METHODOLOGY OF USING DIGITAL TOOLS IN FOREIGN LANGUAGE TEACHING AND IN PSYCHOLOGICAL-PEDAGOGICAL RESEARCH

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Key words: Digital tools, foreign language teaching, psychological-pedagogical research, online platforms, digital applications, data analysis, interactive learning, assessment.

Abstract: This paper outlines the process and the use of digital tools for concerned subjects such as foreign language teaching and psychological-pedagogical research. It touches upon the main features of the digital technologies of how they are defined, their classification, and their teaching relevance. Further, the practical implementation is recounted by sharing the information about digital platforms, applications, and storytelling. The publication also brings attention to the role of digital tools in research that is easy data collecting, and both statistical and qualitative analysis, besides the issues of research ethics. The first part of the paper/documents/stories describes the changes in the use of technology in education and research through illustrations, while the second part presents the opinions of teachers and researchers who state the benefits as well as the difficulties of computerization. The report's results reveal that the use of digital aids has the potential to intensify the effect of teaching methods, to support the research processes, and to stimulate the activity of learners, however, the successful use of these resources requires training and a special focus on ethical issues.

Introduction: The profound move towards digitalized education has completely transformed the traditional methods of teaching and research. In the case

of foreign languages, digital devices can be exploited for interactive and tailored learning whereas psychological-pedagogical studies, they may be an enabler for large-scale data gathering as well as complex analysis. The article looks into these two fields side by side with the help of theoretical, methodological, and practical knowledge of the nature and use of the digital tools, and also their impact on teaching, learning, and research.

Literature review: Prior research sets considerable emphasis on the innovative role that digital technologies play in education. Some researchers point out that language learning tools like Duolingo, Quizlet, and Kahoot lead to motivation and improvement of skills in students, whereas the online platform Google Classroom is claimed to encourage collaboration. In psychological-pedagogical research, the use of programs such as SPSS, NVivo is mentioned for the quantitative and qualitative data handling, respectively. The points raised in the argument are, at the same time, ethical problems, issues to do with the digital literacy skills of the actors concerned, and struggle over the integration of technical means in educational practices at present.

Methodology: The study presented in the article is carried out through the use of a theoretical basis, documented case histories, and practical examples in the application of a digital tool in the classroom and research project. The authors revisit published material and then combine the ideas and examples from real-world implementations of the technology in both language teaching and psychological-pedagogical studies.

Results and discussion: The results show the great educational potential of digital tools. The devices enable the learners to acquire vocabulary and grammar quicker, they give a platform for interaction, and they can also be used for testing and evaluation. In the field of research, they can be used for rapid collection of material, for dealing with statistics with the help of computers, and for labeling the themes in the qualitative part of the research. The problem with these findings is that

they also raise some challenges, which consist of among others limited teacher training, the reliance on an internet line, and the need for ethical precautions.

Findings:

• Digital tools significantly improve learner motivation and engagement.

• Online platforms allow for flexible and collaborative learning environments.

• Statistical and qualitative software increase accuracy in research outcomes.

• Ethical concerns, digital literacy gaps, and infrastructure remain major challenges.

Overview: The research explores means of incorporating digital technologies into classroom instruction as well as pedagogical and research-related practices. The study encompasses the theoretical background of research, the use of digital methods, and the practical implementation of those methods in language teaching and psychological-pedagogical contexts.

Participants: Although no primary experimental participants were directly involved, this publication lists examples of students in language classrooms, teachers using digital platforms, and researchers applying digital tools in psychological-pedagogical studies.

Procedures: The article juxtaposes studies from literature, documentation of digital classroom practices, and research in psychological-pedagogical studies using digital tools as instances to reveal the technology's use.

Materials: The discussion centered around main digital materials such as digital learning applications (Duolingo, Quizlet, Kahoot), online collaboration platforms (Google Classroom, Microsoft Teams), statistical analysis software (SPSS, R), and qualitative tools (NVivo, ATLAS.ti).

