The effect of learner's characteristics and teacher's character on perceived academic achievement In SMART learning environment

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Abstract: To enhance learner's competency for 21st century Smart Education has been introduced in Korea. In the environment of Smart Education, diversified teaching methods are utilized using smart devices aggressively. This research would aim to discover the impact of learner's media-literacy, self regulated learning skill, collaboration preference and teacher's support for autonomy on the perceived academic achievement of grade school students in the smart education environment. The subjects of this study are about 21 grade school students who had received at least one semester SMART education with one-to-one device or individual smart device. After conducting a survey, the data being collected will analyze correlation to identify relationship among learner's characteristic and teacher's characteristic and perceived academic achievement. In addition, the predictive factors that determine the significant relationship analyze to identify the impact of perceived academic achievement by regression. As a result of regression analysis, the factors which influence on the recognized learning achievement are Teachers' support for autonomy, media literacy and self regulated learning, collaboration preference in regular sequence.

Keywords: *SMART education , Media Literacy Skill, Self-regulated Learning Skill, Collaboration Preference, Teacher's Support for Autonomy*

INTRODUCTION

Research Background

"SMART Education" in Korea was introduced in 2012, is the policy of raising the competence of learners in the 21st Century, based on the constructivist learning environment. SMART education is learner-centered instruction to the learner to actively participate in the learning. Learners receive the help of others by taking advantage of the smart devices, share the learning outcomes with others.Smart education features constructivism and differs from conventional teaching method which is unilateral and the Information communication technology is employed as a mean of assistance. Thus, detailed teacher and student's characteristics of new learning environments that would influence on academic achievement should be investigated.

Purpose of research

The purpose of this study is to examine the impact of the learner's characteristics and teachers' characteristics on the perceived academic achievement of grade school student in the SMART learning environment. Based on the characteristics of the SMART education environment's instruction, sub-factors consisted of media literacy, self-regulated learning and collaboration preference, and teacher's support for autonomy. The four factors are identified as factors that may affect academic achievement in e-learning and ICT learning environment, but there is a need to study the impact, such as in the new SMART Education learning environment.

RESEARCH QUESTION

The research is guided by the following question.

- Media-literacy, self regulated learning skill, collaboration preference and teacher's support for autonomy are related to recognized learning achievement of grade school students meaningfully?
- What is the biggest impact on the recognized learning achievement of grade school students among Media-literacy, self regulated learning skill, collaboration preference and teachers' support for autonomy?

RESEARCH DESIGN

Subjects

The subjects of this study 166 grade school students who had received at least one semester SMART education with one-to-one device or individual smart device. As smart education has not propagated broadly so the web-survey has been conducted for the students who have been educated with smart education method implemented from the teacher in classes.

Instruments

The survey instruments are used to convert the research, the selection of appropriate survey tool in the study of the existing. In order to verify the reliability, we verified the tool form two of grade school teachers and two professors of educational technology faculty then we conduct a pilot survey of the 21 students at Seoul grade school. As a result, we excluded 3 of the questions that have less relations with others in media literacy. The exact result is as follows.

Variables		Reference	Origin	Cronbach'α
learner's characteristics	Media literacy	Ahn, J. I.& Seo, Y. K., Kim, S. (2012)	Choi, D.J. (2009), Bazalgette(1989), Han, J. S.(2006), Kim, K. S.(2010), Ofcom(2003), Jenkins(2006), Ahn, J. I.(2010), Choi, D. J.(2011)	.919
	Self-regulated	Suh, H. J. (2001)	Pintrich & De Groot(1990)'s	.929

	learning		SRLS(Self-Regulated Learning Strategies)	
	Collaboration preference	Lee, Y. & Kim, T., Kim, J. (2006)	Vermunt(1996)'s Learning together of ILS(Inventory of Learning Style)	.956
teacher's character	Teacher's support for autonomy	You, J. (2011)	Williams & Deci(1996)'s LCQ(Learning Climate Questionnarie) for Perceived Autonomy Scale	.976
Perceived academic achievement		Lee, E. H. (2012)		.835

Analysis

After conducting a survey, the data being collected will analyze correlation to identify relationship among learner's characteristic and teacher's characteristic and perceived academic achievement. In addition, the predictive factors that determine the significant relationship analyze to identify the impact of perceived academic achievement by regression.

RESULTS

We conducted a regression analysis since there was no problem with multicollinearity. As a result of regression analysis, the factors which influence on the recognized learning achievement are Teachers' support for autonomy, media literacy and self regulated learning, collaboration preference in regular sequence.

	perceived academic achievement(1)	**media literacy(2)**	**self regulated learning(3)**	**collaboration preference(4)**	**teachers' support(5)**	***B*[a]**	**β[b]**	***R*²**
1	1.000	.541	.536	.335	.558	.910		.463
2	.541**	1.000	.596	.271	.381	.319	.297**	
3	.536**	.596**	1.000	.249	.561	.145	.142*	
4	.335**	.271**	.249*	1.000	.279	.106	.127**	
5	.558**	.381**	.561**	.279**	1.000	.302	.330**	
*p<.05, **p<.01								

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