

EFFECTIVENESS OF USING METACOGNITIVE STRATEGIES IN DIGITAL STORYTELLING

Farmonov Dilshod Po‘latovich

Senior lecturer at Qarshi International University

[*dilshod.farmonov@gmail.com*](mailto:dilshod.farmonov@gmail.com)

Nigmatov Izzat Shovkat o‘g‘li

Teacher of the school of creativity named after Abdullah Oripov

[*izzatneematov@gmail.com*](mailto:izzatneematov@gmail.com)

ABSTRACT: Today, rapid developments are taking place in all areas of our society to meet global standards, including in the education system. In an era where all processes are being digitized, developing the communication skills (soft skills) of modern personnel is an important task for educational institutions. Communication skills are essential soft skills for the development of students in educational institutions during the digital age. This research focuses on improving the effectiveness of the learning model and its practical application by utilizing metacognitive strategies for the effective teaching of philological sciences. The effectiveness of using metacognitive strategies to observe the thinking process with the aim of enhancing students' communication skills (listening, speaking, reading, writing, and presentation skills) has been examined.

Keywords: metacognitive strategy, communication skills, active learning, digital storytelling.

ANNOTATSIYA: Bugungi kunda jamiyatimizning barcha sohalarida jahon standartlariga mos kelish uchun jadal rivojlanishlar yuz bermoqda. Jumladan, ta'lim tizimida ham. Barcha jarayonlar raqamlashayotgan davrda zamonga mos kadrlarning muloqot ko'nikmalarini (soft skill) rivojlantirish ta'lim muassasalarida uchun muhim vazifadir. Muloqot qobiliyatlari – raqamli davrda ta'lim muassasalarida o'quvchilar rivojlanishi uchun juda muhim bo'lgan yumshoq ko'nikmalardir. Ushbu tadqiqot orqali filologiya fanlarini samarali o'qitish uchun metakognitiv strategiyalardan foydalanib, o'quv modelining samaradorligi hamda amaliy qo'llay olishga qaratilgan. Talabalarning muloqot qobiliyatlarini (tinglash, gapirish, o'qish, yozish va taqdimot qilish ko'nikmalarini) yaxshilash maqsadida fikrlash jarayonini kuzatish uchun metakognitiv strategiyalarni qo'llash samaradorligi ko'rib chiqilgan.

Kalit so'zlar: metakognitiv strategiya, muloqot qobiliyati, faol o'rganish, raqamli hikoya aytish.

АННОТАЦИЯ: В настоящее время во всех сферах нашего общества происходят стремительные изменения, направленные на соответствие мировым стандартам. В том числе и в системе образования. В эпоху, когда все процессы цифровизируются, развитие коммуникативных навыков (soft skills) у современных кадров является важной задачей для образовательных учреждений. Коммуникативные способности — это важные гибкие навыки, необходимые для развития учащихся в цифровую эпоху. Данное исследование направлено на повышение эффективности учебной модели и её практического применения за счёт использования метакогнитивных стратегий для эффективного преподавания филологических дисциплин. Рассмотрена эффективность применения метакогнитивных стратегий для наблюдения за процессом мышления с целью улучшения

коммуникативных способностей студентов (навыков слушания, говорения, чтения, письма и презентации).

Ключевые слова: метакогнитивная стратегия, коммуникативные способности, активное обучение, цифровое повествование.

INTRODUCTION

As a necessary tool and knowledge of the 21st century, in civil and labor processes, the development of communication skills is growing in importance. Critical thinking, creative thinking, communication and collaborative skills are essential for student development. In Paragraph 2 of the decree of the president of the Republic of Uzbekistan “on measures to effectively organize the activities of the Ministry of preschool and school education and organizations in its system” dated May 26, 2023 PF-79 [1] “a new order of knowledge assessment will be introduced and within its framework, students' skills such as being able to apply the mentioned topic in The goal of the new assessment system is to adapt students to the requirements of the international standard. Therefore, communication skills should be formed in the lessons in order for students to purposefully exchange ideas with others, understand messages and communicate thoughts, and develop presentation skills [2]. Communication skills show the skill of expressing and communicating emotions and important information to others. It is also possible to reflect individual skill levels. Developing communication and presentation skills will help students find work in future activities and be successful with the team [3].

