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Educational Strategies to Promote Learning Interest among Preschool Children

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Abstract: Educators generally agree that students learn from intrinsic motivations, such as expanding knowledge and enhancing skills. This is why stimulating children's automatic nature to learn and fostering interest in learning in young children has become a key topic of exploration for educators. However, there is still a gap in the academic community as to whether many of the learning strategies that have been experimentally proven to be effective apply to young children aged 3 to 6 years. This study is based on exploring strategies that are appropriate for fostering interest in learning in this age group, using authoritative, academically recognized repositories such as Google Scholar as a source of data and using literature Search Procedures to screen educational experiments. According to this review, gamified learning activities and the use of educational Apps can help children increase their interest in learning. However, parental support is needed for these strategies to work positively in practice, including guidance on content selection and manipulative skills. Otherwise, the use of these strategies can hurt children's motivation and psychological well-being.

Keywords: educational strategies, learning interests, preschool children, gamified learning activities

1. Introduction

Interest is a positive dispositional attitude caused by curiosity or enjoyment. Unintentional attention is dominant mainly in early childhood, supplemented by intentional attention. Throughout the preschool years, children's effective attention span does not exceed twenty minutes. Intentional attention is mostly based on the intention to explore something by being attracted to it. Therefore, to improve children's learning efficiency and outcomes, it is necessary to enhance the effectiveness of intentional attention by cultivating children's interest in participating in learning activities, prolonging the duration of intentional attention, and developing concentration [1].

In China, kindergarten education's goal is precisely to develop children's interest in learning and problem-solving skills [2]. In contrast to the traditional teaching and learning model usually used in secondary and primary schools, kindergartens do not use "lessons" as the organizational unit for teaching and learning, but rather "learning activities"; instead of dividing learning content by subjects, the content is defined by the domain to which it belongs. However, even in a relaxed environment and without the pressure of examinations at the kindergarten level, children in the concrete-image

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stage of thinking still show a low level of engagement or even rejection when faced with abstract learning content (e.g. mathematics) or skills they are not good at (e.g. drawing and language). To correct children's correct attitudes towards knowledge, develop their initiative to participate in learning activities, and build their confidence in learning. Educators (parents and teachers) should adopt the 'child-centered' education, observe and understand children, help them choose learning content appropriate to their cognitive development, organize learning activities in a way that they enjoy, and use educational strategies appropriately to stimulate their initiative in learning.

Although existing educational research provides teachers with practical teaching strategies and students with ways to increase their interest in learning, more research should be conducted on the interest in learning of preschool children aged 3 to 6 years [1, 3, 4]. Based on the educational objectives of Chinese kindergartens and the developmental characteristics of preschool children, this article aims to explore ways and strategies that meet the preferences of contemporary young children, attract their intentional attention, and increase their motivation and interest in participating in learning activities.

2. Methods

The studies being reviewed need to meet the following conditions: (a) the study group is preschool children (3-6 years old); (b) the learning strategy is accessible and used by preschool children; (c) the results of the study show that the strategy has a positive impact on increasing children's engagement and emotional and affective development; (d) there is a comparison group during the experiment, and pre-and post-tests have been conducted before, and after the use of the strategy; (e) the learning strategy is in line with the Chinese Ministry of Education policy and applies to the Chinese educational environment.

To increase the reliability of the research, the electronic database sources were Google Scholar, Web of Science, SAGE, and ASCE literature repositories. As educational research needs to be constantly updated as educational practice develops, research results are contemporary. Therefore, to obtain valuable literature information, the year of the literature search needed to be expanded in scope. Only research from 2018 was screened, with a particular focus on the last three years of research. The theme of the literature screening was educational strategies, with the keywords learning interest, empirical research, and curriculum organization. The research methodology focused on empirical research, and the type of literature was mainly journals and academic conferences.

