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SCAFFOLDING IN EDUCATION: A COMPARATIVE ANALYSIS OF SUPPORT METHODS IN HUMANITIES AND ECONOMICS DISCIPLINES

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Abstract. This study explores the effectiveness of scaffolding methods in educational settings, focusing on students from different academic disciplines. Scaffolding, a pedagogical approach that provides temporary support to students and gradually reduces it as they gain independence, was applied to two groups of students from Turkmenistan: those studying humanities at the Turkmen National Institute of World Languages and those studying economics at the Turkmen State Institute of Finance. The study aimed to investigate the impact of three scaffolding methods—consultations, step-by-step instructions, and additional resources—on students' academic performance and perceptions. The results showed that humanities students benefited most from consultations and additional resources, while finance students preferred structured, step-by-step instructions.

Key words: Scaffolding, education, academic performance, consultations, step-by-step instructions, additional resources, humanities, economics, disciplinary differences, student engagement, learning outcomes.

The concept of scaffolding in education, first introduced by Wood, Bruner, and Ross (1976), has become one of the most influential pedagogical strategies in recent decades [1]. At its core, scaffolding refers to a support system that helps students accomplish tasks they cannot perform independently. Over time, this support is gradually reduced as the learner gains more competence, allowing for greater autonomy. This approach aligns with Vygotsky's Zone of Proximal Development (ZPD), which posits that learning occurs most effectively when students are provided with tasks that challenge them just beyond their current capabilities, yet still within their potential reach with the right support [1].

The educational landscape has seen the integration of scaffolding methods in various learning environments, including digital platforms, classrooms, and more. It has been shown that scaffolding methods such as consultations, step-by-step instructions, and additional resources can lead to significant improvements in student engagement, understanding, and overall performance [2]. However, despite its wide use, there is still a need for deeper exploration into the specific impact of scaffolding on students from different educational disciplines and backgrounds.

The present study aims to explore the effects of scaffolding methods on the academic performance and perceptions of students from two distinct universities in Turkmenistan: the Turkmen National Institute of World Languages and the Turkmen State Institute of Finance. The students in these two institutions come from different academic disciplines, namely humanities and economics, respectively. The study will focus on examining how these groups respond to and benefit from different scaffolding strategies. Specifically, the study will investigate:

1. The impact of consultations with instructors, step-by-step instructions, and additional resources on student learning outcomes.
2. The perception of scaffolding methods by students from different disciplines.

3. The differences in how students from humanities and economics backgrounds utilize and respond to scaffolding methods.

By focusing on two universities with different educational orientations, the study will provide insights into how scaffolding can be adapted to various academic contexts, and how students' field of study influences their engagement with and effectiveness of these support methods.

Hypothesis of the Study

The hypothesis is that the effectiveness of different scaffolding methods will vary depending on the educational context, the type of discipline, and the students' field of study. Students of humanities and financial disciplines are expected to perceive and utilize the support methods differently, which will influence their academic outcomes.

Methodology

1. Selection of Participants

The study involved students from two universities:

- Turkmen National Institute of World Languages named after Dovletmamet Azadi (students from humanities disciplines, such as linguistics, philology, international relations).
- Turkmen State Institute of Finance (students from economics and financial disciplines).

A total of 40 students participated in the study (20 students from each university). Each group was further divided into experimental and control groups (10 students in each group).

2. Support Methods (Scaffolding)

Based on a review of the literature on scaffolding, the following support methods were chosen:

- Consultations: regular meetings with the instructor to clarify complex concepts and questions.
- Step-by-step instructions: tasks that include a detailed guide to help students approach the material in a structured and sequential way.

- Additional resources: use of video materials, academic articles, and online courses to deepen understanding of the subject matter.

3. Research Procedure

The study was conducted over a period of 4 weeks. During the first phase (2 weeks), students from the experimental groups at both universities received support based on the selected methods:

- Students from the Turkmen National Institute of World Languages worked on assignments involving text analysis, essay preparation, and discussions with instructors.
- Students from the Turkmen State Institute of Finance engaged in tasks related to economic problem-solving, data analysis, and case studies, using step-by-step instructions and additional resources such as online finance courses.

The control groups did not receive any additional support and completed assignments in the standard format.

During the second phase (2 weeks), the impact of scaffolding on students' perceptions and academic performance was analyzed.