Today, not only schoolchildren, but also students have problems with communication skills. There is a need for further improvement of students' communication methods and methods of providing information, as well as development of comprehension skills. They are obliged to be able to choose a suitable method in the presentation of their concepts, to apply self-confidence in the exchange of appropriate thoughts, accuracy and orderliness in explaining the necessary views. By encouraging students to develop communication skills, logical thinking processes improve, placing thoughts in sequence, learning to make decisions, and presenting thoughts.

Students can connect their concepts with their mental imagination and express them to others. Therefore, communication skills are very important and necessary for all, especially in their future professions [3]. Students with well-formed communication skills such as writing, speaking, sorting, organizing, and providing meaningful content are successful in future activities.

LITERATURE ANALYSIS

Metacognitive skills offer students opportunities to learn independently, improve productivity, and solve problems. The existence of different styles for the development of students' communication skills is known to us from the research carried out, including role-playing, discussions or debates on the topic, or practicing skills using technology are among the methods of enhancing communication skills [3,4,5]. As a result, teachers play an important role in encouraging all students to express themselves through different styles, encouraging logical reasoning, boldness, and contentious thought. In addition, research has shown that storytelling is also another effective way to develop students' communication skills [6,7].

The use of storytelling in teaching philology at the school as well as foreign languages is effective in developing students' communication skills. In modern times, the method of storytelling is significantly popular, mainly among adolescents, in expressing an attitude of

influence on society [8,9,10]. The science of developing communication skills is to convey ideas to others or use the method of storytelling in explaining them in clear and fluent language at the art level. Readers develop communication skills in practice by mastering independent narrative creation and using perceptual processes in developing, editing media products, composing meaningful and useful narrative content [11]. Creating a meaningful story encourages students to use technology in developing language skills, interacting with others, understanding the meaning of a message, ordering, producing, and disseminating a logical sequence. These skills are all elements of effective communication in the present.

Storytelling is a manifestation of communication. Especially relevant today is how the story is told to attract attention. Digital technology capabilities are used to provide impressive media through the digital storytelling process. According to Maddin (2011), digital storytelling is the art of making a short film about a particular subject using a variety of digital multimedia tools such as text, pictures, audio stories, sound, video, and music. Digital storytelling is an interesting activity for readers who want to improve communication skills and communicate ideas through stories. This activity uses technology-based storytelling techniques to allow messages to be conveyed through a variety of multimedia tools. The process of creating digital stories helps students develop their creative ability, technological literacy, and communication skills. At the same time, they will be able to understand the topics more deeply and effectively share it with others.

Digital storytelling is a teaching method that helps students develop their foreign language skills, especially in classes, to improve their communication skills in a foreign language. Del-Moral-Pérez et al (2019) have researched the importance of digital storytelling in developing communication skills for elementary school students. He found in his study that digital storytelling is an educational practice that significantly improves students' expressive and communicative abilities. Developing students' speaking skills is about creating a suitable environment for mastering skills and abilities related to stories [12].

Although, according to research, digital storytelling is largely used to improve foreign language learning, there is very little research on improving communication in Uzbek. Therefore, it is also necessary to pay attention to how students in schools improve their communication skills in the Uzbek language and provide interesting stories. Let's consider the difficulties of creating a quality educational environment for students, the management of learning using metacognitive strategies not only in foreign languages, but also in the native language. In fact, metacognitive strategies allow students to plan their work, set specific goals when completing assignments, and improve their abilities.

According to Dunlosky et al (2013), effective learning is related to learning conditions; teachers use materials, methods, strategies, evaluation criteria, and techniques to encourage student participation as well as to design learning activities. According to Harris (2019), methods, techniques and strategies to achieve learning goals confirm that they are useful in developing training plans. Therefore, teachers are obliged to prepare teaching methods that allow students to plan, manage and monitor their work, work with high potential and become the driving force for them to become more productive. Thus, in this study, different levels of students are interested in systematically examining the thought process to improve their mastery in the learning process.

