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Didactic Conditions of Students' Cognition and Creative Independence Formation in Heuristic Learning

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Novelty:
This paper reviews recent literature in didactic conditions of students' cognitive and how to formulate creative independence in heuristic learning.

Abstract

This article gives the definition of the concept of "didactic conditions". It theoretically substantiates the key didactic conditions of students' cognitive and creative independence formation in heuristic learning. These include the development of individual educational paths based on the use of modern information technologies. It also ensures the variability of the tasks for independent learning activities. Lastly, it aids the activation of students' reflection mechanisms on this basis.

Keywords: cognitive independence, creative independence, didactic conditions, formation, heuristic learning, student.

Introduction

The problem of determining the category of "didactic conditions" is not fully resolved in professional literature. In psychology, the concept of "condition" is represented in the context of mental development and is clarified through a set of internal and external causes which determine the individual psychological development (Vandenbroucke et al., 2018). Teachers take a similar position and consider the "condition" as a set of changeable natural, social, external and internal influences. These factors are said to affect the physical, moral, education, personality and mental development of an individual (Britto et al., 2017; Darling-Hammond, 2008).

In pedagogy, the concept of "condition" is most often combined with the adjective "pedagogical" or "didactic" (Kamerilova et al., 2016; Khutorskoi, 2006). Thus, didactic condition provides the basis for purposive selection, design and application of the elements of content, methods (techniques), as well as organizational forms of learning to achieve a didactic goal. As a result, pedagogical conditions reflect the set of the possibilities in educational and material

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environment. These possibilities influence the personal and process aspects of the pedagogical system, and ensure its effective functioning and development (Guseinova, 2018). The purpose of this article is to theoretically substantiate the didactic conditions of students' cognitive and creative independence in heuristic learning.

What is Didactic Condition?

Pedagogical literature has got several definitions of "didactic condition". Researchers note that, didactic condition can be considered as a set of objective possibilities as regards content of education, methods, organizational forms and wherewithal for their implementation, which ensure the successful resolution of the task (Valeev et al, 2016; Vaskivska, 2017). It has been established that, the didactic conditions help to achieve the didactic goal in educational settings (Valeev et al., 2016). Synthesising the definitions available in pedagogical domain, the concept of "didactic conditions" is operationalised in the study as a set of factors which will help to promote the level of the students' social competence formation in pedagogical universities (Nicolopoulou et al, 2015; Zholdasbekova et al., 2016).

Analysis of previous works regarding the definitions of didactic conditions provides varied meanings. For example, Zakharova (2015) believes that, the formation process of students' independent and cognitive development is effective through didactic conditions. This provides motivating and stimulating basis for the use of information technologies by students. Other activities may include computer training, educational games, and computer test platforms like Logit, G-speak, etc. Furthermore, Hurska (2015) defines pedagogical conditions as factors contributing to the successful functioning of the didactic system. This definition by Hurska considers the didactic condition as scientifically grounded actions and processes which positively influence the course of the phenomenon under study. Generally, they create a stimulating educational environment for intensive accumulation of social science knowledge.

Furthermore, Pavlenko's (2014) work defines didactic conditions as the expansion of the culture in educational space (personal and general educational institution). Thus, this involves the sensible use of cultural science commentary in the process of studying the humanities. Additionally, Benera (2003) states that future teachers' cognitive independence is successfully formed under systematic and conscious mastering of meaningful cognitive skills by students. In this respect, didactic conditions enable the students' pedagogical interaction to be organised in the intellectual game. In consequence, they permit students to optimally internalize the corresponding content of education which includes, the actualization of both internal and external activities. They also improve students' independence in the creative search for the ways of organizing their own professional and pedagogical activities in college and pre-school educational institutions.

Feasibility and Effectiveness of Creating a Set of Didactic Conditions

Before identifying the feasibility and effectiveness of creating a set students' didactic conditions in heuristic learning, there is a need to develop the individual educational paths based on the use of modern information technologies. One should also ensure the variability of the tasks for independent learning activities and students' reflection. The idea of individualizing the educational process is based on the idea of "navigating" the movement in the educational space to suit each student (Seong et al., 2015). The development of individual educational process involves and requires the consideration of individual characteristics, their requests, opportunities and interests at prognostic and hypothetical levels. The subject of the educational process should be tailored to their individual experiences. Students analyses their professional interests and educational needs, as well as the possibilities for future higher education. Individualizing the educational process will help them to find select the right educational programs, subjects, modules and courses needed for the career. In effect, individualizing the educational process allows for modern reorientation of education to provide functional results and competency among students.

Today, the organization of educational activities according to the individual educational path has become a rising interest. Such a path should be implemented in the educational process from the perspective of "personality-oriented-positions". Specialists characterize the meaning of the word "personality" as the holistic psychosocial nature of a person (Slobodchikov, 1995). According to Belichenko (2014), an individual educational path on the basis of predecessors' theoretical

experience generalization is realized in the individual progress in the educational space. It is worth mentioning that the implementation of individual educational paths constantly pushes students' educational needs to meet their individuality. As a result, students become active learners, creative, autonomous, purposefulness and resourceful.

Burlakova's (2013) work substantiates the essence of variable and reflecive approaches as strategies for realizing the ambiguity that may arise as higher pedagogical institutions individualize students' professional training. The realization of these approaches will reveal the challenges associated with the interconnection and inter-influence of the external and internal sides of the individualization process. Remarkably, the external side correlates with the term "variability", and the internal one does with the understanding of the concept of "reflection". The analysis of the problem of variability in education is shown in the works of O. Abdullina, T. Spirina and other authors who revealed related questions (Abdullina, 1990; Abdullina, 1993; Liakh et al., 2017; Valeeva, Gafurov, 2017).

Moreover, the generalization of pedagogical experience gained from the study of variability makes it possible to consider it more as a process. This process aims at increasing the level of students' social and professional mobility. Again, it aids in improving the possibilities of the individual competent choice for life path and self-development. The development of the elective component of education correlates with the variety of organizational and legal forms of educational institutions, their types, content and forms of educational process organization (Abdullina, 1990; Valeeva, Gafurov, 2017). Additionally, many other scholars consider reflection as a generalized type of pedagogical experience which is manifested through various types of creative activities. The reconsideration of these activities enables one to differentiate the individuality among the different substructures in pedagogy, and to integrate them considerably into a unique integrity. (Ospanbekova et al., 2016; Shaidullina et al., 2015; Slastenin, 2002).

Conclusion

The leading didactic conditions for the students' cognitive and creative independence formation in heuristic learning can be considered as, the development of individual educational paths. These paths are based on the use of modern information technologies. Finally, the variability of independent learning activities and students' reflection mechanisms can aid in achieving this process.

Conflicts of interest

The author declares no financial conflicts of interest.

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