JOURNAL OF INTERNATIONAL SCIENTIFIC RESEARCH
Volume 2, Issue 4, February, 2025 Online ISSN: 3030-3508
https://spaceknowladge.com

THE EFFECTIVENESS OF EDUCATIONAL TECHNOLOGIES IN ENHANCING STUDENT ENGAGEMENT AND ACADEMIC PERFORMANCE IN SOUTH KOREAN SCHOOLS

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ARTICLE INFO

ARTICLE HISTORY:
Received:10.02.2025
Revised: 11.02.2025
Accepted:12.02.2025

KEYWORDS:
South Korea, educational technologies, mobile devices, schooling system, Information and Communications Technology.

ABSTRACT:

This article is devoted for how can educational technologies bring multiple opportunities to students and success as well, and it's main role in South Korean schooling system. The attention of the South Korean government towards the usage of mobile devices, its initiatives along with plans for the future are revealed in this paper. The purpose of implying Information and Communications Technology (ICT) is to abandon a passive learning conditions and traditional approaches in schools.

INTRODUCTION. According to a number of researches, South Korea is considered as one of the top countries in educational rankings among top 10 or even 5 countries. South Korea ranks the first place due to performing a higher IQ scores, and educational standards are regarded as exceptionally demanding. In recent PISA assessments, South Korean students have performed exceptionally well in subjects like mathematics, science, and reading. This article is devoted for revealing the importance of the technologies in Enhancing students' Engagement and academic performance, and the government role in implementation. [1]

Over the past few years, the usage of mobile technologies is promoted and supported extensively within educational systems of many nations. Such kind of advancements can offer a number of educational possibilities that can serve in students' academic growth. "2005 was the year when Korea started distributing and utilizing Information and Communications Technology, called further “ICT”. The Korean education system is in the

main part run by the Ministry of Education, Science and Technology, directed by governmental rules and regulations and organized according to nationwide standards and curriculum" by Maciej Grzybowski in one of his articles. The effort to utilize ICT in the Korean educational system was implemented with the initiative called the 'Plan for the renovation of education 5.31' proposed by the Education Renovation Committee in 1995. The Korean Ministry of Education has developed a five-year master plan for ICT use in education. The aims and visions of the ICT use in education are to strengthen the future competitiveness of education, science and technology, and to cope with rapid changes in the economy and society, and in science, technology and education worldwide. [2]

In 2013, South Korea introduced and implemented new plan called "SMART education" which focused on to boost the better maintenance of advanced education. The word "smart" was not random in this occasion as it consists of five necessary elements-letters which equip with the successful and efficient learning process. "S" stands for "self-directed", meaning learning being initiated by students of any age by themselves, having the willingness to x knowledge. "M" means keeping the children and youth "motivated", mostly by including fun in the learning and teaching methods e.g. educational games. In order to be most efficient, the teaching process should be hold according to the specifications of the individuals and so "A" for having a capacity of "adaptation" shall not be forgotten. Rich assets of the information are the next step to be taken aiming for the highest knowledge scores and "resources" are the smart "R". Last but definitely not least, the use of ICT appears to be a key to Korea's development success and so the Korean education system cannot be imagined without the "T" – technology being embedded. The main goal of implementing the SMART program was to digitalize the entire school curriculum by 2015 and reflect modern changes of the 21st century. The goal was to prepare students for the demands of a rapidly changing digital world by fostering critical thinking, creativity, and collaboration skills. The SMART education initiative reflects South Korea's broader commitment to reforming its educational system and incorporating innovative teaching methods. The introduction of the SMART education allowed to increase the time spent of teachers on devices for educational purposes from 75 minutes per day to 145 minutes per day, while students extended their time spent using devices for learning outside of school from 30 minutes per day to 125 minutes per day. Focusing on the results of this initiative, it brought several improved educational outcomes. Studies showed that the ability of thinking creatively, critically improved, as well as there were an increased number of students who have good information literacy. [3]