Metacognition is usually described as a thought process [13] or a person's ability to understand their own thought processes, knowledge and thinking, and how to achieve their goals [14].

Metacognition is a strategy that studies how students try to understand concepts through their perception of themselves during a period of planning, observing, and evaluating the learning process [15]. According to Sukarno and El Widdah (2020), it is metacognitive processes for students to control and control their learning processes, overcoming psychological barriers associated with certain situations and problem situations.

From the research of researchers, it is understood that metacognition is a very important and necessary element of the communication process for successful learning. Puryanto et al (2021) studied the effects of metacognition on improving writing skills. The study found that metacognition plays an important role in increasing student flexibility, mental and mental training, and faster data acquisition. In addition, students seek to set goals in better understanding their learned information and overcoming learning challenges. Also, Amir et al (2021) found that methocognitive strategy helps in increasing resilience to challenges faced in learning mathematics. This study has been found to improve perception and thought through meacognitive strategy in solving complex problems, as well as helping to endure problems and overcome frustration in the learning process.

This study complements the connection in integrating numerical storytelling and metacognitive strategies in learning processes with empirical evidence. As a result, a review of related research raises an important question: if a mechanism is developed to help students plan and manage the workflow in the process of telling a story, How does it affect our communication skills? Through this research, the aim is to develop communication skills in digital storytelling. The proposed learning model is designed to compare and identify expectations when telling a story to test and improve differences in students ' communication skills by including metacognitive strategies. The creators of the digital story were checked according to five relevant communication skills: listening, speaking, reading, writing and presentation.

Questions in the continuation of the study were answered:

1. What are the branches and elements of divination from short story telling and metacognitive strategy in the process of reading?
2. How does the model of telling a short story in reading processes and using metacognitive strategies improve reading processes?

30 undergraduate students enrolled in a storytelling course for information professionals at Valailak university, a participant in this study, were asked to participate in the experiment, to which ethics was approved.

METHODOLOGY

When designing this study , a group of pre-test/post-test decays using the quasi-experimental (quasi-experimental) method was applied: E1XE2, where E1 stands for pre-test, X stands for expiremental approach, E2 stands for post-test.

The study involved 37 students of the Abdulla Oripov School of creativity. In accordance with the rules of ethics, they were asked to participate in the experiment.

This study used tools consisting of pre-test/post-test and self-assessment questions to collect data. When applying the metacognitive skills use model in digital storytelling, a pre-/post-test tool was used by the teacher to assess students ' communication skills through assignments, as well as a self-assessment questionnaire before and after the experiment. The assessment tools and questionnaires used in the experiment were compiled in collaboration with the experienced,

higher taoifali teachers of the school. Compliance with educational standards has been investigated in structural reliability training programs.

This study used the following methods to collect data:

1. By confirming that science teachers are fit for the science program from metacognitive abilities in digital storytelling.
2. A pre-/post-test has been developed by science teachers when evaluating students' communication skills through assignment when applying a fascination model from metacognitive skills in digital storytelling.
3. The self-assessment questionnaire was given to students before and after the experimental process.

The process consists of several stages. At the initial stage, the demographic and academic characteristics of the students were collected. In the Pre-test processes, students performed the listening, writing, speaking, and presentation assignments consecutively. They were not briefed on strategies for telling a metacognitive story. Students were given time to complete the assignments given as well as to prepare. And when each topshriq was completed, a survey was given to assess their skills. Each assignment was evaluated by a teacher.

In the second phase, students were taught the tone of using metacognitive strategies in digital storytelling. Then, the students again completed the tasks of listening, writing, speaking, reading, and presenting successively. Each assignment was given another week to complete. Each of the tasks completed by the students was evaluated by the teacher. At the end of the experiment, a self-assessment questionnaire was presented again with the aim of identifying possible changes in students' views.

