Chapter 19

A Comprehensive Approach to Teaching Visual Basic Programming

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Visual Basic (VB), a graphical user interface (GUI) application and object-oriented program, has been adopted as an entry-level programming course in computer information science curricula at many colleges. Compared with “C,” Pascal, or other traditional teaching programs, VB is rather a new subject in the field. Correspondingly, studying effective approaches to teaching VB has brought tremendous interest in academic communities. The author has primarily taught VB as a college course for several terms, and he began his new comprehensive VB teaching approach described by this article in 1998. After a three-semester trial period, the VB course outcome is encouraging. This article is dedicated to documenting the comprehensive VB teaching approach and serves as a summary report for future improvement. This article first introduces the background of the VB course taught in the author’s institution. Secondly, it briefly outlines previous teaching approaches and describes the newly implemented one in detail. Then it examines existing course questions and proposes future revisions by studying the results of this new teaching approach. Finally, a summary is given to call for more research.
INTRODUCTION

VB was chosen to be taught for course CS238 titled “Graphical User Interface Application Development” because of its popularity in industry and its excellent presentation in object-oriented programming and GUI applications. CS238 is a required foundation course for computer information systems students. The CS238 class usually has thirty students with a diverse computing background. Many students have full-time non-IT jobs and return to make career changes. A portion of students work for the college IT division and are familiar with school computer systems. Only 3 to 5 students currently are programmers. None or very few students learned VB before. The prerequisite of CS238 is CS220, “Introduction to Programming Using Application Software,” or CS231, “Foundations of Computing II.” CS220 teaches Access and CS231 studies Java. The prerequisite ensures that students possess either basic programming concepts or familiarity with the GUI operating environment. The textbook for CS238 is An Introduction to Programming Using Visual Basic 6.0, by David I. Schneider, published by Prentice Hall. It’s well-written and straightforward for both instructors and students to follow. Each chapter is accompanied with one case study, and a learning version of VB compiler CD-ROM is included in the book.

PREVIOUS TEACHING APPROACH

Prior to 1998, CS238 was a lecture-dominated course. A wide range of content in each chapter was covered by the lecture, and many textbook examples were reiterated. Programming projects were assigned after class and students did projects in non-class time. There were neither writing nor group assignments. Students’ grades depended heavily on three written tests. Most students had proposed the following questions after their taking CS238: Can we practice more real world VB programming projects? Can we have labs within the class time? Can we give more weight to projects for final evaluation? Can we have a more instructor-student interactive teaching style?

NEW TEACHING APPROACH

This comprehensive approach was initially implemented in Fall, 1998 and continued through Summer, 1999. The work incorporated students’ evaluation, department curricular updates, and faculty member input.

Lecture

The class is divided into lecture and lab evenly. At the first class, students hand in their own information sheets, including what specific topics they are interested in learning, previous programming skills, computing background, job natures, etc. They introduce themselves to the class following my own introduction. Twenty
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