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## **Technology of self-directed learning in the context of informatization of the educational process**

### **Introduction**

The background of introducing self-directed learning technology in the information society is described in the article. Based on the analysis of works by eminent scientists of our time, the essence and educational opportunities of self-directed learning technology in the context of informatization of educational process are substantiated; the role of the teacher in adult self-directed learning is defined.

### **„Pillars of adult learning theory”**

Since the beginning of adult education in the 1920's, the key task of researchers and practitioners in this field was to identify and explain the specific features of adults as learners. However, according to Sharan Merriam, even „after some 80 years of study, we have no single answer, no one theory or model of adult learning. What we have instead is a colorful mosaic of theories, models, sets of principles, and explanations that combined create the knowledge base of adult learning” [Merriam 2004: 199].

The most important elements of the above „mosaic”, according to S. Merriam, are two learnings: the andragogy and self-directed learning which she calls „pillars of adult learning theory” [Merriam 2001: 3]. Andragogy as „the art and science of helping adults learn” [Knowles 1970: 38] was substantiated by an outstanding American scientist Malcolm Knowles. He, along with Cyril Houle and Allan Tough, also was the founder of the model of self-directed learning.

The idea of self-directed learning occupies a special place in the scientific heritage of M. Knowles. The scientist's awareness of the importance of this problem was determined primarily by the rapid development of adult education in the middle of the last century, particularly, by the growing number of community colleges, the increasing number of adult learners in formal and informal educational establishments, especially in higher educational institutions of the USA, where the matriculation was growing mostly due to the enrollment of students over 21 years of age. Higher educational establishments at that time began to play a leading role in providing educational services for adults in the United States [Stubblefield & Keane 1994]. By 1974, a third of the total 9.8 million university and college students were adults aged 25 and over [Knowles 1977].

At that time, according to H. Stubblefield and P. Keane, „universities confronted a student body nontraditional in age, attendance patterns, and learning orientation. Students were increasingly adult and part-time; they arranged educational activities around family, community, and career responsibilities; and they entered or reentered higher education to further career goals” [Stubblefield & Keane 1994: 256].

The new conditions, when learning programs were designed, extracurricular activities were organized, resource centers were founded specifically for the adult contingent of students, required from the learners to take greater responsibility for their own learning. However, M. Knowles realized that students were not prepared to cope with that task. He wrote that most people were used to being taught and could not learn independently. In such circumstances, M. Knowles drew attention to the necessity of developing the skills of self-directed learning and rationalized it by various factors. Firstly, according to the results of studies, people who initiate their own learning, acquire the knowledge better and in greater volume than those who are being taught. Secondly, self-directed learning „is more in tune with [...] natural processes of psychological development” of a person because the development of the ability to take responsibility for one’s own life is an integral aspect of the maturation process [Knowles 1975: 14–15].

### **Prerequisites for the application of self-directed learning technology**

M. Knowles believed that the most important argument in favor of self-directed learning was preventing the „future shock” caused by the fact that „we are entering into a strange new world in which rapid change will be the only stable characteristic” [Knowles 1975: 15]. This, in his opinion, had several effects on adult learning. First of all, he emphasized, it was no longer appropriate to assume that the goal of education was transmission of knowledge, as half of what a person learned at the age of twenty, may be outdated, when he turns thirty. So „the main purpose of education must now be to develop the skills of inquiry”, so that a person after finishing school, not only will have some basic knowledge, but also „have the ability to go on acquiring new knowledge easily and skillfully the rest of his or her life” [Knowles 1975: 15–16].

The second consequence is the need for fundamentally new ideas about teaching. Traditionally, we tend to think that learning is what happens at school, where we are taught. But in order to be adequate to the new world, we must realize that the sources of learning also include the activities we do, and the people and institutions we deal with.

The third consequence of the fact that humanity has entered an era of rapid change is the need to move away from the old stereotypes that education is acquired only in adolescence. „Education – or, even better, learning – must now be defined as a lifelong process” [Knowles 1975: 16]. In general, the importance of self-directed learning was substantiated by M. Knowles as follows: „self-directed learning is survival – your own survival as an individual, and also the survival of

the human race” [Knowles 1975: 16]. To this the scientist added that „the ability to learn on one’s own [...] has suddenly become a prerequisite for living in this new world” [Knowles 1975: 17].

In our opinion, in the late XX – early XXI century it is expedient to single out the fourth consequence associated with the transition of humanity to the information society, informatization of the educational process, introduction of distance learning.

### **The essence of self-directed learning technology**

Features of self-directed learning technology are presented in M. Knowles’ work „Self-directed learning” (1975) which was recognized by Syracuse University, a leading institutions in the field of adult education in the USA, as one of the outstanding books in English in the field of adult education [Houle 1992]. In this paper, M. Knowles refers to the results of studies by Allen Tough, that testified to the fact that adults are highly self-directed when they „go about learning something naturally (as contrasted with being taught)” [Knowles 1975: 129]. M. Knowles describes self-directed learning as „a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” [Knowles 1975: 18].

However, M. Knowles emphasized that the term „self-directed learning” does not mean learning in isolation. On the contrary, it usually takes place in association with teachers, facilitators and peers. The scientist also stressed that „there is a lot of mutuality among a group of self-directed learners” [Knowles 1975: 18].

Particularly M. Knowles focuses on the skills of self-directed learning. According to the scientist, the teacher-directed learning requires from the learners the ability to listen attentively, take notes carefully, read quickly, understand what was read, etc. But self-directed learning requires from students the ability to collaborate with peers, diagnose their own learning needs, transform the needs into learning objectives, treat teachers as facilitators using their learning resources, and others.