Quantitative data analysis for single-variable (univariate) and multivariate (multivariate) normality has been investigated by statistical testing to ensure that all variables meet normal distribution requirements. Statistical tests of bias (skewness) and peak (kurtosis) have shown that values ranging from -2.0 to +2.0 for all variables meet standard distribution criteria. To determine the significant differences in the effects of the metacognitive ability use model in numerical storytelling over time, a one-way, repeated-dimensional multivariate variant analysis was performed using student outcome analysis.

Research results were used to answer the following two questions:

1. What are the stages and elements in the learning process, using numerical storytelling and metacognitive strategies?
2. How does the learning process model improve communication skills by using digital storytelling and metacognitive strategies?

RESULT AND DISCUSSION

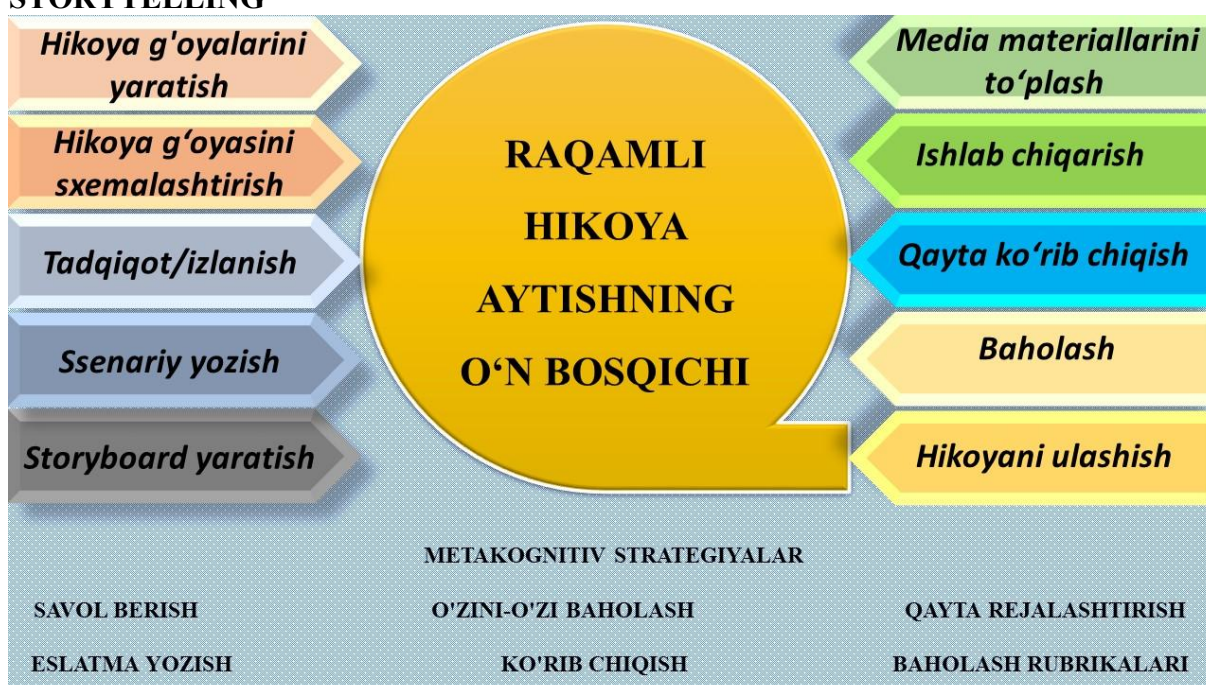
The use of metacognitive strategies in digital storytelling brings to the surface the need to review literature reviews to determine which learning model steps to use. It can be concluded from reviews of literature related to the process that digital storytelling consists of ten stages [16,17,18,19]. They are as follows:

- a) creating story ideas (developing basic ideas for the story);
- b) schematization of the idea of the story (planning the main components of the story);
- c) Research/research(collection and analysis of information on the subject of the story;

- d) screenwriting (writing text for Story;
- e) create Storyboard(plan the story visually;
- f) collect Media materials(collect multimedia materials for the story;
- g) production (story creation process);
- h) revise (revise to refine the story;
- I) evaluation (story evaluation process);
- j) share the story (share the finished story with others).

