



An Experimental Model of Student Interaction in Digital English Language Learning

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Abstract

The significance of the issue outlined in this study stems from the growing integration of computer technologies in university curricula and the imperative to foster an interactive culture among prospective educators regarding digital English language acquisition. Numerous scientists are intrigued by this comparatively recent scientific plight, and the proliferation of scientific investigations in this field substantiates its significance. Simultaneously, it is worth mentioning that an examination of the scientific literature has revealed the lack of adequate theoretical support and empirical investigation into the issue being investigated. The objective of this article is to provide theoretical support for a pedagogical framework that facilitates the formation of an interactive culture among prospective educators while they learn English digitally. The approach utilized to investigate this issue involved the modeling of scientific source analysis. The study yielded several outcomes, including the formulation of a theoretical justification for the developed model, the identification of the component composition, and the determination of the stages of implementation. Researchers engaged in experimental pedagogy may find the materials presented in the article to be beneficial.

Keywords: Pedagogical Model; Culture of Interaction; English Language Learning.

1. Introduction

The use of a pedagogical model for the development of a culture of interaction in digital English language learning among future teachers in the educational process is one of the important requirements, according to theoretically grounded pedagogical conditions that contribute to the effective development of a culture of interaction in digital English language learning among future teachers. Scientists argue that the modeling method, which combines theoretical and empirical knowledge, induction and deduction, should be used as a universal means of solving a pedagogical problem because it allows you to explore pedagogical phenomena and processes on a model that allows you to observe, study, and analyze the relationship between the elements and subsystems of the system under study.

The model integrates previously acquired knowledge into a single graphical system, combines pedagogical and research task methods for solving them, and predicts the outcomes. Theoretical analysis of scientific-pedagogical literature on the problems of the culture of interaction between teachers in the university's digital English language learning allowed us to define a hypothesis that the developed model for the development of a culture of interaction in digital English language learning among future teachers can be effectively implemented if: Its component composition will include: goal, objectives, principles, motivation, pedagogical content, and pedagogical content. The model will be tested during the pilot phase of the experiment; intermediate and final monitoring will be performed in accordance with the developed criteria and levels of the studied phenomenon. The intermediate results will be corrected, and the final results will be analyzed.

2. Literature Review

Language learners have viewed learning strategies as tools that they can use to accelerate or assist their second language learning. Language learning strategies, according to Rubin (1981), are the techniques or devices that a learner

can use to acquire language. Learning strategies were also defined as "any set of operations, steps, plans, or routines used by the learner to facilitate information acquisition, storage, retrieval, and use" (Wenden & Rubin, 1987). Li (2005), on the other hand, insisted that using learning strategies in the learning process of learners could be an intentional behavior and thought for them to understand better, learn, or remember new information. Based on previous research, learning strategies can be defined as special and intentional ways of processing information in order to improve learners' comprehension, learning, or retention of new information.

Previous studies on learning strategies attempted to categorize language learning strategies based on various approaches among scholars. Above all, learning strategies are classified as cognitive strategies that facilitate learning processes, meta-cognitive strategies that organize and assess learning, and socio-affective strategies that influence social and affective learning, according to O'Malley and Chamot's (1990) cognitive theory. Oxford (2002), on the other hand, classified direct and indirect strategies based on their direct relevance between language learning strategies and target language learning. Memory strategies, cognitive strategies, and compensation strategies are examples of direct learning strategies, whereas metacognitive strategies, affective strategies, and social strategies are examples of indirect learning strategies. The Oxford classification of learning strategies is widely regarded as the most comprehensive measure (Brown & Lee, 2015). Following that, Oxford (2002) classified communicative strategies as compensation strategies. She also provided an updated version of the Strategies Inventory for Language Learning (SILL), which has been widely used in various fields to assess learners' language learning strategies.

Learner-related variables that impact the implementation of learning strategies and achievement in the target language encompass age, cultural heritage, motivation, learning style, gender, language proficiency, learning level, and learning duration. According to reports, learner factors have a significant impact on the selection and implementation of learning strategies and have a meaningful correlation with the outcomes of learning strategy training. However, pertinent research on learning strategies has yet to resolve which learner factors significantly impact the patterns of learning strategy utilization that contribute to the language learning success or failure of students (Gyoomi & Jiyoung, 2020).

3. Methodology

General theoretical methods, including the modeling method and analysis of pedagogical and scientific sources, were utilized in the investigation of this issue. As an issue, pedagogical modeling has been and continues to be a subject of scientific inquiry. Therefore, Agalakov (2015) investigates the characteristics of pedagogical modeling in order to identify the categorical apparatus of contemporary pedagogy. Gutak et al. (2021) and Kozyrev & Kozyreva (2015) attempt to solve problems of professional and pedagogical activity through pedagogical modeling; Dementyeva (2013) examines the prospects and possibilities of pedagogical modeling as one of the promising areas of contemporary pedagogical research; and Gabdrakhmanova and Kostarev (2016) investigate the potential of modeling in athlete training. Dabbagh (2005) and Andreyeva et al. (2019) investigate the potential of pedagogical models for computer-based instruction. Experimentally and theoretically, Fakhrutdinova et al. (2020) validate the efficacy of the pedagogical model for the creative development of pedagogical university students.

