ANNA PERKOWSKA-KLEJMAN

Maria Grzegorzewska University in Warsaw
ORCID – 0000-0003-4601-9877

ANNA GÓRKA-STRZAŁKOWSKA

Maria Grzegorzewska University in Warsaw
ORCID – 0000-0002-5683-9783

LEARNING ENVIRONMENT IN THE OPTICS OF CRITICAL CONSTRUCTIVISM*

Introduction: This article is an attempt to show the constructivist learning environment as a model, as a concept that assumes that the student is an active, not a passive participant in the process of gaining in-depth, flexible and systemic knowledge rather than fragmentary, rigid or mechanically reproduced. The text focuses on the contemporary needs of students based on radical and social constructivism. The main dimensions of critical constructivism and elements of a constructivist learning environment are outlined based on Peter Taylor and Barry Fraser's concept.

Research Aim: The aim is to show critical constructivism as a set of various theories, concepts creating conditions for independent construction of knowledge and creating a friendly-learning environment.

Evidence-based Facts: The concept is derived from the teaching imperative (John Dewey, Jean Piaget, Lev Vygotsky and Howard Gardner). It assumes that learning is an active process of constructing knowledge based on the experience of the learner and such construction is usually completed subjectively and metacognitively). The concept of constructivism is quite often used by both theoreticians (academic lecturers and researchers) as well as practitioners (school teachers).

Summary: In the article, we analyze the role played by a constructivist learning environment that radically questions the vision of a student as a passive recipient and gives him the status of an active subject contributing to the construction of a learning-friendly environment. Education should be seen as supporting the student in the process of creating meanings that allow to construct your own understanding of the world.

Keywords: critical constructivism, learning environment, pupil/student.

INTRODUCTION

The article focuses on demonstrating the importance of the learning environment and presents the theoretical foundations that are determinants for its organisation. A description of the so-called traditional and contructivist learning environment has been provided. The main issue of the work was to show critical constructivism as a concept that assumes that the learner/student is an active rather than passive participant in the process of acquiring in-depth, flexible, and systemic konwledge rather than fragmented, rigid or mechanically reproduced. The learner/student as an entity actively investigating and learning about the world, and their knowledge constructed in the course of cognitive experience.

A theoretical illustration of this issue was Taylor and Fraser's concept describing how students themselves examine the learning environment. The concept included the following areas expressed in the students' perceptions: personal relevance, uncertainty, criticality, shared responsibility and negotiation. It highlights the participation of students in the management of educational activities, especially with regard to open inquiry and self-regulation processes.

The concept of constructivism, in the context of learning in the school classroom, was in recent years used by both theoreticians (academic lecturers and researchers) as well as practitioners (school teachers). Constructivism appears to be a promising perspective for education at any stage. Nevertheless, we assume that with the help of constructivism, or any other general theory, we cannot generate a "simple recipe for practice". Attempts to make "recipes" out of educational theories make them rigid, sometimes bulky, and incapable of motivating students and teachers. It should be noted that in the framework of educational reforms in many countries, constructivism has become inert as just another measure advocated by politicians and educational authorities.

PROBLEM AND AIM OF THE STUDY

Modern schools face increasingly complex challenges and demands generated by the needs of a dynamically changing reality. The basic requirement of modern times is to strive, according to Morbitzer (2011), for the institution of the school to become a learning environment instead of a place purely for the transmission of knowledge, and to focus its efforts on creating conditions and situations that enable the search for, creation and processing of information. The reproduction of traditional concepts of teaching in extremely dynamic times, generates certain barriers in the process of awakening intellectual courage and criticism. Being open to change raises the hope of enriching a person's individuality, increasing their thoughtfulness, options of choice, cooperation, and social integration. According to constructivist theory,

education should be seen as supporting the student in the process of creating meanings that allow to construct your own understanding of the world.

The purpose of the article is to show critical constructivism as a set of various theories, concepts, ideas that create conditions for the independent construction of knowledge and the creation of a friendly learning environment.

CURRENT STATE OF KNOWLEDGE

The constructivist learning environment concept is derived from the teaching imperative (John Dewey, Jean Piaget, Lev Vygotsky and Howard Gardner). It assumes that learning is an active process of constructing knowledge based on the experience of the learner and such construction is usually completed subjectively and metacognitively (von Glaserfeld, 1989). Constructivist theory focuses on the learner/student whose experiences of the real world, prior knowledge, mental structures and beliefs, emphasize knowledge construction and meaningful context (Jonassen, 1991).

