

A final analysis of SLA-aBLE, Second Language Acquisition applied to a Blended Learning of programming languages

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Extended Abstract

SLA-aBLE, Second Language Acquisition applied to a Blended Learning of programming languages, is an engineering education pilot study that started in 2014 and came to an end in December of 2017. The project had the objective to improve student's learning experience of a programming language class by applying second language acquisition techniques to make the process more comprehensive and interactive for students. This method was implemented in multiple-sections of a freshman-level programming language study course, Introduction to Computing for Engineers at Embry-Riddle Aeronautical University for two years. This course is a hybrid learning, which implies all video lectures take place online and lab time is for misconception clarification and teamwork. This poster will collect information about the project, its progress, and more specifically the two-year data collection and analysis.

The general information data collected for the analysis included demographic information, SAT/ACT scores, cumulative GPA and the final letter grade in the class. No statistically significant differences were found between the SLA and Non-SLA sections in this respect, except regarding the final letter grade. Surveys were also carried out which discussed the amount of frustration, enjoyment, effort employed, etc., regarding different exercises. These were carried out at different times and some differences were noted while analyzing the responses of both SLA and Non-SLA sections. The video lectures were distributed using the online portal EdPuzzle. The data collected from EdPuzzle is also currently being compiled and analyzed. This will include the amount of time students spent watching the online videos and taking the embedded quizzes, as well as the times a section of the video was replayed.

This poster will also include a summary of the objectives that were set for the project and its implementation in year one and how they have been carried out and reflect on the results obtained in year two. Further improvement of the project and implementation to other environments, such as K-12 programming courses, will be also illustrated.