Digital tools are a big part of teaching and learning, and more so in the case of modern cross-linguistic pedagogy and psycho-pedagogical research. The Digital Tools can be described in very broad terms, as they are technical resources, applications and platforms used for learning, teaching, and data analysis. Thus we

have e-learning platforms, online dictionaries, language learning apps, interactive games, virtual classrooms, and communication technologies like Zoom or Microsoft Teams, as well as research software for data processing like SPSS, Nvivo etc. Digital tools can be classified mainly on the basis of the features they offer like content delivery (lms, electronic)interaction (forums, chats, videoconferencing), practice and assessment (apps such as kahoot, quizlet, etc. and online tests), research (such as spss, nvivo, online survey platforms). Each of these serves a unique role in enhancing the learning process and enriching research activities.

Digital learning environments emerged from the ideas of social and cognitive psychology and are grounded in theories of constructivism, social learning, and cognitive development. The constructivist model is based on the assumption that learners develop knowledge actively through communication and practical operations; digital resources open gaping doorways to discovering, collaborating, and learning on ones own initiative. The theoretic framework of social learning accentuates the role of the learner in observing, mimicking, and engaging in conversations with others, the assumption which is supported by open access discussion boards, social projects and dialogue between peers that are facilitated by technology. The latter also points out that the brain is most efficient in information-processing when it can make use of different sensory channels; video, interactive simulation, and other multimedia resources, for instance, serve to memory, attention and comprehension. These theoretical foundations justify the fact that digital tools cannot only supplement but also stand at the core of instruction and research.

The digital transformation of education would not be complete without the adoption of sophisticated and robust communication technologies. Students enjoy reading and listening to authentic texts, and, at the same time, they can interact with native speakers and consult tens of thousands of resources that meet their unique needs and learning styles. Educational practitioners and academics are equally empowered by this digital era due to the increased efficiency in planning, evaluation,

and data collection processes. More than that, digital environments can enhance individualized learning by fostering learning at ones own pace, coupled with the provision of instant feedback. Psychologically, digital tools allow the researchers to more easily collect large amounts of data, conduct complex statistical analyses, and make the results visible in an accessible way, which in turn facilitates interpretation. At the same time, the benefits brought by technology also come with costs. In case of improper usage, reliance on tech may lead to lesser face-to-face interaction and even loss of certain cognitive skills. In addition to this a technical glitch, lack of hardware or net, digital literacy problems amongst instructors and students can make it difficult for the concept to take off. Besides, there arise certain ethical issues like user data privacy, whether the users have given informed consent or not and how much online information can be trusted that need to be solved if responsible usage was to be ensured. So, while digital tools provide new ways and means to enhance teaching and research, the realization of their potential hinges on the soundness of the methodological and instructional approaches held, level of competence achieved through training as well as maintenance of a strong equilibrium of integrating technological and traditional pedagogical practices.

The use of technological gadgets in the instruction of foreign languages has changed the traditional ways and made the process more student-centered, interactive, and efficient. Vocabulary and grammar have become the most popular and largest areas of application in the use of digital resources for foreign language teaching because the resources have given various alternatives to folks who used to learn by rote. For example, the applications of Memrise, Anki, and LingQ use spaced repetition algorithms so that learners review new words at scientifically determined intervals to maximize retention. One of the sources has the name "Grammar Matters" and it is about the importance of different grammar elements and includes the presentation of the basic grammar rules, adaptive exercises, and instant feedback. These exercises raise the learners activity level and provide them with opportunities

for correcting their own mistakes, which is much more logical in the case of the learners writing than it is in the case of the learners reading a textbook from start to finish. Along with grammar and vocabulary apps, online platforms facilitate interactive learning that captivates learners through gamification and shared activities. Duolingo is the most common tool that drives regular language practice via planned lessons, reward mechanisms, and instant corrections. Similarly, Kahoot outlines a game-based learning method by allowing participants to take part in quizzes that provide comprehension in a fun manner, while Quizlet offers independent learning through flashcards, practice tests, and cooperative study sets. Such platforms encourage learner autonomy, promote engagement, and enable learners to access practice both in and out of the class.