Dewey argued that knowledge is subjective in nature, developing through experience and childlike action. In the process of cognition, it is possible to distinguish the stages of "transition from ignorance to wisdom", and it is the teacher's task to create conditions conducive to learning. Epistemological foundations and pedagogical assumptions of learning and teaching, formulated by Dewey (2002), were further developed by Piaget.

Concern for the so-called "good learning environment" is particularly emphasized in Finnish and Singaporean educational policies. Both countries place freedom as one of the primary goals of education. In Finland, it is understood in the perspective of individual rights, and in Singapore as a category realized through family and social cohesion (Nowosad, 2022). Another important characteristic of the aforementioned systems is the very high status of education, looking to the future and the openness to change that goes with it. The key question of how to create a learning environment adapted to the expectations and requirements of the modern world is, therefore, permanently open and concerns all countries, including Poland. It is therefore an aberration to look backward. The OECD *Education at a Glance 2017* report shows that children between the ages of 7 and 14 spend an average of nearly 7,000 hours in school. In Poland, it is a little over 6,000 hours, in Estonia and Finland about 5,800 hours, but in Australia, for example, almost 8,000, and in Belgium and the Netherlands about 7,800 hours. In view of the huge number of hours spent within the school walls, it would be wicked not to create optimal conditions for each student to function properly.

The learning environment should motivate students to acquire knowledge and skills. The school's role in this regard is crucial. Teachers should provide a friendly

and well-organised learning environment in which each student will be treated as an individual, and the way of acquiring and absorbing knowledge will be adapted to his or her abilities and limitations. Satisfying the need for acceptance, respect and consideration to students' rights are key to the proper learning process and competency increase. A good learning environment creates a learning community that is attentive to reality, open to change and uses activation methods and group work in class. It provides an important place for the personal development of alumni, preparing them for real life and taking on new challenges in the difficult, often unforeseen reality of school.

Learning environment in the traditional view

For a long time we have noticed a kind of stagnation in thinking about school. We are mentally stuck between the authoritarian and transmissive approach to education that is strongly ingrained in our culture, and the new challenges of a world of liquid modernity (Bauman, 2011). For many years, school was a place dominated by teaching, which in its epistemological assumptions, focused on the teacher. As a result, a practice has developed whereby the teacher is the one who decides what to teach students, at what pace, and with what methods. This is true for students who follow the train of thought as well as for those who fail and fall behind. In addition to the teacher, a rather important disposer is the curriculum, the implementation of which is the main determinant of proper teaching (Kordziński, 2022).

This didactic approach to teaching is identified with empiricist-positivist and rationalist views, in which knowledge is "discovered by scientists" and can be described in absolutist, realist terms. This view of the nature of knowledge was popular in the 19th century and then in the 20th century, and is exemplified precisely by the 20th-century behaviorist view of the cognitive nature of the learning individual. This view dominated pedagogical discourse in the 20th century. Teachers see their role as revealing and "transmitting" knowledge "dressed" in logical structures. The teacher directs students and creates situations when students, through rational action, "discover" predetermined universal truths written in the form of laws, principles, rules and algorithms. Students pay close attention to the teacher's exposition – for an accurate version of "his or her knowledge". Even the so-called "teaching through discovery" is steeped in traditional approaches, if in the process of learning we have assumed in advance that students acquire a specific knowledge independent of the one acquiring knowledge. The traditional classroom environment emphasizes the importance of the teacher's authority (knowledge), which translates into the implementation of a variety of classroom management strategies and allows strong control over the content and timing of student learning activities. From an objectivist perspective, scientific knowledge appears to exist independently of our minds. It is a steady image unchanging over time and embodies universal truths. The task of teachers is to give students an accurate picture of the

one-dimensional world, an accurate version of the universal truth. In the second half of the 20th century, the fundamentalist view of knowledge was challenged, discredited by philosophers of science (Feyerabend, 1962; Kuhn, 1962; Polanyi, 1967) and even philosophers of mathematics (Davis and Hersch, 1981; Hersch, 1986).

