

Transition from C++ to JAVA – Waiariki Experience

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1 Introduction

The Introductory Programming course in the Bachelor of Computing Systems programme at the Waiariki Institute of Technology was taught using C++ for several years. Java is a pure Object Oriented programming language in which the procedural nature is almost non-existent. Hence, Waiariki had to find a suitable way of delivering this course using Java. The Mental Model (Schulte & Bennedsen, 2006) was adopted to impart the programming concepts to students at introductory level.

While delivering the course, an action research technique was adopted to obtain frequent feedback from the students to enable proactive actions to deal with their concerns. The course tutor discussed the progress of teaching and learning with the students and kept records on weekly basis. These discussion outcomes enabled the tutor to make changes to the delivery plan of the course in the subsequent weeks.

2 Cyclic Review Process

A tentative delivery plan was prepared prior to the delivery of the course and reviewed weekly while teaching. In order to review the delivery plan on weekly basis, we used an action research method using a reflective journal. Brief weekly discussions with the students during the practical sessions were documented. The outcomes of the discussions along with the general comments which require review actions were, recorded in the reflective journal. This cyclic review process was carried out every week.

The feedback from the students was used to make necessary changes to the rest of delivery plan (Figure -1).

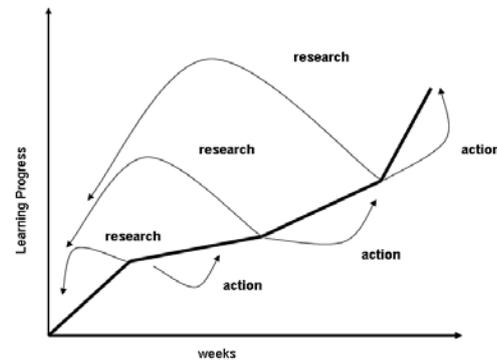


Figure 1: Cyclic Review Process

3 Findings

Waiariki achieved 76% pass rate in Introductory Programming course using Java in 2006. The major contributing factor for the success was the use of a cyclic review process and taking prompt action for necessary changes to the delivery plan.

4 Conclusion

The use of a Mental Model with the aid of graphical teaching tools for teaching Introductory Programming has been successful at Waiariki. The frequent feedback from students and taking necessary prompt action to fulfil their needs (cyclic review process) is vital as the teaching strategies need slight changes for different groups of students.

5 References

- Schulte, C. & Bennedsen, J. (2006)
What do teachers teach in introductory programming?
Proceedings of international workshop on Computing education research (pp. 17-28). Canterbury: UK.