One more significant shift in methodology is the inclusion of digital technologies in storytelling and multimedia for the development of general skills. As examples, Storybird- or Pixton-based storytelling programs create the learners' original narratives in the target language, which in turn broadens vocabulary and grammar while stimulating the creativity and the cultural awareness of students. Some real-life listening examples and videos, podcasts, and language learning software that are based on the use of the original audiovisual materials can help with the simultaneous integration of listening, speaking, reading, and writing skills. By involving multiple senses and introducing language in real and meaningful contexts, digital stories and multimedia can improve both communicative competence and intercultural understanding.

Assessment and feedback, which have mainly been teacher-centric, have also been transformed with the help of digital technologies. The latter include online testing platforms and AI-based writing assessment tools that can considerably speed up the delivery of feedback, making it more precise and detailed, and at the same time, highlighting not only weaknesses but also strengths. The efficiency of teacher evaluation is greatly facilitated by learning management systems such as Moodle,

Google Classroom, or Edmodo as they allow really easy supervision of student performance and provide teachers with comprehensive data on students' engagement and achievements. This makes the whole process of formative assessment easier as instructors get the chance to track the progress of the learners regularly and not just from the final exams. Besides that, digital feedback instruments serve as a catalyst for learner reflection since students can always go back to their performance records and trace their progress over time.

In brief, the foreign language instruction methodology that involves digital means is leaning towards learner-centered methods which are more autonomous, more interactive and personalized. The use of apps, platforms, storytelling and digital assessment has made foreign language learning much more adaptive to individual learner needs while still being dynamic and engaging. The methodological change not only boosts linguistic proficiency but also equips learners for real-world communication in a digitally interconnected society.

The psych-pedagogical field is one of the areas where the methodologies most noticeably shift due to the rapid advancement of digital technologies. Not only do digital instruments increase the efficiency of data collection and processing but they also open the doors to different research designs for teachers and psychologists. The use of these technologies brings in even large-scale studies, instant access to data, and the utilization of more complex analytical techniques, thus, ultimately leading to the elevation of research findings in terms of reliability and validity. One of the easiest and most frequent ways to digitize research is by doing online data collection. Digital surveys and questionnaires implemented on platforms such as Google Forms, SurveyMonkey, or Qualtrics have become the standard tools that allow researchers to collect responses instantly from different kinds of people, no matter where they are. Online testing allows for controlled evaluation of cognitive abilities, personality traits, and language proficiency, and it usually comes with automated scoring features. Furthermore, digital observation instruments, like classroom management

software or video recording systems, can greatly extend the study of learner behavior and teacher-student interaction to a deeper level. Such methods not only remove geographical limitations but also allow for more flexibility in the size of participant groups.

The processing of data collected is also among the cases where the impact of digital tools on research work is very clear. Programs for the support of statistical analysis, e.g., SPSS, R, or STATA enable the researches to carry out complex quantitative studies such as regression, correlation, and factor analysis with ease. In qualitative research, the use of NVivo and ATLAS.ti can be a big help in the organization, coding, and interpretation of huge amounts of text or multimedia data. These pieces of software make sure that the researchers follow the same standard throughout the analysis and, at the same time, provide them with visual presentations of the results in the form of graphs, charts, and thematic maps. By using such software, the researchers can complete the data processing steps very quickly and then focus on interpreting the results instead of doing the manual calculations. Although digital tools offer numerous benefits, the ethical issues remain at the core of their application. The safety of privacy and confidentiality of the participants is of utmost importance, particularly when sensitive psychological or educational data is collected over the Internet. Researchers are required to meet the highest ethical standards by adhering to the rules of informed consent, anonymizing the information of individuals, and protecting data storage. Apart from this, there must be complete honesty in the use of algorithms and analytical tools to avoid bias or the wrong understanding of the results. So, the ethical code of conduct must adapt to the pace of technological innovations while safeguarding the welfare of research participants and maintaining their trust in digital research.

