RESEARCH SUMMARY

SMARTree English:
Successfully Improving and Motivating Students with Technology

ABOUT SMARTREE ENGLISH

SMARTree English is a comprehensive five-year language learning program for young learners of English. The program combines the engaging platform of tablet computers with a proven methodology that has been designed and tested by a group of dedicated and experienced English language teaching professionals with children.

SMARTree English strives to maximize learning opportunities by combining the best teaching practices with technology. It uses an integrated approach to language instruction and includes strands of integrated speaking, integrated writing, and integrated reading.

SMARTree English was developed by KT OIC, a subsidiary of Korea Telecom in partnership with e-future.

THE STUDY

Technology is quickly becoming an indispensible tool for educators in both ESL and EFL classrooms. As publishers, software companies, and hardware companies develop tools for language education, educators and school administrators seek verification on how these new technologies can bring about positive change for both students and teachers.

After launching SMARTree English in the fall of 2012, there has been widespread interest in the program. The study on which this summary reports was conducted in Korea during the fall of 2012.

KT OIC and e-future, as developers of SMARTree English, were eager to

ABOUT THE RESEARCHER

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see statistical data to support the numerous positive reviews from students, teachers, and parents about SMARTree English. The goal of developing SMARTree English was to create an easy-to-use, tablet-based language learning program that incorporated the best of what technology could offer in order to better support students, teachers, and parents in language learning.

This review of a study conducted by Dr. JR Kim, professor of English language education at Korea National University of Education, shows that students who used SMARTree English had significantly better advancements in reading and motivation that those students who study exclusively with printed books or with e-books. The results indicated that students were not only eager to learn using the SMARTree system but also showed improved motivation as well as improved reading skills.

STUDY DESIGN AND SETTING

The study took place in an elementary school in South Korea with a total of 90, advanced-level students in the sixth grade. It was conducted over eight class periods during the course of four weeks in the fall of 2012. The students were split into three equal groups:

(a) A control group attended classes with print books.
(b) A comparison group attended classes with digitized versions of the printed books.
(c) An experimental group attended lessons with the SMARTree program, which was based on the print books used by the control group.

National periodic tests and customized pre-tests determined which group students were placed in. Grouping students in this way ensured that each of the three groups were comparable. A forth group of students who did not take part in the experiment (n=30) was also used to ensure that the pre- and post-test were of similar difficulty levels.

In addition to the pre- and post-test for reading ability, affective attitude surveys were also completed by all of the participants before and after the experimental lessons were done. The purpose of this survey was to examine the change in students' attitude and motivation for learning English, the change in learners' thoughts and attitudes related to English class, and the change (if any) of students' reading skills.

Finally, a satisfaction survey was given to the comparison and experimental groups to evaluate both the systems satisfaction (i.e. the overall satisfaction students had with the e-books and SMARTree program) and education satisfaction (how students felt about using print books over e-books or tablet-based programs).

SUMMARY OF RESULTS

The following results highlight the most interesting findings. A pre- and post-test were administered to determine if the students had, in fact, improved their reading ability during the study.

Table 1: Mean Reading Pre- and Post-Test Results

Group	Pre-test Score	Post-test Score	Improvement
Print books	11.80	12.40	0.60
E-books	12.20	12.90	0.70
SMARTree	11.60	13.40	2.30

Though there were slight improvements in both the print-based and e-book groups, the only significant improvements were observed in the SMARTree group.

In order to see what kind of reading comprehension the students were improving in, the researchers looked at what types of questions the students had improved with. They found that SMARTree group gain most significantly with bottom-up processing (2.30 point mean gain) and less significantly with top-down processing (0.60 point mean gain). This can be explained, in part, by the amount of vocabulary link and repeat sections as well as the ability of students to listen back to their own language to perform a self-diagnosis on various activity types.

In addition to a stronger improvement for bottom-up processing, the researcher found that low-achieving students improved the most.

Table 2: Mean Improvement among Low/High-Achieving Students

Group	Achievement	Improvement
Print books	High	0.20
	Low	1.00
E-books	High	0.20
	Low	1.40
SMARTree	High	1.40
	Low	3.40

It can be interpreted that low-achieving students particularly benefited from SMARTree's program since they were getting support and benefit from the repetition and recycling in the program. Additionally, further analysis showed that low-achieving students more noteably improved their performance on bottom-up reading activities.

General student affect (measured in three categories) improved across all three groups.

Table 3: Mean Change by Group on Affective Attitude Survey

Group	Pre-Survey	Post-survey	Improvement
Print books	3.67	3.74	0.09
E-books	3.64	3.98	0.34
SMARTree	3.55	4.38	0.83

The control group (print books) did not have a significant change in affective attitudes. Though the comparison group (e-books) did improve in affect, it was not as significant as the experimental group (SMARTree).

Students seemed to be very satisfied using the SMARTree program. The satisfaction surveys had a total of 100 points. Scores closer to 100 indicated a higher students' satisfaction

Table 4: Satisfaction Survey Results

Group	N	Mean	SD
E-books	30	66.90	4.12
SMARTree	30	89.30	3.14

$F = -12.128$, p-value = 0.000.

The satisfaction survey indicated a somewhat positive response to the digitized e-books; however, the most satisfied students were seen in the SMARTree group. The researcher noted that students liked the intuitive user interface and the quick response that the program delivered which made using the system easy for the students.

DISCUSSION AND IMPLICATIONS

The results from the pre-test, post-tests, and surveys showed that of the three comparable groups, there were slight gains in the control group (using traditional print books) and the comparison group (using the digitized e-books). The data showed that the most significant gains came from the experimental group (using SMARTree English).

Though reading gains were seen across both bottom-up and top-down reading tasks, the former saw the greatest increase. Impressive gains in reading affect and motivation for studying English were also most significant in the SMARTree group.

These results may be explained by the fact that there is a great deal of vocabulary and expression learning. Students were continually given feedback and encouraged to repeat and improve upon their English which may explain why bottom-up reading tasks saw the greatest improvement.

Strong improvements for lower-achieving student could be explained by the fact these students tend to have a lower self motivation and that the consistent feedback of the program may have contributed to the improvement of this.

Perhaps most notable were the significant gains in both post-test results and increased motivation and satisfaction for learning that were observed in the SMARTree group. The SMARTree developers feel that in a world where standardized test scores are quickly taking precedence over student enjoyment and satisfaction, a program that not only contributes positively to students' educational and emotional wellbeing is a positive step in the right direction—and this is all made possible by integrating a carefully-constructed and methodologically sound English language learning program.

MORE INFORMATION

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