Towards constructivism – contemporary needs

Today, when knowledge is no longer an axiom and access to it is becoming virtually unlimited, we no longer equate learning with acquiring knowledge about the world, but with skillful functioning in an ever-changing reality. We see a clear shift from what we learn to how we learn. Currently, in the consideration of scientific theories, and both from a historical and sociological point of view, their provisional and metaphysical nature is revealed. Today there is an affirmation of social negotiation processes and consensus building among the scientific community (Nowak, 2015). It is worth realizing that learning is a cognitive process of making sense of or intentionally solving problems concerning the world. The learning process takes place in contexts of knowledge (cultural, scientific). What is referred to in this section – contemporary knowledge contexts and non-traditional concepts of learning – have been described and acknowledged a long time ago. Why, then, is traditional epistemology still dominant in classrooms and the basis of the learning environment? This question is very often raised in discussions not only in the scientific community, but is also becoming a concern for innovative, reflective practitioners.

From the perspective of social constructivism, the roles of teacher and students are undergoing a radical transformation. Teachers become mediators of students' encounters with the social and physical world and facilitators of student interpretations. They help students in problematizing and possibly reconstructing the concepts they hold. Processes in question take place not only in the classroom, but also in the wider community, which is made up, for example, of students' family members.

The basic and fundamental assumption of constructivism is that knowledge is not independent of the learner, on the contrary, it is the learner who produces knowledge. Learners actively construct their own knowledge, rather than assimilate it as imparted by teachers, because people are not recorders of information, but rather "builders" of their own knowledge structures (Lunenburg, 1998).

Constructivism has a long history and representatives in various sciences; it was in particular referenced by: John Dewey, Maria Montessori, Ovid Decrloy, and above all, Jean Piaget, Lev S. Vygotsky, Thomas Kuhn, or Ernst von Glasersfeld. In Poland, in theoretical aspects, constructivism is very well and widely described and has two major supports. On the one hand, there is the neurobiological theory of brain functioning, and on the other, pedagogical concepts, pointing to the effectiveness of pedagogical action rules derived from the assumptions of constructivism (Dylak, 2013).

Constructivism in the most general sense is a theory of learning or a theory of making (producing) meaning. Individuals give new meanings, understandings based on the interaction of what they already know by now, what worldviews they have with what comes to them through contact with others or the creations of others. This theory places particular emphasis on the process of building and developing new skills and competencies. In this case, it is important for the student to be active and committed allowing them to build reality on their own by developing, synthesizing and constructing knowledge. "This work takes place in constant interaction with the environment, deepened by confrontation with oneself" (Kordziński, 2022, p. 17). Also changing is the role of the teacher, who is becoming an extremely creative individual and treating the educational process as a creative and original activity, reaching out to students, taking into account their needs, individual capabilities, interests, abilities, as well as deficits, problems and difficulties. In today's preferred constructivist learning culture, the student becomes the animator of their own developmental path and the teacher acts as a "learning coach", helping students learn and improve their learning strategies and adapt them to the given context and the specific situation (Nowak, 2015, p. 68).

In the 1990s, Cobb (1994) and Jonassen (1991) presented the philosophical basis and basic assumptions of constructivism, which can be put as follows:

1. The real world contains the limits of human cognition or experience, but reality is an individual matter, that is, there are many realities.

2. The mind creates symbols for perception and interpretation of the world. Man is a social being, so symbols are considered a product of culture.

3. The structure of the world is created in the mind through interaction with the world and based on interpretation.

4. The assignment of meaning takes place as a result of the interpretation process and depends on the previous knowledge, experiences, abilities of the learner.

5. Human cognition (thoughts, points of view, opinions, reflections) is the result of a creative process growing out of perception, sensory experience, and social interaction (Cobb, 1994; Jonassen, 1991).

Constructivism represents an opposition to so-called rationality in traditional classrooms. Traditional learning has been dominated by cultural myths, such as an objectivist view of the nature of scientific knowledge, an assessment that relies on viewing the curriculum as a "product" to be completed. Nevertheless, constructivism does not assume that each individual creates "their own world of knowledge". A unit's knowledge should be verified against community standards. Intersubjectivity is achieved through negotiation and consensus building. Negotiating, reaching an agreement are activities shaped by society and the cultural framework. The aforementioned activities are undertaken permanently at the level of researchers, but also within other learning communities. Teachers become mediators of students' encounters with the social and physical world and facilitators

of student interpretations and perhaps even reconceptions. Teachers help students problematize and possibly reconstruct concepts they hold. The processes in question take place in the classroom and in the wider community, which is made up, for example, of students' family members (Berger and Luckmann, 1966).