As we can see from the definition which M. Knowles gives to the self-directed learning, this process includes five out of seven steps of the andragogical process, which had been identified by the scientists at that time: diagnosing learning needs, formulating learning goals, as well as planning, implementation and evaluation of the learning activity. Since we are talking about students who take the initiative in their own learning, the first two phases, creating a supportive learning environment and establishing a mechanism for mutual planning of the educational activity, are not included in the above list.

M. Knowles also focuses on some problems encountered at the initial stage of self-directed learning. The first problem stems from the fact that at the early

stages, learners do not understand the structure of the future learning activity and feel confused, because a clear structured plan (course outline, course description, curriculum) traditionally gives them some sense of security. In order to appease the students, M. Knowles recommends at the very beginning to emphasize that they are going to work according to a plan, but this plan is different from the one they are accustomed to. It is the learning process plan rather than the content plan [Knowles 1975: 37].

M. Knowles pays much attention to the problem of planning. He observes that students want to be sure that they will acquire the necessary amount of content material they will need for passing exams, obtaining certificates, licenses, as well as being enrolled in other institutions or obtaining employment. Therefore he suggests that at the very beginning of the learning activities the teacher should explain to the students that the difference between content planning and process planning is not in that the first type of planning provides for the content acquisition and the second does not. The real difference is that in the first case the task is to transmit the content and the second – to help students in acquiring it [Knowles 1975: 38].

Consequently, the use of technology of self-directed learning allows considering the learning process as: an *active cognitive process* in which a learner uses his knowledge and experience, as well as performs some intellectual actions to obtain and understand new knowledge; as an *active communicative process* in which a learner uses language and modern means of communication to obtain the necessary information; as a *socially active process* in which cognitive activity of an adult learner is directly linked with his close environment – teachers, peers, acquaintances, colleagues, the communication being an important and indispensable component of the learning process along with its individualisation; as *context-dependent process* that can not be taken out of the context of the adult's life and his problems; *motivational-dependent process* in which learning outcomes depend significantly on the motivation of the learner, his interest in the optimal solution of the problems; as a *long-lasting process*, in which one has to return repeatedly to issues that were discussed, in light of new information, knowledge [Ogienko 2010: 223].

### **The teacher's role in the process of adult self-directed learning**

Of special attention in the context of our study is also M. Knowles' vision of the teacher's role in the process of self-directed learning. M. Knowles recalls that at the beginning he did not perceive his own new role as that of facilitator. Initially, by encouraging students to self-directed learning, M. Knowles continued to see his own role in transmission of content and assessment of how well the students have learned it. But then the students „forced” him to stop being a teacher and become a facilitator.

M. Knowles explained the complexity of changing his own role as follows: „It required that I focus on what was happening in the students rather than on

what I was doing". Awareness of his new role required from M. Knowles to throw off the „protective shield of an authority figure" and to show the students that he was a „human being, with feelings, hopes, aspirations, insecurities, worries, strengths, and weaknesses" [Knowles 1975: 33]. The scientist said that he also had a new responsibility – for revealing all the learning resources he had, as well as for making them accessible to students. Among the difficulties associated with the implementation of the new role of facilitator, M. Knowles also mentioned the need to resist „the compulsion to pose as an expert", at the same time showing the students that he together with them was in the process of continuous learning [Knowles 1975: 34].

M. Knowles also noted that the new role required from him to perform new functions and develop new skills. He was aware of the fact that his new function was primarily to guide the learning process, and only secondarily – to serve as a resource person. M. Knowles perceived that his main task was choosing for each specific situation the most effective ways of work with students on the successful implementation of the seven stages of the andragogical process. To do this he asked himself a number of questions at every stage:

1. How can I create an atmosphere that combines the mutual care and support on the one hand and the mental discipline – on the other? (Stage of setting a favorable climate).
2. What mechanisms can I offer to involve students in the mutual planning of learning activities? (Stage of creation of structure for mutual planning).
3. How can I ensure that students are not afraid to realistically assess the gap between their current level of skills and the desired one? (Stage of diagnosing learning needs).
4. How can I help students transform their learning needs into learning objectives that would be clear, achievable and meaningful to them? (Stage of defining learning objectives).
5. How can I help students in designing their learning activity? (Stage of designing the learning activities).
6. How can I help sub-groups and individuals in carrying out their learning activities? (Stage of carrying out the learning activities).
7. How can I judge about the students' success in achieving educational goals in such a way as to stimulate the development of their self-concept? (Stage of evaluation of learning activities) [Knowles 1975: 34–37].

In our opinion, the need to find answers to these questions is a clear indication of how difficult is the role of facilitator, and how the challenges facing him, differ from the problems of teachers in the process of content transmission.

## **Conclusion**

This study suggests that in the context of informatization of educational process, the technology of self-directed learning can solve many problems associated with the specifics of the educational environment of virtual communication. Self-directed learning is the style of modern life. This is a technology that can help realize the human desire for self-development and self-realization, allows a person to take responsibility for major phases of the educational process, such as

identification of learning needs, formulating learning goals, as well as planning, carrying out and evaluation of training activities.

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## **Abstract**

Technology of self-directed learning suits the features of human physiological development and ensures the development of skills that help a person adapt to rapid changes in all spheres of modern society.

**Key words:** self-directed learning, IT In education.

## **Samokształcenie w kontekście informatyzacji procesu edukacyjnego**

### **Streszczenie**

Technologie informacyjne w samokształceniu jako samodzielny uczeniu się wspomagają rozwój funkcji fizjologicznych człowieka oraz zapewniają prawidłowy rozwój umiejętności, które pozwalają dostosować się do szybkich zmian we wszystkich sferach współczesnego społeczeństwa.

**Słowa kluczowe:** samokształcenie, technologie informacyjne w edukacji.