Using Self-Regulated Learning Strategies to Enhance the Effectiveness of an Online Course in Emergency Remote Teaching

Serhat Bahadır KERT1, ORCID number: 0000-0002-1093-6326, sbkert@yildiz.edu.tr
M. Fatih Erkoç 2, ORCID number: 0000-0002-8278-2805, mferkoc@yildiz.edu.tr

Mohamed Ibrahim3, mibrahim1@atu.edu

Rebecca Callaway4. rcallaway@atu.edu

1Yıldız Technical University, TURKEY, 2 Yıldız Technical University, TURKEY,

3 Arkansas Tech University, USA , 4 Arkansas Tech University, USA.

# Abstract

The covid-19 pandemic has negatively affected educational efforts all around the world. In many of the countries, restrictions put to face-to-face education were directed educators to use alternative instructional models such as Hybrid or online courses. Consequently, in many countries, the rate of online education has significantly increased. With the widespread use of online education, it has been observed that students had some difficulties in keeping up with this process. Because, They have been expected to organize their studies and intrinsic lesson motivations individually. Essentially, these individual features are mostly related to the self-regulation skills of the students. The self-regulated learning (SRL) process, refers to an active and constructive process in which the individual tries to adjust his/her behaviors, metacognitive competence and motivation, directs and limits his/her goals according to environmental effects (Bandura, 1994). In the literature, it can be seen that Students, having self-regulated learning skills can develop their own strategies to be able to reach academic success. The correlation among individuals' SRL skills and pedagogical growths has been studied for many years by researchers. Using SRL strategies effectively are among the main indicators showing the academic success of the students in an online learning environment. But, in the Covid-19 pandemic, well-planned online education environments has been transformed to "Emergency Remote Teaching (ERT)" classes. Therefore, using SRL strategies in an online course as a part of ERT can show us different results than using them in an online course given in regular conditions. In this study, the effectiveness of using SRL strategies in an online course was investigated regarding the new conditions brought out by ERT. Students attending the department of computer education ad instructional Technologies of Yildiz technical university in the fall term 2020-2020 academic year participated to the research. This study was designed as a within-subject model. It was aimed to examine the effect of SRL activities to university students' pedagogical growth. There are two hypotheses of the study: (1) The weekly-conducted SRL activities significantly enhance students' SRL skills. (2) SRL skills of the students are significantly correlated with their academic performance. The strategies of within-subject design were used in the research. The class of Information Technologies in Education was selected and 41 students of the class learned the content with the support of Self-regulated learning activities. A survey getting demographic features of the student, a SRL survey adapted from the Motivated Strategy for Learning Questionnaire (MSLQ) (Pintrich et al., 1993) and academic performance assessment materials were used as data collection tools of the study. Findings showed that students' SRL skills developed significantly during the course process. it was found there was an important correlation between final course scores and self-efficacy scores of the students(p<.05). Multiple linear regression analysis was conducted to develop a model predicting students' course scores. It was seen that 32% of the variance in the dependent variable was significantly accounted for by the predictor model (p<.05). Additionally, individual predictors were examined. The result indicated that the students' self-efficacy is the main predictor of students' course scores (t = 2.488 ; p < .05). The reasons underlying these findings were discussed and recommendations were developed for future educational efforts.

**Keywords:** *Emergency remote teaching, Self-regulated learning, Online learning.*