Known varieties of constructivism

The constructivist paradigm has many variations. The most popular is the division between radical constructivism and social constructivism. The main difference to these varieties is related to the location of the knowledge construct. Radical constructivism assumes that knowledge is constructed in the learner's head/mind, and the process involves reorganizing one's experiences and cognitive structures (von Glasersfeld, 1989; Piaget, 1970). In social constructivism, knowledge is constructed as a result of social practices in the process of communication (Vygotsky, 1978; Kuhn, 1996).

Constructivism is now an alternative but recognized and recommended approach – one way to understand learning. In educational practice, during classroom learning, teachers work from this paradigm using specific methodologies appropriate to this approach (von Glasersfeld, 1998). The attraction of constructivism lies in the fact that it provides a credible and functional framework for understanding and interpreting learning and teaching experiences. As one of the basic paradigms of learning is of great importance, a strong international influence, and in many countries it is the basis of educational reforms involving changes in traditional educational practices (Tobin, 1993).

Constructivist educational practice involves setting up a learning environment filled with authentic and complex problems which the learner must confront (find a solution). Strategies to support learning are, for example, coaching, tutoring, modeling. Constructivist learning is a learner/student controlled process. It emphasizes their responsibility, as well as the fact that they take the initiative to achieve further educational goals.

Social constructivism assumes that students are provided with optimal conditions for self-reliance and space for problem solving. Particularly valuable is the ability to develop a deep understanding of a problem situation accounting for its social context. On the other hand, the solutions used are well thought out and the subject of social discourse. The teacher's role is to allow time and space (appropriate resources, such as sources) to construct questions and then find possible answers. It leaves the student in charge of their own learning, including deciding the time necessary to complete given tasks, nevertheless, the teacher can explain to students the content that is too difficult or complicated for them. The problems the students face in solving them are relevant to them and reflect their reality. Constructivism treats reality holistically, does not fragment it, and does not close itself within the boundaries of individual scientific disciplines. Such organisation of educational content is more attractive to the student than analyzing selected content separate-

ly, in isolation. Structuring the fundamentals of education around "larger issues", concepts, or key problems provides subjects with many opportunities for learning activities. Some look for solutions in the world of practice, others analyze the problem in more detail and look for some kind of model solution, while still others look towards solutions through the use of comparisons, metaphors and analogies. Referring to the basic tenets of constructivism, the learning environment is supposed to create opportunities for students to reveal their independence, individualisms, temperaments and predispositions. It puts the learner/student at the center, and their point of view as very valuable. Awareness of this helps teachers to challenge students appropriately, and this gives the learning experience a high level of importance (learning is a personal value) (Brooks and Brooks, 1999).

Still following the basic tenets of constructivism, the achievements of a given student remain independent of those of other students. Each has an equal chance of getting a good grade, and success or failure is measured by the effort put in performing a task. Once again, the learner's responsibility and involvement is emphasized, which absolutely cannot be understood as the reproduction of mastered content. Students must show self-discipline and be goal-oriented, of course this requires motivating them and helping them in monitoring achievements. The key concepts are self-awareness and self-esteem (Williams and Burden, 1998; Varney, 2009) that emphasize the extremely important role of cooperation in social constructivism. In educational practice, for example, in the classroom, students work in small teams, while the teacher acts as an advisor and facilitator. Nevertheless, they should not get too involved in the group process. Questions of division of responsibilities, assumption of specific group roles are decided by group members taking into account their knowledge, experience and predispositions. Students, thus, retain autonomy and *empowerment*, and the learning process is interesting and creative. Kiraly (2000) also points out in the context of social constructivism the realization that "absolute truth" does not necessarily exist. Perceiving different aspects of reality in a certain way is the result of various socio-cultural and political contexts, etc. For example, social norms are not a fixed, unchangeable thing, what is socially acceptable today may not be tomorrow.

The qualities of critical constructivism

It can be said that constructivism (both radical and social) itself contains an obvious critical element. Critical constructivism, however, can be defined against the backdrop of a dispute over its identity. There are also claims that critical constructivism stems from a combination of constructivism and critical-emancipatory approaches (Paulo Freire, Michel Foucault, Jerome Bruner, Jack Mezirow) (e.g. Sajdak, 2013; Perkowska-Klejman, 2021).

