

*The 28th International Scientific Conference
“Educational Research and School Practice”*

**THE STATE
PROBLEMS
AND NEEDS
OF THE MODERN
EDUCATION
COMMUNITY**

BOOK OF PROCEEDINGS

Editors

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The State, Problems, and Needs of the Modern Education Community

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THE LINKS BETWEEN A CHANGED VISION OF LEARNING AND PROJECT-BASED TEACHING

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“In learning, there is no finished, complete, or perfect. Only learning.”
(Beth Kempton)

Introduction

Learning has become one of the most popular topics of the 21st century for both professionals and the lay public. Nothing is more indicative of this than the fact that a search for the word *learning* yields 7,140,000 and 7,015,486 results on Google Scholar and ACADEMIA, respectively. According to the database, the word *learning* appears in the titles of 56,663 publications produced between 2021 and 2022 as well as 5,983 journal titles.³ Lectures and round tables at scientific conferences have been held on the subject. The motto of this paper, and in particular its author, stands out somewhat. Beth Kempton is obsessed with the Japanese culture and Eastern philosophies. In her books, she seeks answers to the accelerated pace of life, which she describes as a “journey to the depths of life”. In the process of this journey, learning plays a key role. Eastern philosophies are known for promoting the unity of body and soul, a desirable harmony that the world of education refers to as total personal development and, more recently, well-being. As the motto suggests, this is a lifelong process, in which both intellect and emotions play significant roles. However, it is worth pointing out that

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³ November 2022 data.

modern approaches to learning and teaching are unsurprisingly rooted in the past. Nil novi sub sole. To support this claim, the present paper seeks answers to three questions in line with the stated motto, but without claiming to be exhaustive.

1. Why has the vision of learning changed in the 21st century?
2. How does teaching respond to these changes?
3. How does this work in practice?

1. Why Has the Vision of Learning Changed in the 21st Century?

The VUCA (Volatile, Uncertain, Complex, Ambiguous) world is a rapidly changing, unpredictable, complex, and uncertain realm (Fadel, Bialik & Trilling, 2015). The world of education is experiencing an intensification of transformational processes, which are mainly associated with internationalisation and creativity (Smith & Vass, 2017). The first level is the transformation of the skill gap. In her paper published in 2020, Kate Whiting described the top 10 skills that would best support lifelong learning and future work in 2025. Over the next 5 years, what can be expected to come to the fore are the skills of analytical thinking and innovation, active learning and learning strategies, complex problem solving, critical thinking and analysis, creativity, originality and initiative, leadership and social impact, technology use, monitoring and control, technology design and programming, resilience, stress tolerance and flexibility, thinking, problem solving, and conceptualisation (Whiting, 2020). In the top five (not in ranking) are four intrinsically project-based problem-solving skill types: analytical thinking and innovation, complex problem solving, critical thinking and analysis, and creativity and originality. These are combined with active, autonomous, self-regulated learning and learning by doing. One of the key claims of the study is that 50% of employees would need to replace their skill set by 2025 (Whiting, 2020). The second level of transformation (the focus of the presentation) is a changed view of learning. Many people (and I am not just talking about the wider public) identify learning with attention and remembering. This is a narrow understanding of learning. In professional circles (amongst researchers and educators), a broader understanding of learning enriches the image of learning, thus supporting the transformation process. In a broader understanding of learning, the roles of perception, detection, imagination, thinking, feeling, will, and action are at

least equal to those of attention and memory (Báthory, 2000). While this broader view of learning is undoubtedly a relevant response to transformational processes, we find it to be even less relevant to the practice of pedagogy. In cognitive psychology and its interpretation of knowledge, the above ideas are manifested in the distinction between declarative (knowing what) and procedural knowledge (knowing how) (Csapó, 2001). Declarative knowledge is, in fact, descriptive, epistemic knowledge, often identified with conceptual and lexical knowledge. Procedural, process, or activity knowledge is a set of skills, abilities, and proficiencies. The quality and organisation of knowledge fundamentally rely upon striking a balance between declarative (knowing what) and procedural (knowing how) knowledge (Vass, 2020). Still, this is only one side of the coin. In *The Tacit Dimension* (1966), Mihály Polányi introduced the concept of *tacit knowledge* as the opposite of the term *explicit knowledge*. In the case of tacit knowledge, we learn from experience, while explicit knowledge is knowledge that can be easily put into words and formalised. Tacit knowledge is best acquired when subjects learn information independently of their consciousness. This is called implicit learning. Furthermore, tacit knowledge is only transferable to a limited extent, and it is mostly acquired through close interactions (sharing experiences with one another or observing the behaviour of others). It is evident that the changing conceptions of learning and knowledge are drivers of educational transformation in the VUCA world.