1-rasm

MODEL OF THE USE OF METACOGNITIVE STRATEGIES IN DIGITAL STORYTELLING



The model of using metacognitive strategy in digital storytelling involving these stages helps to enhance students' communication skills and effectively manage their learning process.

We include metacognitive strategies in the learning activities in the approved curriculum, which encourages students to plan and evaluate their thoughts systematically. These strategies include questioning, writing notes, self-assessment, review, rescheduling, and rubric-based assessment, as shown in Figure 1.

We use the Pillai trace, multivariate statistical analysis test for the results of one-way repeated multivariate difference analysis on the evaluation of communication skills before and after the use of metacognitive strategies in numerical storytelling.

1-jadval

	Pillai's trace	F	df	Error df	p
Time	0,97	168,06	5	25	<0,001*

Note: Pillai track (Pillai's trace) is used to distinguish between independent variables (schools, groups) in related variables (academic assessments from subjects).

p<0,001

Table 2

The results of a descriptive analysis of the listening, speaking, reading, writing and presentation skills of the participants

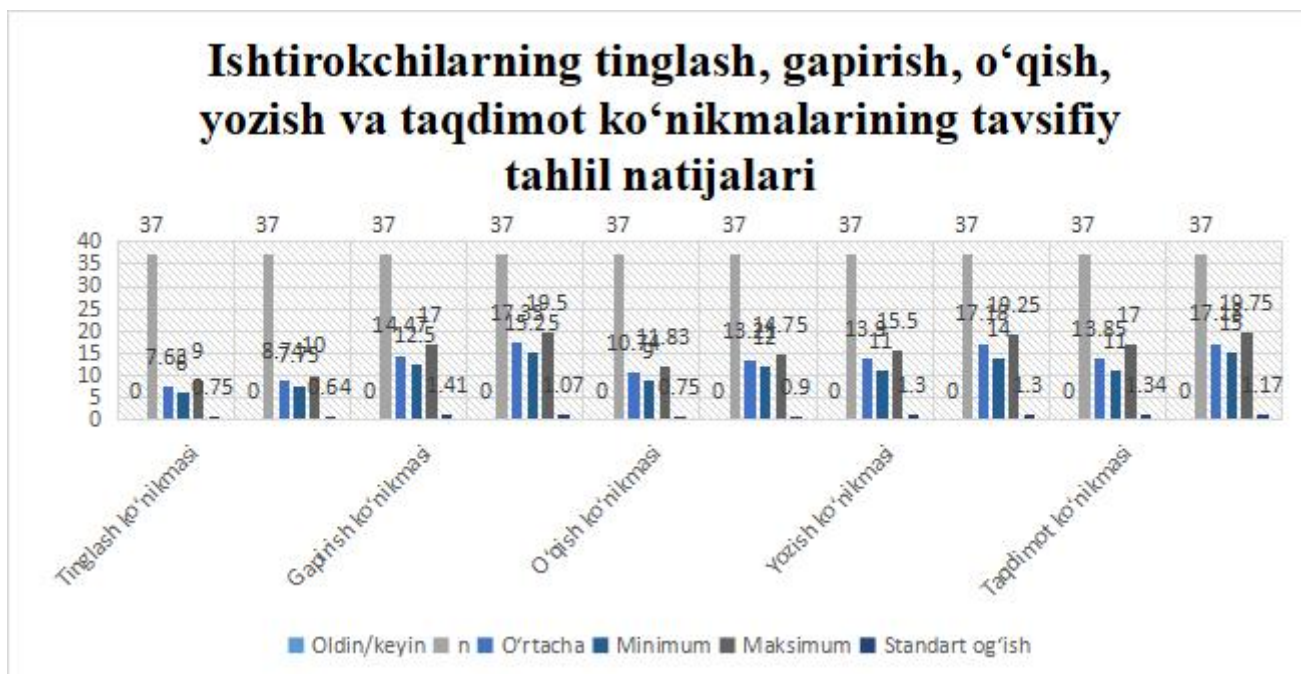
Muloqot ko'nikmalari	Oldin/keyin	n	O'rtacha	Minimum	Maksimum	Standart og'ish
Tinglash ko'nikmasi	Oldin test	37	7,63	6,00	9,00	0,75
	Keyin test	37	8,74	7,75	10,00	0,64
Gapirish ko'nikmasi	Oldin test	37	14,47	12,50	17,00	1,41
	Keyin test	37	17,33	15,25	19,50	1,07
O'qish ko'nikmasi	Oldin test	37	10,74	9,00	11,83	0,75
	Keyin test	37	13,21	12,00	14,75	0,90
Yozish ko'nikmasi	Oldin test	37	13,90	11,00	15,50	1,30
	Keyin test	37	17,18	14,00	19,25	1,30
Taqdimot ko'nikmasi		37	13,85	11,00	17,00	1,34
	Keyin test	37	17,18	15,00	19,75	1,17

