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How do they understand? Practitioner perceptions of an object-oriented program

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Abstract

In the computer science community, there is considerable debate about the appropriate sequence for introducing object-oriented concepts to novice programmers. Research into novice programming has struggled to identify the critical aspects that would provide a consistently successful approach to teaching introductory object-oriented programming. Starting from the premise that the conceptions of a task determine the type of output from the task, assisting novice programmers to become aware of what the required output should be, may lay a foundation for improving learning. This study adopted a phenomenographic approach. Thirty one practitioners were interviewed about the ways in which they experience object-oriented programming and categories of description and critical aspects were identified. These critical aspects were then used to examine the spaces of learning provided in twenty introductory textbooks. The study uncovered critical aspects that related to the way that practitioners expressed their understanding of an object-oriented program and the influences on their approach to designing programs. The study of the textbooks revealed a large variability in the cover of these critical aspects.

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Ethics Committee Approval Statement

This project has been reviewed and approved by the Massey University Human Ethics Committee, Wellington Application 05/69. If you have any concerns about the conduct of this research, please contact Professor Sylvia Rumball, Chair, Massey University Campus Human Ethics Committee: Wellington, telephone +64 6 350 5249, email humanethicswn@massey.ac.nz

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