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## Digital-driven Education Reform Plan Announced:

### Unlocking Opportunities for Personalized Learning in Education

#### Key Points

- ☐ “AI-driven digital textbooks” enabled by AI technologies will be phased-in math, English, and informatics starting from 2025
- ☐ Personalized learning adapted to student needs will be offered via coordinated efforts of teachers and AI assistant teachers
- ☐ Leading teachers at the front lines of AI technologies will be fostered, making meaningful student-teacher connections
- ☐ Over 300 lead school for digital learning will be operated by 7 local offices of education in 2023

- ☐ On February 23, the Ministry of Education (headed by Deputy Prime Minister and Minister of Education, Lee Ju-Ho) announced a plan on “Digital-driven Education Reform” with an aim to offer “Education for All” at the Government Complex in Seoul.
- Korea has provided new insights into how education should pioneer innovation to come with the demand in the era of digital transformation, and the plan on “Digital-driven Education Reform” was initiated to meet these needs.
- This plan, in particular, envisions “personalized learning” enabled by

leading technologies such as Artificial Intelligence (AI) in nurturing every student to become a key talent, helping all children navigate their own learning at their own pace, acquiring relevant skills and competencies.

- For teachers, creating a classroom environment that can help make strong student-teacher connections is imperative, so students can learn the skills and competencies necessary for the digital era such as character, creativity, critical thinking skills, and multidisciplinary convergence skills.
- In fact, there needs to be a fundamental change in the educational contents and pedagogy due to AI development such as the recent ChatGPT, but teachers, in reality, have no choice but to teach students of whom have a wide range of needs in a classroom setting.
- To this end, AI is deemed to lend help in data collection and analysis in schools; if teachers collect and analyze student data in real time during instructions, then personalized learning adapted to each student can take place, meeting the needs of all students from diverse backgrounds.
- Teachers can also get practical aid from AI-driven technologies and mentor students based on objective data.
- If “AI assistant teachers” driven by artificial intelligence take the role of a knowledge provider, teachers can take the role of a coach, monitoring and diagnosing students’ social-emotional state, and offering relevant guidance.
- Flipped learning can be implemented, elevating students’ problem-solving skills and providing students with diversified learning activities. For instance, while AI assistant teachers give prior-knowledge to students, and teachers can lead follow-up

discussions and project-based learning.

- Through these classroom transformations, students are to direct their education and become an active agent of their own learning progress, co-creating learning experiences with teachers and peers.

□ The plan on Digital-driven Education Reform is as follows:

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**■ AI-driven digital textbooks to be phased-in for math, English, and informatics from 2025**

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- AI-driven digital textbooks will be developed; AI technologies such as intelligent tutoring system, metaverse, XR, and voice recognition will be integrated in subject matters with a goal to help students efficiently acquire relevant knowledge.
  - AI-driven digital textbooks will be implemented in the following 3 subjects; mathematics, English, and informatics.
  - AI tutoring will be introduced in math so that personalized learning can take place, helping students not give up on math problems.
  - AI voice recognition function will be integrated in English to support students' listening and speaking skills.
  - Coding as well as experience-based and hands-on learning in informatics will be reinforced within the regular school curriculum.
- AI-driven digital textbooks will be phased-in starting from 2025 to third and fourth grade elementary students, first grade middle school students, and high school students (in common and elective subjects). It will be then phased-in for fifth and sixth grade elementary students and second grade middle school students in 2026, and third grade middle school students in 2027.
- In general, AI-driven digital textbooks are developed by an

independent publishing company, or in collaboration with edtech enterprises.

- To this end, the Ministry of Education is under reviews of measures to overhaul the cost system, such as raising the standard unit cost for development and changing to a subscription fee method to create a healthy development ecosystem necessary for making quality AI-driven digital textbooks.