Reflection on the produced "forms of reality" in the context of learning takes some specific forms. The production of meanings and realities takes place in priv-

ileged circles and at the institutional level (e.g. science, politics, corporations). According to Kincheloe (2005), the emergent attribute of critical constructivism corresponds, to some extent, to social constructivism, since it refers to the socio-cultural convention of the world. At the institutional level, a kind of power and knowledge game takes place, which most often results in a consensus. The meanings produced, however, result from the compatibility of thoughts, concepts, language, i.e. they are socially agreed upon. The element of criticism, however, is revealed in a deeper, critical reflection on the world, and more specifically, on the representation of this world. The object of critical reflection is the communal construction of knowledge in the process of social interaction, new cognitive experiences are subject to individual interpretations. In the learning process, it is important to be fully aware of the above processes, including awareness of the various social practices (including those based on power and violence) that determine the process.

Constructivism, thus, provides a rather interesting basis for organising the learning environment in the school classroom. It contests, clearly, the imperative techniques of rationality, and justifies students' construction of knowledge as a possible, feasible, meaningful and valuable process. If some processes, in the course of learning, are mere reconstruction of meanings then students are aware of it. They make a critical reflection on educational practices. Reification and decontextualization are considered two undesirable effects of education. Technocratization has also been criticized – as a process that involves participation in central exams – tests where knowledge is reproduced, and where the stakes are really high, e.g. the privilege of studying in a prestigious field. Looking at the learning environment in the classroom, and even more broadly looking at schooling through the lens of critical constructivism, the importance of the core curriculum should be leveled, revealing its reproductive, institutional and violent nature. It is worth adding that the bases, in and of themselves, are produced by the same reproductive and violent processes. The task of the school is to create such an environment for learning where the student is fully engaged into the research processes, alternatively, to remain aware of the processes by which learning content is reproduced (Charlot et al., 1992).

Conceptual violence, has been present in schools for a long time. Larochelle and Désautels (2007) even write about how it has contaminated learning environments. The authors remind us that teachers placed in the position of colonizers of children's minds violate the philosophical principle of epistemological symmetry. Conceptual violence occurs, for example, as a result of not considering the knowledge developed by students in the context of their local cultures as vital and authentic (Bentley et al., 2007). Understanding what the student knows, how they arrived at that knowledge, and even "where the student knows" is important and relates in a very practical way to the student's ownership of the content and motivation for learning. Critical constructivism reveals itself in treating students as ca-

pable individuals, whose learning would involve taking into account and respecting their knowledge capitals and their interests and their involvement in setting learning goals and methods (Levin, 1994).

Elements of constructivist learning environment according to Peter Taylor and Barry Fraser

Taylor and Fraser focused on constructivist learning environments in specific classes. They wanted their concept to serve school practice in two consequential ways. First, it was a contribution to teachers' reflections on their own epistemological assumptions, and second, it provided a starting point for transforming their own teaching practice. Initially, Taylor and Fraser described learning environments based on social constructivism and personal constructivist patterns derived from experience. Finding the description incomplete, they reached for the assumptions of radical constructivism and critical theory, and then revised it. Thus, they incorporated a critical perspective into their research (Habermas, 1984; Grundy, 1987). The basic idea and even mission of the authors was to provide teachers with an effective way to describe the learning environment in the classroom. This description included student reflection on prior knowledge, development of independence, negotiation of meanings and understanding of particular issues with other students. The focus was on the areas listed in sequence.

Personal relevance – defined by the degree to which school activities and the content of these activities (knowledge, skills) are relevant to students' extracurricular daily life. Students' prior knowledge and experiences should be taken into account in the learning process. Linking school, educational practices with students' out-of-school experiences is gaining importance. The idea is to reveal whether teachers are using students' everyday experiences as a meaningful context for developing their knowledge and skills.

Uncertainty – refers to the extent to which students have the opportunity to experience that knowledge evolves and is socially and culturally conditioned. One of the main obstacles to constructivist pedagogical reforms is the myth about the universality and monoculturalism of science, saying that science provides certain and objective knowledge of reality. This myth of objectivist certainty means that scientific knowledge exists independently of the knowing subject and is in a privileged position. "Uncertainty" allows to assess the range of capabilities of students in terms of realizing that knowledge is the result of a socially determined cultural process, results from human experiences and values, and is subject to change. "Uncertainty" dispels the myth of "Western Science" treating it as something universal, monocultural, academic.

