Formative Assessment in an Introductory Python Programming Course

Authors : María José Núñez-Ruiz, Luis Álvarez-González, Cristian Olivares-Rodriguez, Benjamin Lazo-Letelier

Abstract : This paper begins with some concept of formative assessment and the relationship with learning objective: contents objectives, processes objectives, and metacognitive objectives. Two methodologies are describes Evidence-Based teaching and Question Drive Instruction. To do formative assessments in larges classes a Classroom Response System (CRS) is needed. But most of CRS use only Multiple Choice Questions (MCQ), True/False question, or text entry; however, this is insufficient to formative assessment. To do that a new CRS, call FAMA was developed. FAMA support six types of questions: Choice, Order, Inline choice, Text entry, Associated, and Slider. An experiment participated in 149 students from four engineering careers. For results, Kendall's Range Correlation Analysis and descriptive analysis was done. In conclusion, there is a strong relation between contents question, process questions (ask in formative assessment without a score) and metacognitive questions, asked in summative assessment. As future work, the lecturer can do personalized teaching, because knows the behavior of all students in each formative assessment

Keywords : Python language, formative assessment, classroom response systems, evidence-Based teaching, question drive instruction

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