3. Literature Review

3.1. Strategy 1: Gamified Learning Activities

Integrating conservation and education is a guideline for kindergarten education put forward by the Chinese Ministry of Education and is highly valued by educational researchers. Learning based on children's experiences and abilities, in the form of activities similar to those that children carry out in their daily lives, freeing children from mechanical memorization of textbook theories [5], expanding the number of experiences, and enhancing the ability to use skills in life in activities that can be readily displaced is in line with the needs of children's psychological and social development. To ensure Building a play-based learning platform is particularly important to ensure that young children thrive in a high-quality educational environment. "The Convention on the Rights of the Child" clarifies the child's subjectivity in educational activities and practices and sees the child as the creator of the meaning of educational practice [6]. Meta-analyses of gamified learning show that gamified forms of learning activities have a positive impact on students' interest in and achievement of learning outcomes [7]. When children develop a willingness to mobilize their natural impulses, learning is a fun activity integrated into their lives and is no longer a burdensome activity aimed at achieving

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results. At the same time, subjects are less abstract when children learn from the direct materials of everyday life rather than the artificially processed and integrated scientific knowledge that scientists systematically learn. The intuitive and actionable nature of the subject meets the cognitive needs of young children at the concrete image stage of thinking.

3.1.1. What Is Play?

By comparing educational research on early childhood play in different countries, it is easy to see that there are cultural differences in the definitions and attitudes of early childhood educators towards "play" [8]. The broad definition of "play" can be understood in the context of the Oxford English Dictionary. For example, entertainment. This definition is not industry or domain-specific. In educational research, on the other hand, "play" is usually interpreted in terms of children's experiences [9]. However, it takes work to give a uniform definition to the different types of play activities. For the time being, it is possible to say in general terms that play is a practical activity with rules that govern the learning process intending to acquire knowledge or exercise skills.

3.1.2. Gamified Learning

In thinking about the development of education and how it is practiced, the process of play as learning is an effective way of realizing the values of innovation, problem-solving, and social responsibility that the OECD's Education 2030 project proposes for education [10]. However, developing young children's creative skills and sense of responsibility requires hands-on practice and practice through gamified learning. As the development of habits and skills requires a learning cycle, external demands and coercion alone are ineffective. They require enthusiasm and a strong interest in participating in gamified learning activities as a guarantee of quality learning outcomes [11]. Moreover, throughout human history, the sciences have evolved gradually from useful social work [3]. Therefore, it is through playfulness that scenes from the imaginary world are interpreted in the real world, which not only meets the needs of children's psychological development but is also a manifestation of children's innovative practices and a demonstration of children's interest in participating in learning activities [12]. However, in games of a recreational and pastime nature, the educational element is often reflected, and learning outcomes are achieved by accident. Instead, playful activities as a learning strategy for children require the assistance of parents and teachers in selecting activities that contribute to psychological and skill development in a purified environment (as opposed to a complex social environment).

3.1.3. Limitations of Gamified Learning

The inclusion of play in kindergarten educational activities has been recognized by educators as a learning function in the lives of young children, to relieve the dullness and strain of "formal" schoolwork. However, to achieve the practice of facilitating learning skills and the development of interest in learning, gamified learning activities cannot be confined to mere play and repetition but need to be combined with elements of social attributes such as language. As young children are still at a low level of cognitive development, their choice of what to learn and how to play needs to be guided by adults, and this is where scaffolded games can provide children with step-by-step advice on how to play [9]. However, in practice, the results are only sometimes satisfactory, and the choice of appropriate play content for children is a source of confusion for many educators. According to Vygotsky's "zone of proximal development" theory, learning content needs to be based on the cognitive level children have reached and the skills they already possess, with a slight increase in difficulty [12]. This is a reasonable range of difficulty that children cannot achieve on their own, but can achieve with the help of an educator (teachers or parents). In terms of content selection, with no

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clear measurement criteria, if the level of difficulty is designed to be difficult, children will lose confidence and interest in continuing the inquiry between failures because they cannot achieve it. However, if it is designed to be easy, children will also lose interest through boredom because it is done too easily. Educators are also ambiguous about the level of intervention when it comes to inspiring children to think and guiding them to try. Not enough educational assistance is provided to help children achieve competence; too much intervention undermines the principle of subjectivity, and even if the goals of the activity are achieved, it is the achievement of the adults, not the children.