Another profound impact was by COVID-19 pandemic. During the pandemic period, necessity for distance learning accelerated different devices, and also online platforms like Googles classroom, Zoom, and local solutions like Kakao Education and NAVER's. The South Korean government had already allocated a great amount of money for high-speed internet, and digital tools, however, pandemic demanded an expansion of full access for online learning. This included virtual classrooms, interactive learning materials, and online assessment tools. Although there were countless advantages of technological educational system, several drawbacks can be seen. As an example, educators who had not gained skills to utilize the devices to conduct an affective online teaching are shown. Furthermore, the shift to online learning affected students' mental health, with reports of increased stress and anxiety due to isolation from peers and changes in routine, while they were taking classes online. [12]

Although the South Korea is a global leader in integrating technologies into classes, the rapid pace of technological advancements makes it challenging for teachers to stay up-to-date with the latest tools. So, in the late 1990s and early 2000s, teacher training primarily focused on basic computer literacy skills, such as using word processing software and navigating the internet. Teachers were trained how to utilize the educational devices professionally to make their lesson more engaging, and also eacher training emphasizes not just the technical aspects of using technology but also the pedagogical approaches needed to effectively integrate technology into teaching and learning. There are various programs offered at different levels, including pre-service training, in-service training, and professional development workshops. The government has invested significantly in teacher training programs, allocating substantial funds to equip teachers with the necessary skills and knowledge. As an example, the Korean government has invested approximately $0.74 billion for three years (2024–2026) specifically for teacher training as part of its broader AI-enabled education investment. [11]

South Korean Education Ministry has been promoting digital learning platforms to make education more accessible. In 2021, the government aimed to have over 50% of classes conducted through digital means by 2025. The South Korean government aimed to replace the primary level of education with digitalized materials, and students who could not afford it will be provided with free tablets. Tablets and PC tablets with keyboard and touch-screen are not only making it easier for students as reference book, exercise book and other resources are combined into one device but also they make the classes more attention-engaging and even entertaining. Students’ curiosity can be appeased from the spot thanks to

permanent internet access. Another device, smartphones are required as being able to be used in education and being able to improve education. Smartphones and laptops are considered as pedagogical tools not only for home-use only. [4]

Although South Korea is advancing in implying technologies within schools, there are still remaining problems. One of the crucial on is that equal access to technology and digital resources at home. A 2023 study by the Korea Institute of Child Care and Education found that while 98.7% of students in high-income families had access to a computer and internet at home, the rate was 92.3% for low-income families. This gap, while seemingly small, can significantly impact a student's ability to engage with technology-integrated lessons. [5]

Another on can be the negative effectives of excessive screen time which results in some health issues. Furthermore, other factors like security, cost maintenance, quality content are also regarded as most problematic part of it. As if it seems like harmless, but ICT education creates some other disadvantages as well towards students themselves. Intially, increased use of online technologies decreases the need of memorization which results in pupils not gaining the knowledge but instead developing the ability of searching for information and making a choice only. As e-learnlessonself-directed, it strongly disables interactions between the pupils which may be considered as a great harm to their teamworking abilities in the future and professional career. Last but not least, occasional technical errors are strongly abruptly slowing or even disabling the lessons.

In conclusion, the integration of educational technologies in South Korean schools has proven to be a significant catalyst for enhancing student engagement and academic performance. The interactive and dynamic nature of these technologies fosters a more immersive learning environment, encouraging students to take an active role in their education. Evidence suggests that tools such as digital learning platforms, multimedia resources, and collaborative software not only capture students' attention but also facilitate personalized learning experiences tailored to individual needs. Furthermore, the positive correlation between technology use and improved academic outcomes underscores the importance of ongoing investment in educational technology infrastructure and teacher training. As South Korea continues to embrace innovation in its educational practices, it is essential to ensure equitable access to these technologies across diverse socio-economic backgrounds, thereby maximizing their benefits for all students. Ultimately, the successful implementation of educational technologies holds great promise for shaping a more engaged and academically successful future generation.

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