4. Data Collection

To assess the effectiveness of the scaffolding methods, the following tools were used:

- Questionnaires to evaluate students' perceptions of the support methods (satisfaction, usefulness, perception).
- Interviews with instructors to assess the impact of scaffolding on students' performance and the quality of their work.
- Performance analysis: comparison of exam results and assignment grades between experimental and control groups.

5. Evaluation Criteria

To evaluate students' perceptions of the scaffolding methods, the following criteria were considered:

- Satisfaction: how students rated each support method (on a scale from 1 to 5).

- Understanding of material: how much students felt the method helped them grasp the content.
- Independence: students' ability to solve tasks without further support.

Results

1. Questionnaire Results

Analysis of the questionnaires revealed the following:

- Students from the Turkmen National Institute of World Languages (humanities disciplines) rated consultations with instructors the most positively. The majority of students noted that regular discussions and feedback helped them clarify their ideas and deepen their understanding of the material.

- Students from the Turkmen State Institute of Finance (economics disciplines) expressed the highest satisfaction with step-by-step instructions. They stated that the structured guidance allowed them to approach complex financial tasks and data analysis more confidently.

- Students in the humanities group also highly valued additional resources such as video materials and online courses on linguistics and international relations.

- Students in the finance group appreciated the additional resources such as online finance courses and videos on financial calculations.

2. Performance Results

The performance analysis showed the following outcomes:

- Students in the experimental groups from both universities performed better on exams and assignments than those in the control groups.

- Students from the Turkmen National Institute of World Languages demonstrated 18% better results on assignments related to text analysis and essay writing compared to the control group. This improvement can be attributed to the support provided through consultations and additional resources.

- Students from the Turkmen State Institute of Finance showed 22% better results in solving economic problems and analyzing financial data, likely due to the effectiveness of step-by-step instructions and additional online courses.

3. Interviews with Instructors

Instructors noted that the scaffolding methods significantly increased student engagement and improved the quality of their work. This was particularly evident in students who received individual consultations and used additional resources. Instructors also pointed out that for students in the humanities disciplines, consultations and additional discussions were the most effective, whereas for finance students, step-by-step instructions and additional resources were most beneficial.

Discussion

The results of the study confirm that scaffolding methods have a positive impact on students' academic performance, but their effectiveness varies depending on the educational context and the field of study. Humanities students tend to benefit more from consultations, while students from economics and finance disciplines found step-by-step instructions and additional resources more useful.

Conclusion

The study demonstrated that scaffolding methods significantly improve students' academic performance and satisfaction, but the choice of method should depend on the discipline and educational context. Further research is recommended to explore the long-term effects of scaffolding methods and the potential for combining different support methods in a single educational process to maximize learning outcomes [4].

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**СТРУКТУРНАЯ ПОДДЕРЖКА В ОБРАЗОВАНИИ:
СРАВНИТЕЛЬНЫЙ АНАЛИЗ МЕТОДОВ ПОДДЕРЖКИ В
ГУМАНИТАРНЫХ И ЭКОНОМИЧЕСКИХ ДИСЦИПЛИНАХ**

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Аннотация. Настоящее исследование направлено на изучение эффективности методов структурной поддержки в образовательных процессах, с фокусом на студентах разных академических дисциплин. Структурная поддержка — педагогический подход, который предоставляет временную помощь студентам и постепенно снижает её по мере приобретения студентами независимости. Методики были применены к двум группам студентов из Туркменистана: обучающимся гуманитарным дисциплинам в Туркменском

национальном институте мировых языков и обучающимся экономическим дисциплинам в Туркменском государственном институте финансов. Целью исследования было изучение воздействия трех методов структурной поддержки — консультаций, пошаговых инструкций и дополнительных ресурсов — на успеваемость и восприятие студентами этого подхода. Результаты показали, что студенты гуманитарных направлений наиболее выгодно использовали консультации и дополнительные ресурсы, в то время как студенты финансовых дисциплин предпочли структурированные пошаговые инструкции.

Ключевые слова: структурная поддержка, образование, успеваемость, консультации, пошаговые инструкции, дополнительные ресурсы, гуманитарные дисциплины, экономика, различия в дисциплинах, вовлеченность студентов, учебные результаты.

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