On the whole, effective learning is the acquisition of knowledge by engaging in purposeful activities rather than by coping with schoolwork. The age of rapid scientific progress is when the materials and practical methods of everyday life are valued in the field of education, so the use of gamified learning activities to motivate children and promote interest in learning is significant and effective. However, the choice of content of gamified learning activities and the educator's control of participation can have an impact on children's interest in learning practices. To reduce the negative impact of adults in play on the development of children's interest in learning, educators must join the game only as participants. This has the advantage of providing thought leadership in a contextual capacity when children need help while respecting the subjectivity of the young child. This approach to learning, which is different from traditional classroom teaching, allows children and the facilitators to recommend the learning process together in an equal relationship, increasing children's willingness to participate in learning activities and stimulating their interest in learning.

3.2. Strategy 2: Educational Apps

Educational Apps are designed to stimulate children's interest in learning by providing learning content on touch-screen electronic devices commonly used by young children, such as smartphones, tablets, or laptops, and by building learning scenarios that engage children in selecting learning content and practicing skills.

Digital educational apps are a growing market for learning tools that can help young children prepare for school and practice essential learning skills. In particular, the use of apps on tablets and smartphones has become a daily activity in the homes and schools of today's children [13]. Thanks to this, the number of applications offering learning support for young children is growing, and parents are faced with many choices. According to statistics, the number of educational applications in the Apple App Store has grown by 120,000 in just three years, reaching 200,000 in 2018 [14].

Since 2020, due to the global spread of COVID-19, teaching and learning activities have mostly been transferred to an online format. Educational applications have been developed in several countries and made available free of charge to schools and educational institutions to guarantee the proper functioning of teaching and learning activities during specific phases [4]. Thanks to this, students experience a different learning style from the traditional classroom style, and teachers can record and analyze student performance with the help of the system's features. New ways for students to engage in learning activities and strategies to expand their participation in learning activities have been provided, and the dilemmas faced by school teaching and learning activities have been effectively addressed. These digital education applications are based on office writing and learning to write and are complemented by applications that provide educational support, such as building feedback platforms. While engaging in learning activities, students can practice their software operation skills and create a private learning space. In particular, some applications developed for preschoolers has additional gamified learning features. As children select and manipulate applications, they see dynamic materials with beautiful graphics and rich content. Psychologically, children's interest in learning activities relies on the context having integrity, thus promoting an increased sense of learning experience and stimulating a heightened interest in learning. Although there is some

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evidence that educational apps can improve maths skills in the early grades [15], a narrative review of apps for preschoolers concluded that "larger randomized trials of apps are needed" [16].

3.2.1. Positive Effects

Firstly, the popularity of touchscreen technology on learning devices has reduced the difficulty of operating the devices. Young children at this development stage do not need the fine motor skills to operate a keyboard or mouse to use learning applications smoothly. Secondly, each child operates his or her electronic device, each with a separate software account, allowing for one-to-one or group learning activities. There is no need to share learning materials with peers, and practice opportunities are increased. Once again, learning software that integrates elements such as sounds, character images, and colors to build a visual scene for children, incorporating game-based learning principles. Children are provided with more complete and logical information and a greater sense of immersion. To some extent, it circumvents the fragmentation of knowledge that results from verbal teaching, explanation without physical objects, and the use of simple teaching aids. It makes learning more lifelike, and children form the habit of learning through manipulation in real life, just as they do in the app. It is the ideal result of combining contextual teaching methods and software technology. Next, the wide range and the number of types of learning software widen the range of choices for children, parents, and teachers. It meets the needs of children with different interests and motivates them to take the initiative to learn. Next, the fun aspects, such as page turning and level breaking, are designed to give children a sense of control and experience that they are the subject of the learning activity, creating a spontaneous willingness to progress through the use of skills. Next, regarding the use of learning materials, educational applications are more clearly advantageous. Some of the physical props can only be reused if the teacher prepares a large number of them. The children will not be able to practice them adequately. Educational Apps solve this disadvantage by allowing for an ever-increasing number of materials to be repeatedly manipulated. Based on this, the ready-to-use learning talent materials and buildable scenarios facilitate communication between children and their peers. On the one hand, it serves as a review of skills; on the other hand, the successful demonstration of mastery and manipulative skills to peers satisfies children's sense of achievement, builds confidence, and generates interest in learning. Finally, the five areas of learning in kindergarten are cross-cutting and promoting the integration of elements from other areas of activity in one area, which is more easily achieved through technology software. For example, a maths activity in which the application process is explained through a story format is a science area activity that incorporates elements from the language area.

