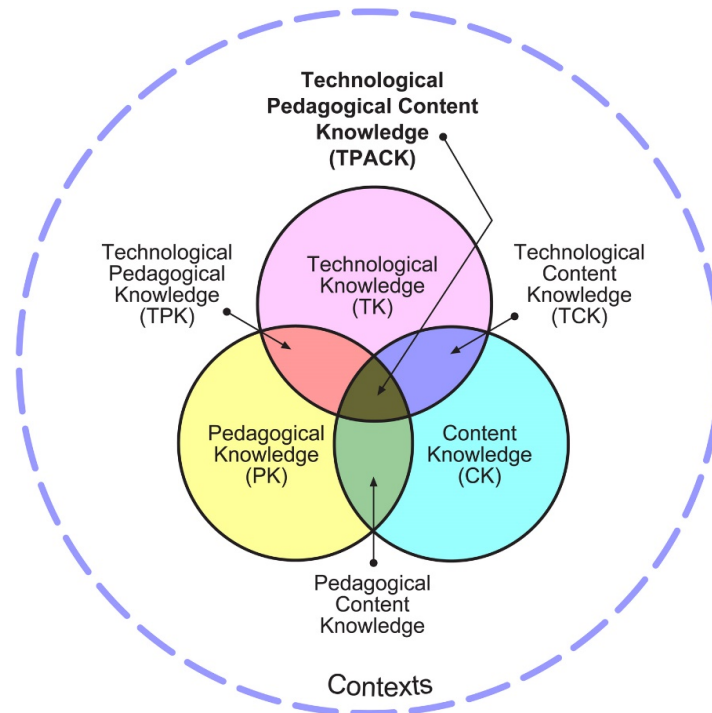


Figure 2. TPACK Model

Source: <https://educationaltechnology.net/technological-pedagogical-content-knowledge-tpack-framework/>

The first component is Technological Content Knowledge (TCK) which refers to the suite of technological knowledge that is in a reciprocal relationship with the knowledge of the specific subject the teacher is teaching (specialist).

The second component is the knowledge of the teaching of the subject – Pedagogical Content Knowledge (PCK) and considers the package of subject-specific teaching knowledge that a teacher must possess in order to teach a specific subject.

The third component is Technological Pedagogical Knowledge (TPK) and looks at issues that explain how technology can be useful in making certain pedagogical practices more effective.

4. Conclusions

In addition to all the measures taken at national level to support effective online teaching and learning, the success of distance learning is influenced by the way in which instruction is delivered, but also by the level of clarity, access and suitability of technological equipment, the time, motivation and support provided by teachers and trainer to deliver online learning.

The TPACK model results from combining these three components in different ways and thus creates a solid knowledge base for the instructional process. The adaptability of this model makes its use in teacher training imperative, given the well-known need to develop the skills required for the use of ICT in education today.

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