



International Conference on Education, Psychology and Humanities

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In the modern education system, the development of students' independent learning competence is considered a pressing pedagogical issue. The effectiveness of this process is determined not only by didactic support but also by the student's ability to consciously manage their own learning activities. From this perspective, the use of time management technology based on the integration of pedagogical and psychological approaches emerges as an important methodological direction. The aim of this study is to analyze the interrelation and coherence of pedagogical and psychological approaches in the development of students' independent learning competence through the application of time management technology.

In the course of the research, a comprehensive methodological approach was employed to determine the role and effectiveness of time management technology in developing students' independent learning competence. In particular, methods such as system analysis, comparative analysis, modeling, pedagogical observation, and theoretical generalization were utilized.

Through the method of system analysis, the process of independent learning was examined as an integral system composed of interrelated elements. In this context, the interconnections between pedagogical factors (didactic tools, teacher activity) and psychological factors (self-regulation, motivation, reflection) were clarified. Based on comparative analysis, various scientific approaches, including pedagogical and psychological concepts, were compared, revealing their commonalities and distinctive features.

The conducted research indicates that the development of students' independent learning competence is based on two main approaches:



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1. Pedagogical approach.

In such studies, primary attention is given to the role of teacher activity and didactic tools in fostering students' independent learning. Scholar Philip Candy emphasizes that didactic tools (learning tasks, instructional materials, methodological guidelines, and assessment forms) transform students from passive recipients into active participants in the learning process. According to his view, independent learning does not develop instantly; rather, it is formed progressively. The following didactic tools contribute to the step-by-step development of key skills such as planning, time allocation, and self-assessment, which constitute the foundation of time management technology. [1; 95-112-b]

Within the framework of the pedagogical approach, the impact of didactic tools on student activity was examined in detail. In particular, the role of learning tasks, methodological guidelines, independent work systems, and assessment forms in enhancing students' engagement in the learning process was analyzed. In this context, didactic tools were considered as a crucial factor that transforms students from passive recipients into active subjects of the learning process. Furthermore, through these tools, the mechanisms underlying the development of skills such as planning, time allocation, and self-assessment were clarified.

2. Psychological approach.

This approach considers the development of students' independent learning from the perspective of their individual psychological and pedagogical characteristics. B. Zimmerman explains the psychological approach through a cyclical model. According to this model:

Forethought — goal setting, motivation, expectations;

Performance — attention control, time allocation, monitoring;

Self-reflection — evaluation, causal attribution, and strategy adjustment.



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These stages are closely interconnected with metacognitive and affective processes. [2; 64-70-b]

Within the framework of the psychological approach, students' learning activity was analyzed based on the cyclical model of self-regulated learning developed by Barry Zimmerman. According to this model, students' learning activity is carried out in three stages: forethought, performance, and self-reflection. At each stage, metacognitive and affective processes—such as goal setting, motivation regulation, time allocation, monitoring, and reflection—were examined in depth. In addition, through the use of the modeling method, an integrative model of time management technology aimed at developing students' independent learning competence was designed. In this model, components such as planning, effective time allocation, activity monitoring, and reflective evaluation were systematized in alignment with both pedagogical and psychological approaches.

To comprehensively understand the didactic potential of time management technologies in developing students' independent learning competence, it is essential to take into account the level of an individual's psychological maturity. According to the concept of the "Maturity Continuum" proposed by Stephen R. Covey, personal development occurs through the transition from a state of dependence to independence.

Within this process, time management technologies function as an important didactic tool by enabling students to plan their activities, manage time resources efficiently, and develop a sense of personal responsibility. As a result, these technologies facilitate the transformation of students from dependent learners into autonomous subjects capable of engaging in independent learning activities.

The results of the study demonstrated that didactic tools applied within the pedagogical approach enhance students' engagement in the learning process and transform them into active subjects of independent learning. In particular, as



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emphasized by Philip Candy, skills such as planning, time allocation, and self-assessment are gradually developed through the use of didactic tools. Within the psychological approach, based on the cyclical model proposed by Barry Zimmerman, it was determined that students' learning activity is carried out in three stages: forethought, performance, and self-reflection. At each stage, time management plays a crucial role; specifically, processes such as goal setting, time allocation, monitoring, and reflection were substantiated as practical manifestations of time management technology.

As a result, the integration of pedagogical and psychological approaches was found to contribute to the development of the following components of students' independent learning competence:

- planning ability;
- effective use of time resources;
- monitoring of one's own activities;
- reflective analysis and self-assessment.

The obtained results indicate that time management technology serves as an integrative mechanism that combines pedagogical and psychological approaches. While the pedagogical approach ensures external regulation through didactic tools, the psychological approach develops internal self-regulation mechanisms. As a result of their integration, students become capable of consciously planning their activities, effectively managing their time, and independently evaluating their learning outcomes.

Therefore, it is essential to systematically implement time management technology in the process of developing students' independent learning competence. This not only enhances the effectiveness of the educational process but also has a positive impact on students' professional and personal development.



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The results of the study indicate that the development of students' independent learning competence is most effectively organized through the organic integration of pedagogical and psychological approaches. Within the pedagogical approach, the purposeful application of didactic tools enhances students' engagement in learning activities and transforms them into active subjects of independent learning. The psychological approach, in turn, ensures the effectiveness of the independent learning process by developing students' internal self-regulation mechanisms, particularly skills such as goal setting, self-monitoring, and reflection.

Furthermore, the findings substantiate the necessity of systematically integrating time management technology into the pedagogical educational process. For the effective organization of this process, it is essential to improve didactic tools, apply methods based on the self-regulated learning approach, and take into account students' individual characteristics.

In conclusion, time management technology functions not only as an effective pedagogical tool in developing students' independent learning competence but also as a significant factor in fostering their professional and personal development. Its comprehensive implementation in the educational process contributes to improving the quality of education and preparing competitive specialists.

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