The practicality and application of the model of using metacognitive strategies in digital storytelling with polarization of the research results and its impact on the development of communication skills have been studied.

We were able to assess the effectiveness of the model of using metacognitive strategies in digital storytelling by requiring readers to complete tasks at each of their stages of the digital storytelling process. Digital story video clips created by all readers are the final product. Pre-/post-test scores were compared on set tasks to determine the establishment of the model of the use of metacognitive strategy in digital storytelling to the development of communication skills.

The effect of students on listening, speaking, reading, writing, and presentation skills was compared using multivariate repeat measurement analysis. Pre-/post-test results on each skill showed statistical significance, Pillai traces=0.97, $F(5.25)=168.6$, $p<0.001$, as shown in Table 1. The average score, minimum score, maximum score and standard deviations were adjusted in

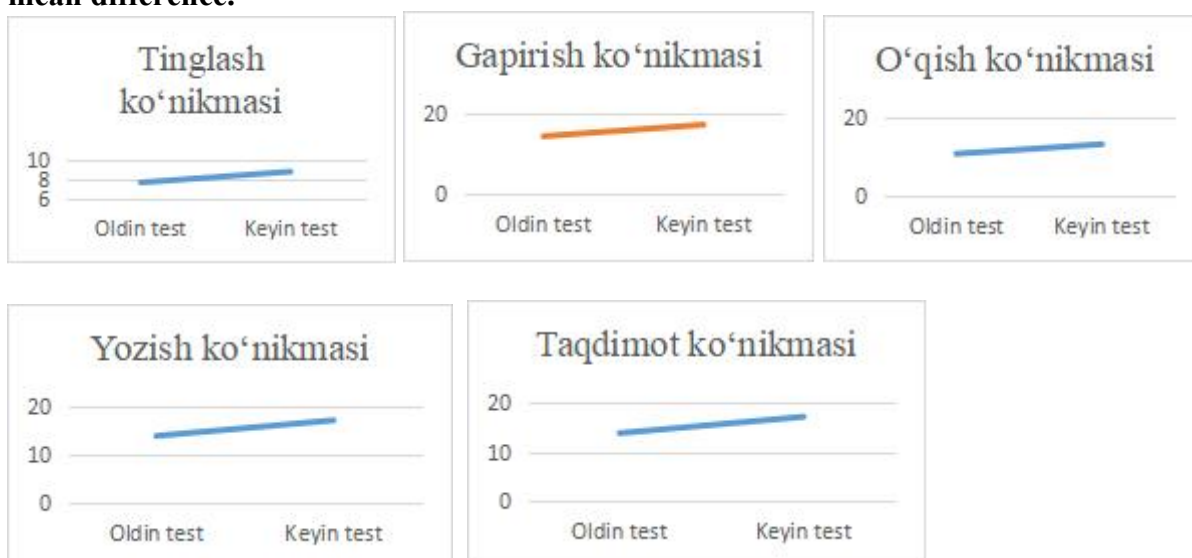
Table 2.