3.2.2. Risks of Relying on Educational Apps

Firstly, the security or otherwise of the online environment is a primary concern for educators. With the wide range of learning software available on the App Store, there is a constant risk that undesirable information will appear when electronic devices are connected. Young children, who cannot yet distinguish between right and wrong, may be misled by this information. Secondly, the meta-analysis masks the influence of variable factors [17], such as the method of use and the level of cognitive development of the participants, on interest in learning. For example, younger children have poor cognitive, comprehension, and receptive skills. Low levels of skill in using learning referencing software cannot join in learning activities by manipulating the software. Next, there are concerns about the physical health of young children. Children have less self-control and rely on other people's discipline. Prolonged use of electronic devices can lead to a loss of vision in children, and prolonged viewing and manipulation of applications in one position is detrimental to the healthy physiological development of young children. Finally, there are concerns about the social skills and emotional

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development of young children. Children who are used to using applications for learning and entertainment become dependent on them and tend to immerse themselves in a world of their own, believing that they can do everything in their lives through electronic devices. This leads to a refusal to communicate face-to-face with peers and parents. This eventually leads to a deterioration in social and language skills and a tendency towards autism in psychological development [18, 19].

Therefore, some policymakers recommend that guardians regulate the amount of time preschool children (3-4 years old) spend on electronic devices. For example, every hour, it is important to get away from the screen and engage in physical activity. Moreover, by taking care to alternate between physical and software learning pathways, healthy learning patterns can help young children develop an interest in learning.

Educational applications are designed to include clear learning objectives, meaningful and engaging learning content, and feedback mechanisms as children use the strategy for the behavior itself and not for the results achieved after use. This is why the experience of children, the choice of operational content, and the construction of a healthy online environment are particularly important in the process of use, which requires the effective assistance of online supervisors and guardians.

4. Implications

Children's interest in learning is psychological and conscious and cannot be directly quantified; it requires observation of specific behaviors. For example, children take the initiative to engage in learning activities; they do not give up when they encounter difficulties and actively try to find solutions; they are smiling and in high spirits during activities.

Research in different branches of education in the same field can be cross-referenced and provide research ideas. For example, educational strategies that have been experimentally proven to be feasible at the primary and secondary levels can be tried out at the kindergarten level.

5. Conclusion

Through this review, it was found that the use of both gamified learning activities and educational apps are two educational strategies that promote children's interest in learning. Young children often build confidence through success, and educational apps are dynamic and attract intentional attention, provide technical support for practicing and demonstrating skills, and meet the cognitive needs of young children in the concrete-image stage of thinking to acquire knowledge through hands-on activities. Gamified learning activities present learning content in a form that children enjoy. Purposeful, structured play not only delights children as they participate in learning activities but also integrates knowledge into their daily life scenarios.

This study fills a gap in the field of educational research on the use of educational strategies to enhance the interest of preschool children and provides educators (parents and teachers) with the right attitude toward young children's interest in learning and strategies to foster their interest in learning.

Future related research could build on this study to explore the impact of reducing the limitations of the two strategies and to explore more learning strategies and approaches that apply to preschool children, increasing the length of intentional attention and concentration when engaging in activities and improving the level of learning outcomes.

