**Undergraduate Students' Experiences in Programming: Difficulties and Obstacles**

Programming is one of the basic competencies that students should have in many departments such as in engineering, in computer education and instructional technologies, and in computer science. According to Lau and Yuen (2011)

programming tools are considered as powerful tools with which students can solve problems by editing, analyzing, evaluating and explaining their thoughts clearly (diSessa & Abelson, 1986).

There are many factors affecting the programming success. Recently, there has been a trend related to the discovery of the predictors of programming skills and the cause of the failure in programming courses (Ferrer-Mico, Fernandez & Sanchez, 2012; Hwang et al., 2012; Shaw, 2012; Lau & Yuen, 2011; Lau & Yuen, 2009; Sivasakthi & Rajendran, 2011; Hawi, 2010; Jegede, 2009). academic achievement and mathematic performance (Lau & Yuen, 2009; Ambrosio et al., 2011) and problem-solving skills (Yurdugül & Aşkar, 2013; Fessakis, Gouli & Mavroudi, 2013).

Learning a programming language is a difficult process that requires quite a long time. Especially undergraduate programming courses are perceived as difficult by students who have basic programming knowledge because it often requires higher-order thinking skills (Tan, Ting & Ling, 2009). Studies indicate that the majority of students have difficulties in learning programming languages (Ambrosio et al., 2011; Hawi, 2010; Aşkar & Davenport, 2009).

Students’ views regarding the difficulties they faced in programming were gathered under four sub- themes which were named as “understanding semantics of the program”, “debugging”, “programming skills”, and “programming knowledge”