QUALCOMM® Wireless Reach™

Education | Entrepreneurship | Environment | Health Care | Public Safety

JAPAN

2016 Statistics

- **Life expectancy: 84.7 years**
- **Population: 127 million (2015 est.)**
- **GDP per capita: US $37,500 (2014 est.)**
- **Mobile penetration: 121.6% (2016 projection)**

Sources: CIA World Factbook (https://www.cia.gov/library/publications/the-world-factbook); Mobile penetration data provided by Ovum World Cellular Information Service and based on market intelligence.

"In the near future, mobile devices and digital textbooks are likely to become the norm. They are an ideal and effective tool for learning for students who have a diverse range of abilities, aptitudes, aspirations and lifestyles."

— Takayoshi Momoi, Principal of Renaissance High School and President of Renaissance Academy Incorporated

3G Smartphone & Tablet x Digital Textbook: Helping High School Correspondence Students Earn Diplomas

Students at Renaissance High School in Japan can conveniently study anywhere, anytime using 3G- and 4G-enabled smartphones and tablets with digital educational content and innovative Augmented Reality Experiences (ARE). The 3G Smartphone & Tablet x Digital Textbook program, a collaborative venture between Qualcomm Wireless Reach and Renaissance Academy Corporation, provides students with engaging tools and content that are relevant to their lives and help motivate them to complete their education, while also seeking vocational training and holding part-time jobs.

Challenge

- According to Renaissance High School, many Japanese high school students are dissatisfied with traditional curriculum and prefer to study topics that are of personal interest or related to a potential profession.
- Many Japanese high school students are also dissatisfied with the inflexible, uniform content of their education and can suffer from loss of motivation.
- Without a high school diploma, students have greater difficulty landing steady jobs. Additionally, the full-time employment rate of high school dropouts is relatively low, putting a strain on the nation's social welfare system.[1]
- In Japan, the need for digitization has been discussed for more than a decade. Some local governments began introducing digital textbooks in 2013 and the national government plans to deploy tablets to all K-12 students by 2020.

Solution

- Since 2011, more than 550 3G-enabled smartphones, mobile educational content, and 3G connectivity have been provided to Renaissance High School students to create an on-the-go learning environment.
- In 2013, 190 more students were included in the program by receiving 3G/LTE tablets and 24/7 access to mobile educational content. Students use the smartphones and tablets to complete online course work, access web-based resources, study, take tests, collaborate with each other, and access their teachers whenever and wherever they have time.
- In 2014, new educational content included Augmented Reality Experiences to increase student engagement and understanding in science, and to help students maintain their motivation for learning.
- Local 3G/LTE networks are used to facilitate anytime, anywhere learning by enabling students to submit reports to teachers and receive immediate grading and feedback.

Technology

- 3G-enabled smartphones and 3G/LTE-enabled tablets powered by Qualcomm Snapdragon® processors, a product of product of Qualcomm Technologies, Inc.

JAPAN

- Augmented Reality Experiences created on created on the Vuforia™ platform
- Android-based, English language learning application developed by Renaissance Academy utilizing National Geographic's educational materials

Impact

- In 2011, the program's smartphone-based, English language learning course was Renaissance High School's first smartphone-based course for credit.
- Today, the school offers all subjects via smartphones and tablets, including math, science and social studies. In 2014, survey results from the end of the pilot phases of the program showed:
    - The longer students use tablets, the more comfortable they become with the technology. 80 percent of surveyed students reported always using a tablet for learning, up from 59 percent initially.
    - Surveyed students overwhelmingly think tablets and smartphones are more useful than a PC. 52 percent of students said smartphones are most useful and 43 percent said tablets. In the last survey of students, 24 percent of respondents said smartphones were most useful while 67 percent said tablets.
    - When comparing a PC to a smartphone or tablet, 76 percent of students surveyed answered that the use of a smartphone or tablet would help improve their academic performance, up from 67 percent initially.
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Program Stakeholders

- Knowledge Works developed new educational content featuring Augmented Reality Experiences using Vuforia.
- Qualcomm Wireless Reach provided program funding and management support.
- Renaissance Academy Corporation runs Renaissance High School and collaborated with National Geographic to provide educational content for the smartphone- and tablet-based, English language classes offered by Renaissance High School.
- Renaissance High School is a correspondence high school founded in Daigo-cho, Ibaraki, a government-approved Special Zone for Education. The school provides classroom and online lessons to students who were habitually absent from high school or dropped out, as well as to students who wish to pursue professional careers.

KnowledgeWorks

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[1] HTTP://WWW.CAO.GO.JP/INDEX-E.HTML