As shown in Table 2, The Five Communication skills are evaluated by comparing statistically significant differences in pre-/post-test scores. Teachers defined a variety of exercises to assess students' communication skills after applying metacognitive strategies to the learning process. A multi-variable detection test was performed to individually measure participants' listening, speaking, reading, writing, and presentation skills.

3-rasm

Students in pre/post-test results from 5 skills mean difference.



The use of metacognitive strategies in the curriculum has had a positive impact on student skills.

Although it takes longer to familiarize yourself with these strategies, practice for a long time and apply them in classes, it retains its importance. By applying these strategies to the teaching of all subjects, the possibility of quality education from the subjects increases, and also requires teachers to work on themselves, dedication and creativity.

To determine the difficulty level of texts in a textbook, readers must combine their previous knowledge and newly acquired information and identify the basic ideas of texts, since the digital narrative process emphasizes communicating the story based on the reader's own opinion and experience rather than a documentary presentation. As a result, reading comprehension, reading conclusions, selection of suitable sources of information, and the application of metacognitive strategies included in this model may not be able to improve all students' abilities at once. However, their reading ability improves as readers practice interpreting the basic ideas of the text, clear and hidden information, the ability to find links and understand the text.

CONCLUSIONS AND SUGGESTIONS

Based on the data and analysis obtained, it can be concluded that teachers and students noted that writing skills are a developed communication skill within five skills. Metacognitive strategies selected for classes (Q & A, note-writing, self-assessment, commentary, rescheduling, and rubric-assisted assessment) help develop students' communication skills by telling a digital story. It has been noted that there is little development of reading skills according to the results of studies, it is recommended to use various strategies and inspirational exercises to improve this skill. The use of critical thinking in the development of reading skills helps students create a link between existing and new information and summarize their basic concepts of the text. The use of metacognitive strategies in monitoring their activities, regulating their results, and coordinating cognitive processes is important in establishing continuous learning, as well as having a positive effect on improving students' metacognitive abilities.

In teaching subjects, the teacher indicates that the student can adapt metacognitive strategies to achieve the intended results. Because, metacognitive Strategies teach students to control what needs to be learned, what problems arise in the learning process and how to solve them, focusing learning methods on solving problems – which helps in mastering metacognitive strategies as well as developing metacognitive abilities. The model of using metacognitive skills in digital Hokies statement involves reviewing and rescheduling to effectively control the learning process. Rubrics serve as a guide to ensure that all stages are performed correctly and efficiently when evaluating a story's final product. The use of this model is an effective means of visualizing milestones, elements and teaching strategies for teaching and developing communication skills. There is a need to continue future research plans with a tracking system that develops students' communication skills. To develop metacognitive abilities, the task is to find a way to measure levels or approach them within the model of studying future research. The use of metacognitive strategies in classes increases student academic success is being found in experimental research. In the preparation of specialists suitable for the time requirement, the need is felt to add metacognitiveness in the reading process and in the teaching stages in order to develop the abilities of students.