Critical attitude – refers to the extent to which students believe that it is legitimate and beneficial to question teachers' classroom methods and plans, and even the content of teaching. An obvious limitation of students' critical attitude toward

their own education is the teachers' sense of responsibility for implementing the core curriculum, for which they are accountable to educational supervision. Referring to Habermas' cognitive interests, it can be said that technical interest limits the critical attitude. On the other hand, teachers feel a sense of responsibility (especially to their students) for their pedagogical actions. This scale assesses the extent to which a social climate is created in the school classroom for students to express their concern about various obstacles to learning, as well as a climate for legitimate questioning of the teacher's plans and methods.

Shared responsibility – the degree to which students share control over various aspects of learning with the teacher and other students, such as expressing one's own goals, designing learning activities, evaluating and assessing work, social norms in the classroom, and even managing the learning process. The teacher invites students to jointly "control" the entire learning environment and the processes within it. Students feel responsible for designing and managing their learning and are involved in setting and applying assessment criteria and negotiating the social norms of the classroom. The constructivist viewpoint is focused on developing students' autonomy to exercise control over their learning, among other things. This approach to education goes beyond the practice of students working independently on a given problem assigned by the teacher. In this situation, a portfolio that emphasizes students' self-assessment of personal development concepts becomes a useful tool.

Negotiation – the extent to which students have the opportunity to present, explain and justify their ideas and apply these ideas, as well as those of other colleagues. One important aspect is the assessment of students' social activity of helping each other during the learning process and during the problem-solving process. "Negotiation" allows for an assessment of the extent to which students have the opportunity to present, explain and justify their points of view and ideas to others, but, at the same time, reflect on other students' ideas and their feasibility. An attitude of self-criticism over one's own notions and ideas develops. Negotiation goes beyond traditional student activities. By negotiating, students help each other work out an answer to a problem. The scale makes it possible to assess the degree of students' ability to explain and justify their ideas to others, as well as to think about their feasibility, and to listen to the justifications and feasibility of the ideas of others.

SUMMARY

The constructivist theoretical perspective described is both critical and creative. It offers insights into the hidden and overt dangers of a privileged form of knowledge in modern education. It strives to be an alternative that recognizes social poten-

tials, is fair, and promotes sustainable democracy, promoting social justice (Fleury and Garrison, 2014).

However, it should be acknowledged that constructivist-critical education can be considered politically subversive. All "school" knowledge, especially scientific knowledge is recognized, as knowledge symmetrical to the personal knowledge of the students, including that brought upfrom local contexts, traditional ecological knowledge – known as indigenous knowledge. Learning leads to the personal and social empowerment of students, as well as their ideological and political emancipation. This assumption seems particularly relevant in the face of today's ecological, economic and political devastation of the world. Critical constructivism is identified with humanistic, emancipatory and intelligent education. If "all knowledge is socially constructed", what is to become of the so-called official school knowledge, which is determined by disciplinary decisions and dynamics, as well as by influential institutions and policies, Duschl and Grandy (2011) ask. They argue that in-depth understanding of science means that students should not only be aware of "what they know", but also "how they know it" and "why they know it", and prefer the chosen narrative to an alternative one. The above-mentioned authors emphasize that attention should be paid to cultural values at every stage of knowledge production and political assumptions or ideologies. They then conclude that for the United States and many societies influenced by the West, the three main ideologies at work are: classical liberalism, neoliberalism and neoconservatism. These ideologies, often contradictory but sometimes strangely complementary, underpin cultural narratives, guide educational policies and curricula.

CONCLUSIONS

Critical constructivism as a theory of education has some limitations. One of them is the rather unfortunate semantic connotation of the word "constructivism", as it it is obviously related to construction – a project with very well-defined elements, foundations, a planned and orderly construction process. The "building" metaphor fits much better with behaviorism than with constructivism.

Constructivist learning models are still lacking, which is felt especially by practicing teachers. Quite often they interpret constructivist learning as individual discovery, which is not correct, and furthermore introduces the myth of the impossibility of developing a model, program or method of assessment. Therefore, the concept showing a constructivist classroom environment – described by Taylor and Fraser – is promising, especially as it will meet the challenge of appreciating the critical dimension. This is particularly problematic because in so-called traditional learning, the critical dimension depends mainly on teachers. Constructivism is also problematic because of the already mentioned power to

demystify cultural, political and ideological assumptions. We mentioned classical liberalism, neoliberalism and neoconservatism. Omolo (2020) argues that modern knowledge is still under the clear dominance of the male, white class. The unjust influences of race, gender, and power are obvious. Worst of all, knowledge that has "already been constructed" is socially accepted by teachers, schools and the education system. Critical constructivism leads to the undoing of this domination and gives a voice to various actors and groups that until now have been invisible, marginalized and excluded.