References

[1] *Jing Wang. (2021). Analysis of factors influencing the development of concentration in young children and countermeasures. Contemporary Family Education, (27),63-64.*

[2] *Ministry of Education of the People's Republic of China. (2001). "Kindergarten Education Guideline (Trial).".*

DOI: 10.54254/2753-7048/13/20230897

[3] *Kangas J, Harju-Luukkainen H, Brotherus A, et al. (2019) Playing to learn in Finland - early childhood curricular and operational context. In: Garvis S, Phillipson S, (eds) Early Childhood Education in the 21st Century: Policification of Childhood; Early Childhood Education in the 21st Century, vol III. Routledge, pp. 71–85.*
[4] *U.S. Department of Education. (2020). The ED games expo "goes virtual" to support distance learning.*
[5] *Piet van der Ploeg (2016). Dewey versus 'Dewey' on democracy and education. Education, Citizenship and Social Justice, 11(2), 145–159.*
[6] *United Nations Commission on Human Rights (46th sess. : 1990) Convention on the Rights of the Child.*
[7] *Sailer M., Homner L. (2020). The gamification of learning: A meta-analysis. Educational Psychology Review, 32, 77–112.*
[8] *Harju-Luukkainen H, Garvis S, Kangas J, (2019) 'After lunch we offer quiet time and meditation': Early learning environments in Australia and Finland through the lenses of educators. In: Faas S, Kasüschke D, Nitecki E, , et al. (eds) Globalization, Transformation, and Cultures in Early Childhood Education and Care: Reconceptualization and Comparison. Cham: Palgrave Macmillan, pp. 203–219.*
[9] *Jonna Kangas, Heidi Harju-Luukkainen, Annu Brotherus, Liam Francis Gearon, Arniika Kuusisto. (2022). Outlining play and playful learning in Finland and Brazil: A content analysis of early childhood education policy documents. Contemporary Issues in Early Childhood, 23(2), 153–165.*
Directorate for Education and Skills, Organisation for Economic Co-operation and Development (2018) The future of education and skills: Education 2030.
[10] *Kangas J, Harju-Luukkainen H, Brotherus A, et al. (2019) Playing to learn in Finland - early childhood curricular and operational context. In: Garvis S, Phillipson S, (eds) Early Childhood Education in the 21st Century: Policification of Childhood; Early Childhood Education in the 21st Century, vol III. Routledge, pp. 71–85.*
[11] *Vygotsky LS, (1967) Play and its role in the mental development of the child. Soviet Psychology, 5(3), 6–18.*
[12] *Kim, J., Gilbert, J., Yu, Q., & Gale, C. (2021). Measures Matter: A Meta-Analysis of the Effects of Educational Apps on Preschool to Grade 3 Children's Literacy and Math Skills. AERA Open, 7.*
[13] *Pendlebury T. (2018). All the 2018 education apps Apple announced. CNET.*
[14] *Schaeffer M. W., Rozek C. S., Berkowitz T., Levine S. C., Beilock S. L. (2018). Disassociating the relation between parents' math anxiety and children's math achievement: Long-term effects of a math app intervention. Journal of Experimental Psychology: General, 147(12), 1782–1790.*
[15] *Gersten R., Haymond K., Newman-Gonchar R., Dimino J., Jayanthi M. (2020) Meta-analysis of the impact of reading interventions for students in the primary grades. Journal of Research on Educational Effectiveness, 13(2), 401–427.*
[16] *Lipsey M. W., Puzio K., Yun C., Hebert M. A., Steinka-Fry K., Cole M. W., Roberts M., Anthony K., Busick M. D. (2012). Translating the statistical representation of the effects of education interventions into more readily interpretable Forms. National Center for Special Education Research.*
[17] *Hutton J. S., Dudley J., Horowitz-Kraus T., DeWitt T., Holland S. K. (2020). Associations between screen-based media use and brain white matter integrity in preschool-aged children. JAMA Pediatrics, 174(1), e193869–e193869.*
[18] *Madigan S., Browne D., Racine N., Mori C., Tough S. (2019). Associations between screen time and children's performance on a developmental screening test. JAMA Pediatrics, 173(3), 244–250.*
[19] *World Health Organization. (2019). Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age: summary.*