Abstract

Learning computer programming is a prominent issue in the fields of computer science and education. This paper is an attempt to address this issue by investigating the experiences of undergraduate university students who studied computer programming. A total of 260 computer science and engineering students (210 males and 50 females) were recruited from three geographically distant campuses. They were surveyed with a questionnaire that exhibited good internal reliability. Eventually, a learning model emerged from the data. It consisted of three independent structures that included most of the study times under focus. The study times creatively and dynamically interact stimulated by learning needs and sustained by learning passion. In addition, while some indices of confirmatory factor analysis indicated that the learning model is an adequate fit, others suggested that it needs improvement, which should be considered by future research.


**Index Terms**

Computer Science  
Information Sciences

**Keywords**

Learning computer programming  
Higher education  
Educational environment