At the same time, the analysis of the contradictions associated with interaction in the university's digital environment among future teachers revealed the problem of insufficient theoretical and practical development of this pedagogical phenomenon, which led to the determination of the goal of this research's practical component. The goal of developing a model is to schematically depict the effective development of a culture of interaction among future teachers in the Developments in Economics Education (DEE) by identifying structural component relationships as well as criteria and levels of analysis of the quality and quantity of changes in the studied pedagogical phenomenon.

4. Results

As pedagogical modeling is the process of constructing an ideal model that permits one to examine, quantify, define, supplement, systematize, categorize, modify, and provide specifics about the subject of investigation, the following objectives were considered for this study:

Determining the direction of scientific research within the context of the stated research goal, clarifying the model's capabilities in solving research problems To substantiate the theoretical and methodological foundations for modeling, to research the subject in order to predict the "ideal" state; to formulate the hypothesis about the requirements for the effective development of a model of the studied pedagogical phenomenon; To reveal the relationship between the

studied pedagogical phenomenon's main structural elements, to define the parameters of the simulated process, criteria and levels for assessing changes in these parameters, and measurement techniques; To investigate the model's validity, the high level of which can serve as the basis for its future practical application, to conduct a pilot application of the model in the experimental part of the study during the ascertaining experiment; Monitor intermediate results, correct model flaws, apply model in real-world conditions of the educational process, and analyze final results.

The development of a pedagogical model included sequential stages, the order of which was determined by the objectives. The first stage of modeling included theoretical and methodological substantiation, as well as research on the subject of study to develop a hypothesis. The second stage allowed for the formulation of the research process's objectives. The third stage of model construction revealed the interdependence of the structural elements of the studied pedagogical phenomenon. It established the criteria, levels, and measurement techniques for tracking changes in these parameters. The fourth stage clarified the model's validity as well as its level of efficiency in solving research problems. The pilot application of the model in the ascertaining experiment was an important stage. The next step was to monitor intermediate results and correct the model's flaws. Only a high-quality implementation of all stages enabled the model to be applied in real-world conditions of the educational process and, finally, to analyze the final results.

The underlying hypothesis of this research endeavors to demonstrate that the incorporation of pedagogical principles into the model's framework is a critical element that facilitates the most efficient attainment of the established pedagogical objectives. By employing pedagogical principles as foundational tenets in the development of a framework for fostering a culture of interaction among prospective educators in DEE, a scientific and theoretical foundation for a pedagogical phenomenon could be established. Then, we shall examine the underlying principles. The formalization principle permits the substitution of its formal description for an actual object or process. By applying this principle, the internal structure of the subject under investigation was illuminated and converted into a precise form of information. The functionality principle in modeling enables the assignment of a task to instructors involving training that has the potential to transform the student by establishing modern requirements.

5. Discussion

Adopting digital technology is no longer a choice but rather a necessity due to the rapid development of various digital devices and the expansion of Internet networks. Because the infrastructure of a digital environment is already in place in most educational settings, both language teachers and students are now exposed to and capable of using a wide range of digital devices. At the same time, students can learn and practice the language through interactions in a more natural setting. As a result, it is critical to have a thorough understanding of how learners can interact with digital learning devices. Systematic guidance is required for learners to clearly understand the features of English digital learning and the benefits of the digital learning environment in order to adapt it appropriately to their learning process in order to use it effectively. The digital environment allows English language learners to perform the desired quantity and quality of learning activities at any time and place, and it facilitates immediate interaction and collaborative learning for English language learners (Gyoomi & Jiyoung, 2020).

5. Conclusion

The conclusions can be drawn from the work on modeling the development of the culture of interaction among future teachers in the DEE. Initially, the modeling approach enables us to establish a correlation between the empirical data and the subject of investigation. Furthermore, it is crucial to perceive the model as a cohesive system that mirrors the entirety of its parts. By examining the model, one can gain fresh insights into a tangible pedagogical object that possesses identical structural and functional characteristics to the model. Furthermore, in the context of research, the model serves as the objective, method, and outcome of the modeling process. The model serves as both a theoretical foundation and an outcome of scientific investigation in this study. The objectives that are established dictate the sequence of stages comprising the construction of a pedagogical model. By means of a flawless execution of each phase, we are able to proceed with the practical implementation of the model within authentic educational settings and ultimately assess the final results.

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