Using JAVA language in teaching introductory programming

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1 Introduction:

Waiariki Institute of technology changed the programming language used in teaching introductory programming from C++ to JAVA in the Bachelor of Computer Systems (BCS) programme this year. This research was aimed at collecting and summarising information about the students' experience, knowledge and awareness of computer programming languages prior to joining our programme. In addition, students' comments about the JAVA language, after learning JAVA for six weeks, were collected and summarised. The findings of the research would be useful for future improvements in teaching JAVA.

2 Methodology

A questionnaire was used to collect data from students who are on the introductory programming course using java language. The questions about the prior knowledge or awareness of programming languages had "yes" or "no" answers. The questions about adequacy of the exercises given, tutor assisted exercises, time to complete exercises and how useful the text book was, had five options for students to choose from. They are "strongly agree", "agree", uncertain", disagree", and strongly disagree". The data collected from the survey was summarised and analysed using a spreadsheet in order to find some useful information.

3 Findings

Prior knowledge of computer languages

The percentage of the students, who were aware of programming languages prior to joining the courses, was 40%. About 19% of the students were aware of the JAVA programming language. The percentage of students who had some experience in JAVA was 6%. About 25% of students had some programming experience in one or more computer languages.

On the sixth week of the course, students comments

Is JAVA an easy to learn?

Almost all the students who were not aware of any programming prior to this course believed that JAVA is a difficult language to learn. The rest of the students had varied opinions.

Usefulness of tutor assisted exercises

About 80% of the students, who were not aware of programming, believed that more tutor assisted practical exercises would have helped them in understanding JAVA better.

Is the time factor an issue for learning programming?

Almost all the participants in the survey, who were absolutely new to programming, believe that they could have understood the JAVA language better if they had more time to complete all the exercises given to them.

Was reading the text book helpful for them to understand JAVA?

Majority of the class found that reading the text book wasn't helpful for them to understand JAVA.

4 Conclusion

JAVA is a difficult language to understand for absolute beginners in programming. They need more tutor assisted exercises and also more time to complete the exercises.