2. How Does Education Respond to These Changes?

In professional circles, it is well known that the origin of the answer can be traced back to the beginning of the 20th century. In the 1918 essay entitled *The Project Method*, William Heard Kilpatrick sought an answer to the pedagogical problems of the day (Kilpatrick, 1918). This is well illustrated by Dewey's pragmatist principle of learning by doing (Dewey, 1938), which is based on the experience of the learner. From the point of view of our topic, Kilpatrick's definition is remarkable and describes the project method as an ambitious, heart-and-soul activity that develops the whole personality. Originally, the project method was a critique of the pedagogy of the time, as collaborative planning and interactive, cooperative implementation and product creation followed by collaborative evaluation were all truly innovative methods. But the century that followed proved that it was much more than an innovative teaching

methodology. Indeed, going far beyond the methodological framework, we can speak of project pedagogy. It has all the characteristics of the constructivist learning theory, a learner-centred and learning-centred approach. The emphasis is not only on joint preparation and planning and interdisciplinary curriculum development (input) and product creation (output), but on a pedagogical development procedure (process) that is coherently adapted to the changed learning and knowledge landscape of the 21st century. Finally, yet importantly, it effectively supports knowledge transfer, the application of what is learned, and the transformation of the VUCA world. In fact, project-based learning is an approach (mindset) that affects the attitudes of learners. According to Dewey:

“Perhaps the greatest educational fallacy is the belief that a man learns only what he is taught. The enduring attitudes, likes and dislikes, acquired as if they were incidental, are often far more important than language lessons, geography lessons, or learned historical facts. It is these attitudes that matter later” (Dewey, 1938).

The project-based mindset emphasizes the affective (emotional-will) factors of learning. Returning to the new learning paradigm at either end of the learning theory spectrum are behaviourist and constructivist learning theories. These theories are bipolar in their views on knowledge acquisition and teacher intervention. While behaviourism focuses on the conditioning of observable human behaviour, constructivism focuses on the formation of knowledge. The basic principle of constructivism is that knowledge does not flow into us from some external source, but is constructed and created by us. Knowledge is based on the complex interplay of elements of the cognitive system at any given moment and it is constantly changing in structure (Nahalka, 2002, Elliott *et al.*, 2000, Phillips, 1995). Nota bene, we can distinguish between two strands of constructivism, radical constructivism, and social constructivism (constructionism), which is associated with the Russian psychologist Lev Vygotsky (Vygotsky, 1978). The main difference lies in the fact that the former denies the correspondence between the environment and the cognitive system, while social constructivism, as its name implies, considers social environment and social interactions as determining factors in development. At the same time, radical constructivism also assumes a link between the environment and knowledge, which it refers to as adaptivity or viability (Nahalka 2002, Glasersfeld, 1974, 1994). According to the constructivist view, the adaptivity of knowledge is measured in social relations in which the learner participates. Since

learning is fundamentally a social phenomenon, learners are partially motivated by the rewards provided by the knowledge community. To the extent that knowledge is actively constructed by the learner, learning also greatly depends on the learner's internal drive to understand and facilitate the learning process. The project method requires learners to develop their teamwork skills and see individual learning as fundamentally linked to the success of group learning. Last but not least, they focus on the skills identified in the top 10 skills list for 2025, which most significantly support lifelong learning and future work.