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## 2 Teacher group, TOUCH, organized to guide students on the basis of meaningful student-teacher connections

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- The Ministry of Education will provide personalized learning through AI-driven digital textbooks, help teachers make meaningful student-teacher connections, and offer ongoing professional learning for teachers who are at the front lines of classroom transformations.
- First, a teacher group called Teachers who Uppgrade Class with High-tech (TOUCH) will be created and supported. This group will be comprised of teachers who have a solid understanding of digital-driven education reform, equipped with digital technology expertise to lead instructional innovations.
- Teachers for TOUCH will leverage leading technologies in providing personalized learning opportunities and ensure student growth via meaningful student-teacher connections. Teachers for this group will be selected by recommendations from metropolitan and provincial offices of education. An intensive course will be offered to teachers during school vacations to advance their skills and knowledge. The number of teachers for TOUCH will be increased from 400 teachers in 2023 to 800 teachers in 2024, and to 1,500 teachers in 2025.
- Once teachers for TOUCH is organized, they will take an active role in designing and implementing professional learning opportunities.

- In line with the timeline for AI-driven digital textbooks to be phased-in over a period of 3 years, ongoing professional learning will be offered and completed by teachers who will incorporate AI digital textbooks; 40% by 2024, 70% by 2026, and 100% by 2026.

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### **3 Various teaching and learning methods developed through AI**

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- Korean Educational Development Institute (KEDI) will be designated as a “Digital Education Support Center.” It will develop various teaching and learning methods using AI-driven digital textbooks to be used at the school level.
  - For instance, AI will identify students’ prior knowledge and teachers will accommodate instructions accordingly, then AI will be used again to better understand their academic progress.
  - In addition, AI tutors will review classroom materials used for after-school and remedial teaching, and relevant models will be developed to integrate AI and online learning for students who are academically behind or are from marginalized background.
- In order to address parents’ concerns about students’ increased use of digital devices, a plan will be devised to create a safer classroom setting; harmful websites and apps will be blocked, while practical strategies and tools for educating students’ on the use of digital devices will be promoted.

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### **1 300 Lead Schools for Digital Learning operated from 2023 by 7 pilot local offices of education**

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- In the second half of 2023, 300 schools will be designated to lead learning enabled by AI technologies, so that by 2025, exemplary cases will be made known and more successful outcomes for the

digital-driven education reform will be revealed to the public.

- The Ministry of Education plans to select 7 pilot local offices of education through an open call in the first half of 2023, and about 40 lead schools for digital learning will be designated and operated under the direction of each local education office.
- Lead schools for digital learning will be in charge of weaving current edtech programs into AI-driven teaching and learning methods, as well as developing exemplary models and defining changed roles for teachers; this will be shared among other schools nationwide.
- In particular, lead schools for digital learning will work toward integrating new teaching methods not only for regular school subjects but also for *neul-bom* educare elementary schools and after-schools.

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## ■ Securing digital devices and wireless net

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- The Ministry of Education will coordinate with local offices of education and ensure that every school has wireless net and digital devices, before AI-driven digital textbooks are introduced in 2025.
- The current status of digital devices in each metropolitan and provincial offices of education will be checked in a bid to secure digital devices henceforth.
- Current digital devices used by schools will be inspected to see whether they are up-to-date, equipped with functions for AI-driven digital textbooks, and plans to upgrade devices will be established if necessary.
- National Information Society Agency (NIA) together with metropolitan and provincial offices of education will also carefully examine the

wireless net environment so that real-time data collection and analysis can be smoothly operated for AI-driven digital textbooks.

- Deputy Prime Minister and Minister of Education Lee Ju-Ho addressed, “We are now at a point where we can realize the vision of education depicted by UN in 1990, ”Education for All“, on the basis of advanced digital technologies.
- He added, “Learning enabled by digital technologies and the changing role of teachers deemed to be two promising drives for AI-driven digital textbooks and professional learning opportunities, and they will remain a top priority of the Ministry of Education.”
- As a final note, he said, “We will make continued efforts to make sure that teachers, who are key agents, can make successful transitions to digital transformations, and are ready to make real changes.”