It should be noted that, regardless of the variant, constructivism has had little if any impact on educational practice or student learning in recent decades. There was, and still is, a tendency towards a rather superficial understanding of constructivism in education. The slogan "children construct their own knowledge" has become a fairly common "recipe" for learning with student-centered methodologies and inquiry techniques. This type of advocacy in practice has most often been balanced with with the "discovery" of already predetermined knowledge. The proposed epistemological theory has also had little educational effect when juxtaposed with nationally prevalent and increasingly globally applicable standardized tests and commoditized knowledge standards around the world.

REFERENCES

Bauman, Z. (2011). Ponowoczesne wzory osobowe. *Studia Socjologiczne*, *1*(200), 435–458.

Bentley, M., Fleury, S., Garrison, J. (2007). Critical Constructivism for Teaching and Learning in a Democratic Society. *Journal of Thought*, *42*(3–4), 9–22. https://doi.org/10.2307/jthought.42.3-4.9

Berger, P.L., Luckmann, T. (1966). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Penguin Books.

Brooks, M.G., Brooks, J.G. (1999). The Courage to Be Constructivist. *Educational Leadership*, *57*(3), 18–24.

Charlot, B., Bautier, E., Rochex, J.-Y. (1992). *Ecole et savoir dans les banlieues et ailleurs*. Armand Colin.

Cobb, P. (1994). Where Is My Mind? Constructivist and Social-cultural Perspectives on Mathematical Development. *Educational Researcher*, *23*(7), 13–20. http://dx.doi.org/10.2307/1176934

Davis, P.J., Hersch, R.H. (1981). *The Mathematical Experience.* Birkhauser.

Dewey, J. (2002). *Human Nature and Conduct*. Courier Corporation.

Duschl, R., Grandy, R.E. (2011). *Demarcation in Science Education: Toward an Enhanced View of Scientific Method.* Routledge.

Dylak, S. (2013). *Architektura wiedzy w szkole*. Difin.

Feyerabend, P. (1962). Explanation, Reduction, and Emppiricism. In H. Feigl, G. Maxwell (Eds.), *Scientific Explanation, Space, and Time, Minnesota Studies in the Philosophy of Science* (Vol. 3, pp. 28–97). University of Minnesota Press.

Fleury, S., Garrison, J. (2014). Toward a New Philosophical Anthropology of Education: Fuller Considerations of Social Constructivism. *Interchange*, *45*(1–2), 19–41. https://doi.org/10.1007/s10780-014-9216-4

Glasersfeld, E. von. (1989). Cognition, Construction of Knowledge, and Teaching. *Synthese*, *80*, 121–140.

Glasersfeld, E. von. (1998). Cognition, Construction of Knowledge, and Teaching. In M.P. Matthews (Ed.), *Constructivism in Science Education* (pp. 11–30). Springer Science + Business Media.

Grundy, S. (1987). *Curriculum: Product or praxis?* Falmer Press.

Habermas, J. (1984). Habermas: Questions and counterquestions. *Praxis International*, *4*(3), 229–249.

Hersch, R. (1986). Some Proposals for Reviving the Philosophy of Mathematics. In T. Tymoczko (Ed.), *New Directions in the Philosophy of Mathematics* (pp. 9–28). Birkhauser.

Jonassen, D. (1991). Objectivism Versus Constructivism: Do We Need a New Philosophical Paradigm? *Educational Technology Research and Development*, *39*(3), 5–14.

Kincheloe, J.L. (2005). *Critical Constructivism*. P. Lang.

Kiraly, D. (2000). *A Social Constructivist Approach to Translator Education*. St. Jerome.

Kordziński, J. (2022). *Nowoczesne nauczanie.* Wolters Kluwer.

Kuhn, T.S. (1962). *The Structure of Scientific Revolutions* (2nd ed.). University of Chicago Press.

Larochelle, M., Désautels, J. (2007). On Ernst von Glasersfeld's Contribution to Education: One Interpretation, One Example. *Constructivist Foundations*, *2*(2–3), 90–97.

Levin, B. (1994, June). Improving Educational Productivity: Putting Students as the Center. *Phi Delta Kappan*, 758–760.

Lunenburg, F.C. (1998). Constructivism and Technology: Instructional Designs for Successful Education Reform. *Journal of Instructional Psychology*, *25*(2), 75–81.