3. How Does This Work in Practice?

A teacher is not a source of knowledge to be acquired but rather a facilitator. According to constructivist pedagogy, a teacher does not control or regulate the learning process, but the pedagogical (professional) community must participate in the learning process together. In this sense, teaching is a creative activity whose essential function is shaping, during which the creator and the medium interact with each other and the constant interaction between the teacher and the learner shapes and forms both active participants (Bodóczy, 2012). The specific mix of boundedness and open opportunities is a liberating factor for creativity. It creates special situations, sometimes unconventional, that break away from everyday thinking and stimulate the group to find innovative solutions. A good example of this is the project-based Social Studies course at the Budapest Metropolitan University, where students first identify social problems and then design projects together based on the issues. They mainly conduct qualitative research (content and data analysis, observation, and individual, in-depth, and focus group interviews), keep a progress diary, and agree on the evaluation criteria for project presentations (content: relevance, coherence, informativeness; design: comprehension, aesthetics, and creativity). Last but not least, the products generated during the semester (e.g., research plan, progress diary, mind map, place mat, conceptual web, brainstorming, presentation, video film, and reflective analysis) are included in the student portfolio. The Faculty of Education at the J. Selye University in Komárno employs a similar project-based approach to visual education methodology courses. Since the field and the tools of visual education provide an excellent opportunity to transcend the subject framework, courses focus on complex, interdisciplinary tasks

pertaining to problems related to everyday life, which are jointly, cooperatively, and multi-disciplinarily analysed and processed in order to create a product for the benefit of the community (sometimes for the individual). The work is both collective and individual, as all members contribute to the group's work in accordance with their own interests, skills, and experience. The method builds on students' interests, needs, and collective activity. It allows participants to enjoy a high degree of freedom and autonomy and break away from traditional time schedules and subject frameworks. The learning process is creative and encompasses various activities. The focus is on learning, knowledge acquisition, and skill development. The emphasis is on working together, helping one another, accepting one another, and developing communication skills and techniques. Success hinges on participants' willingness to solve a task of their own free will, which is why they are involved in topic selection. The process of collective topic selection can be facilitated by brainstorming. Of course, the evaluation is also based on a collectively conceived evaluation system, which mainly serves to determine how effective the work was, how well it met the needs, how satisfied the team and the audience were, what learning processes took place during the project, how well the team worked together, whether there were conflicts, and how successfully the conflicts were resolved. Object design projects focus on developing personal and social competences (participants are future teachers). A good example is a lucky charm (mascot) design project consisting of the following steps (in this case in pairs):

1. Choose your partner (based on sympathy).
2. List some of your qualities from which you want to be freed by the object.
3. Discuss each other's wishes and choose the goal to be achieved.
4. Look into different historical periods to see how similar issues have been solved in different parts of the world.
5. Show related pictures and texts to your chosen partner.
6. Listen to your partner's feelings and thoughts about it.
7. Design and make the object.
8. Give the object to your partner.
9. Again, listen to your partner's feelings and thoughts about the finished object.

Students keep a visual diary of the whole design process (e.g., brainstorming, word cloud, mind map, timeline, poster, design sketch, and presentation), which is digitised and entered into the student portfolio.

4. Conclusion

Nil novi sub sole. Is there really nothing new under the sun? In the modern pedagogical approach, what is most important is for learners to understand and experience learning as being not about the curriculum, but about them. If they believe that the learning process is built around questions and problems that concern them, they can become more understanding and interested recipients. This encourages project work, cooperative methods, and experienced, emotional, personal ways of expressing oneself. Modern pedagogy focuses on the problems of the present, whose increasing complexity and intricacy necessitate growing cooperative efforts. By thinking in terms of varied forms of work, in addition to promoting social competence in pair or group creative situations, we nurture forms of learning such as creative group work, project-based learning in groups, and problem-based learning, which represent some of the solutions subsumed under the term of active learning. Project work does not necessarily take place in a group, as there are also individual projects. Still, most of the time, student cooperation and task sharing are parts of the problem-solving process, which is formulated as a learning activity in visual culture lessons. Complex and less constrained tasks that facilitate creativity and problem solving allow for a variety of different solutions, with no one good solution to measure against. Thinking in terms of open-ended task systems is a feature of modern pedagogy. Modern pedagogy “gives glasses” to learners. They are open, open-minded, and able to interpret more freely without feeling restricted by the framework of the classical arts or the framework they set by themselves. Collective reflection and individual work expand these two frameworks. Moreover, this insight is coupled with a strong presence of spontaneity. As discussed above, modern pedagogical ideas are aligned with the learning vision of constructivism and project-based mindset, both of which focus on active, action-based learning, with a broader understanding of learning in which students individually construct their knowledge based on their past and present experiences. In this approach, learning is non-linear and open-ended, thus supporting the transformation of the VUCA world.

Keywords: learning, VUCA, transformation, project method, project-based mindset.

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