The integration of digital tools results in groundbreaking benefits such as speed, accessibility, and the ability to handle large datasets. The researchers could carry out cross-cultural studies with the help of digital tools thus no physical travel

required which in turn results in a more inclusive research sample. However, the process of digitalization also has some drawbacks such as the existence of technological barriers for those participants who do not possess the necessary digital skills or lack the accessibility of their internet connection. In addition, abusing automated tools can lead to an oversimplification of the complex human nature and limit the depth of the researcher's interpretation. As a result, although digital tools can facilitate the research scope, careful and balanced application with traditional approaches is necessary to achieve the best outcomes. The use of digital tools in psychological-pedagogical research has brought on a change in the methods used to collect, analyze, and interpret data. When these means are used responsibly and ethically, the same could offer a wide range of opportunities to practice and promote research in education and psychology.

The actual implementation of digital tools in authentic educational and research contexts is a clear demonstration of how the theory is put into practice. Normally, digitalization is dealt with in theoretical terms, however, the real effects of technology are mostly seen in the teaching, learning, and psychological-pedagogical inquiry that have been transformed by the presence of technology in classrooms and research projects. This chapter outlines the cases of digital tool adoption in the different scenarios, gives examples of research through case studies, and accounts for the opinions of teachers and researchers who use these technologies firsthand. Language classrooms provide us with some of the most vivid instances of digital use. One of the applications that teachers employ quite frequently is Duolingo which along with Quizlet supports vocabulary retention and grammar practice. Among the most vivid examples of digital tools facilitating comprehension and increasing the learner's involvement are the use of interactive whiteboards and digital projectors for multimedia presentations. Communication between teachers and learners is no longer limited to the confines of the physical classroom but can be enhanced through tools like Google Classroom and Microsoft Teams that allow

for easy exchange of ideas and collaboration. Besides that, these instruments not only energize lessons but also facilitate differentiating one's teaching where the learners can study at their own level and get individual feedback. For instance, gamified platforms such as Kahoot are often utilized in revision sessions, as they help create a competitive yet fun environment, hence, student motivation and retention of knowledge improve.

Several case studies narrate how technologies contribute to research in psychology and pedagogy. Taking one of the instances, online questionnaires have been implemented in the field of blended learning to study the motivation of learners and the data thus obtained is not only faster but also more precise compared to data by papers. Another example is the use of video analysis software for the study of teacher-student relations in the classroom from recorded videos, thereby, the submission of pedagogical strategies that work effectively is possible. A remarkable example was when SPSS was employed to analyze a huge volume of data collected from the different student assessments done across the country which enabled the policymakers to create evidence-based reforms. Likewise, qualitative software like NVivo has given researchers the opportunity of detecting the reoccurrence of discussion themes in the interviews of the teachers and thus the gain of insight into the challenges faced by the educators in the implementation of digital pedagogy. Such cases testify to the versatility of technological instruments in amplifying research results.

Opinions about digital technology are influenced by its advantages and disadvantages. Many teachers agree that digital instruments have a positive influence on teaching strategies, encourage student involvement, and make evaluation easier. They find a number of features most attractive amongst which are automatic grading, instant feedback, and accessibility to various multimedia resources. On the other hand, some of them also bring up problems such as technical difficulties, lack of sufficient preparation, and the danger of too much reliance on

technology that may result in less human contact. Similarly, the researchers hold digital tools as a must-have for data collection and processing while underscoring the significance of ethics in consideration and critical analysis of the results. Overall, it can be said that, albeit recognizing shortcomings, together teachers and researchers mostly perceive digital tools as vital elements of contemporary educational and research practices. Practical implementation and case studies attest that digital tools profoundly affect teaching and research. Through them, the reach of engagement, collaboration, and evidence-based practice is widened but their triumph still depends on careful and continuous professional development for educators and researchers.

Recommendation: To achieve effective integration, the educators and the researchers should get the professional training on the use of digital tools, ensure that ethics are followed and use a blended approach which combines the traditional methods with technology. Also, institutions should provide enough infrastructure to facilitate digital learning and research.

Conclusion: The report acknowledges that digital tools are a must-have for education and research in the 21st century. The tools made interactive language teaching possible. They empower the use of various kinds of data analysis in psychology and pedagogy and extend the possibilities of co-operation. While there are issues related to ethics, infrastructure, and training, the advantages of digitization are more than the disadvantages. If used wisely, digital tools can revolutionize teaching and research, making them more effective, accessible, and influential.

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