Bibliography

1. O'zbekiston Respublikasi Prezidentining 2023-yil 26-maydagi "Maktabgacha va maktab ta'limi vazirligi hamda uning tizimidagi tashkilotlar faoliyatini samarali tashkil etish chora-tadbirlari to'g'risida"gi PF-79-son Farmoni <https://lex.uz/docs/-6476175>
2. Bellanca, J., & Brandt, R. (2010). *21st century skills: Rethinking how students learn*. Solution Tree.
3. Holik, I., Sanda, I. D., Chung, Y., Yoo, J., Kim, S. W., Lee, H., & Zeidler, D. L. (2020). The possibilities of improving communication skills in the training of engineering students. *International Journal of Science and Mathematics Education*, 10(5), 20-33. <https://doi.org/10.3991/ijep.v10i5.13727>
4. Erduran, S., & Jimenez-Aleixandre, J. (2008). *Argumentation in science education: Perspectives from classroombased research*. Springer. https://doi.org/10.1007/978-94-6091-900-8_11
5. Marzano, G., & Zorzi, S. (2020). Communication skills for mentors in social business. In *Proceedings of the International Scientific Conference* (pp. 213). <https://doi.org/10.17770/sie2020vol5.4868>
6. Bakar, R. A., & Jaafar, N. F. N. (2017). Developing reading comprehension through digital storytelling. *Universiti Teknologi MARA*. <https://ir.uitm.edu.my/29219/1/29219.pdf>
7. Parsazadeh, N., Cheng, P.-Y., Wu, T.-T., & Huang, Y.-M. (2021). Integrating computational thinking concept into digital storytelling to improve learners' motivation and performance. *Journal of Educational Computing Research*, 59(3), 470-495. <https://doi.org/10.1177/0735633120967315>
8. Bechter, C., & Swierczek, F. (2017). Digital storytelling in a flipped classroom for effective learning. *Education Sciences*, 7(2), 61. <https://doi.org/10.3390/educsci7020061>
9. Lambert, J. (2010). *Cookbook for digital storytelling*. Digital Diner Press.
10. Masuram, J., & Sripada, P. N. (2020). Digital stories to enhance cognitive abilities among learners. In *Proceedings of the 11th International Conference on Advances in Computing, Control, and Telecommunication Technologies* (pp. 255-259).
11. James, P. R. A. P., Yong, K. L., & Yunus, M. M. (2019). Hear me out! Digital storytelling to enhance speaking skills. *International Journal of Academic Research in Business and Social Sciences*, 9(2), 190-202. <https://doi.org/10.6007/ijarbss/v9-i2/5533>
12. Niemi, H., Shuanghong, N. I. U., Vivitsou, M., & Baoping, L. I. (2018). Digital storytelling for twenty-first-century competencies with math literacy and student engagement in China and Finland. *Contemporary Educational Technology*, 9(4), 331-353. <https://doi.org/10.30935/cet.470999>

13. Lai, E. R. (2011). *Metacognition: A literature review*. Pearson Assessments Research Reports.
14. Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34(10), 906-911. <https://doi.org/10.1037/0003-066x.34.10.906>
15. Amraj, A. K. (2018). The implementation of ICT-based materials and metacognition learning strategy to improve students' vocabulary. *Journal of ELT Research*, 3(1), 87-96. https://doi.org/10.22236/jer_vol3issue1pp87-96
16. Kaeophanuek, S., Na-Songkhla, J., & Nilsook, P. (2019). A learning process model to enhance digital literacy using critical inquiry through digital storytelling (CIDST). *International Journal of Emerging Technologies in Learning*, 14(3), 22-37. <https://doi.org/10.3991/ijet.v14i03.8326>
17. Papadopoulou, S., & Vlachos, K. (2014). Using digital storytelling to develop foundational and new literacies. *Research Papers in Language Teaching and Learning*, 5(1), 235-258. <https://rpltl.eap.gr/images/2014/05-01235-Papadopoulou-Vlachos.pdf>
18. Smeda, N., Dakich, E., & Sharda, N. (2014). The effectiveness of digital storytelling in the classrooms: A comprehensive study. *Smart Learning Environments*, 1(1), 1-21. <https://doi.org/10.1186/s40561-014-00063>
19. Yang, Y. T. C., & Wu, W. C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking, learning motivation: A year-long experimental study. *Computers and Education*, 59(2), 339-352. <https://doi.org/10.1016/j.compedu.2011.12.012>
20. Amir, M. Z., Nurdin, E., Azmi, M. P., & Andrian, D. (2021). The increasing of math adversity quotient in mathematics cooperative learning through metacognitive. *International Journal of Instruction*, 14(4), 841856. <https://doi.org/10.29333/iji.2021.14448a>
21. Sukarno, S., & El Widdah, M. (2020). The effect of students metacognition and digital literacy in virtual lectures during the COVID-19 pandemic on achievement in the methods and strategies on physics learning course. *Jurnal Pendidikan IPA Indonesia [Journal of Indonesian Science Education]*, 9(4), 477-488. <https://doi.org/10.15294/jpii.v9i4.25332>