Morbitzer, J. (2011). Szkoła w epoce płynnej nowoczesności. In E. Musiał, I. Pulak (Eds.), *Człowiek, media, edukacja* (pp. 1–7). Katedra Technologii i Mediów Edukacyjnych.

Nowak, J. (2015). Środowisko uczące – (nie)doceniony obszar edukacji. In K. Kruszko, I. Nowakowska-Buryła (Eds.), *Problemy edukacji wczesnoszkolnej. Perspektywa teoretyczna i rozwiązania praktyczne* (pp. 63–75). Wyd. UMCS.

Nowosad, I. (2022). *Singapur. Azjatycki tygrys edukacyjnych reform. Fenomen makropolityki oświatowej*. Impuls.

OECD. (2017). *Education at a Glance 2017*.

Omolo, J. (2020). *The Beast: White Supremacy*. Cosmodernity Consultants.

Perkowska-Klejman, A. (2021). Refleksyjne uczenie się jako odpowiedź na współcze-sne wyzwania edukacyjne. *Lubelski Rocznik Pedagogiczny*, *40*(3), 7–23. https://doi.org/10.17951/lrp.2021.40.3.7-23

Piaget, J. (1970). *Piaget's Theory* (Vol. 1). Wiley.

Polanyi, M. (1967). Science and Reality. *British Journal for the Philosophy of Science*, *18*, 177–196.

Sajdak, A. (2013). *Paradygmaty kształcenia studentów i wspierania rozwoju nauczycieli akademickich*. Impuls.

Tobin, K.E. (1993). *The Practice of Constructivism in Science Education*. Association for the Advancement of Science (AAAS).

Williams, M., Burden, R.L. (1998). *Psychology for Language Teachers: A Social Constructivist Approach*. Cambridge University Press.

Varney, J. (2009). From Hermeneutics to the Translation Classroom: A Social Constructivist Approach to Effective Learning. *Translation & Interpreting*, *1*(1), 29–45.

Vygotsky, L.S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.

ŚRODOWISKO UCZENIA SIĘ W OPTYCE KONSTRUKTYWIZMU KRYTYCZNEGO

Wprowadzenie: Artykuł jest próbą ukazania konstruktywistycznego środowiska uczenia się jako modelu, koncepcji, która zakłada, że uczeń jest aktywnym, a nie pasywnym uczestnikiem w procesie zdobywania wiedzy pogłębionej, elastycznej i systemowej, a nie fragmentarycznej, sztywnej czy mechanicznie odtwarzanej. W tekście skupiono się na współczesnych potrzebach uczniów w ujęciu konstruktywizmu radykalnego i społecznego. Nakreślono główne wymiary konstruktywizmu krytycznego i zaprezentowano elementy konstruktywistycznego środowiska uczenia się opartego na koncepcji Petera Taylora i Barrego Frasera.

Cel badań: Celem jest ukazanie konstruktywizmu krytycznego jako zbioru różnorodnych teorii, pojęć, koncepcji stwarzających warunki do samodzielnego konstruowania wiedzy oraz tworzenia przyjaznego środowiska uczenia się.

Stan wiedzy: Pojęcie konstruktywistycznego środowiska uczenia się wywodzi się z imperatywu nauczania (John Dewey, Jean Piaget, Lew Wygotski i Howard Gardner). Zakłada, że uczenie się to aktywny proces konstruowania wiedzy na podstawie doświadczenia uczącego się i taka konstrukcja zazwyczaj jest zakończona subiektywnie i metapoznawczo. Pojęciem konstruktywizmu w kontekście uczenia się w klasie szkolnej posługują się w ostatnich dziesięcioleciach dość często zarówno teoretycy (wykładowcy akademiccy i badacze), jak i praktycy (nauczyciele szkolni).

Podsumowanie: W artykule analizujemy, jaką rolę odgrywa konstruktywistyczne środowisko uczenia się, które radykalnie kwestionuje wizje ucznia jako pasywnego odbiorcy i nadaje mu status aktywnego podmiotu mającego wkład w konstruowanie środowiska przyjaznego uczeniu się. Zgodnie z konstruktywistyczną teorią uczenia się edukacja powinna być postrzegana jako wspomaganie ucznia w procesie wytwarzania znaczeń, które umożliwiają konstruowanie własnego rozumienia świata.

Słowa kluczowe: konstruktywizm krytyczny, środowisko uczenia się, uczeń/student.