INTRODUCTION

eCommerce educators and researchers are increasingly incorporating experiential learning into their courses (Gunasekaran & Ngai, 2004). This approach to eCommerce education is underpinned by theories which describe learning as a cycle of experience, feedback and reflection — abstraction and application of this learning — which in turn results in new experience (Dewy, 1910; Lewin, 1951; Kolb, 1984). Experiential learning therefore actively involves participants (Hoover & Whitehead, 1975) and gives students opportunities to challenge their current knowledge and to reflect on their experiences in order to learn.

Examples of recent research into experiential approaches which provide students with practical eCommerce experience include: collaborative learning which results from such activities as online discussions, tutorials and group work using asynchronous discussion boards and email, and real-time audio streaming and chat rooms (Joia, 2002; Ijab & Anwar, 2004); and internships in which students work in real organizations to apply their theoretical and practical coursework skills in real situations (Holt et al., 2003; Minch & Tabor, 2003).

Complementary experiential approaches which attempt to engage students actively with eCommerce tools (such as electronic payment systems), principles and concepts (such as supply chain management) include interactive role-playing eCommerce simulations. Early examples included EDI simulations in which students adopted the role of organizations in a supply chain (such as component builders and manufacturers) and traded with each other by exchanging transactions (such as orders and despatch advices) in EDI format (Parker, 1993; Wagenaar, 1992; Wrigley, 1993). These role-playing simulations enabled students to see first-hand the efficiencies which can be gained from eCommerce-enabled supply chains.

More recent approaches include web-based eCommerce simulation architectures which enable educators to design new supply chains and to configure their own simulations for multiple players (Parker & Swatman, 1999, 2001; Cheng et al., 2004). Designing supply chains typically involves specifying the company types (e.g., toaster manufacturers, metal component builders) and company types which can trade with one another, and then assigning students to instances of each company type. The architectures also enable educators to evaluate
student performance and to select the eCommerce elements (e.g., email, EDI) and document types (e.g., warehouse invoices) they will use in the simulation.

This existing eCommerce simulation research has investigated the effectiveness of this approach for teaching supply chain management principles, tools and techniques. What is not clear is whether business simulations are an effective means by which to teach other eCommerce technologies and principles such as electronic payment systems, customer relationship management, knowledge management, eCommerce models, etc. Khara’s (2003) work on an online experiential credit card payment simulation is a notable exception, but there are many opportunities for more research in this area.

The existing eCommerce simulation architecture research suggests that such platforms are time-consuming to develop, maintain and update given the rapid evolution of eCommerce technologies. For this reason, the simulation architectures tend to focus on particular domains (such as supply chain management) and on providing educators with a platform to develop simulations which provide students with opportunities to experience eCommerce principles which tend not to change. For instance, the principle of application-to-application exchanges of structured transactions will always be central to eCommerce, while the specific standards, technologies and approaches to achieve this do change — sometimes year-to-year.

Additional disadvantages of these sophisticated, highly flexible simulation architectures include the reluctance of eCommerce educators to use them, except the original developers! Reasons include the efforts required by educators to set up, configure and monitor the simulations, and the difficulties educators have focusing students’ attention on a single eCommerce principle when the role-playing can addresses many principles at once. Further, the architectures need to incorporate automated roles (such as banks, transport companies, buyers and sellers) (Parker & Swatman, 1999; 2001) so that educators have the option of designing single-player simulations for distance education students — especially those students who prefer independent, self-paced learning such as part-time postgraduates.

Research is therefore needed to explore complementary approaches to simulation architectures which address their disadvantages and which also achieve the benefits of experiential learning. One possibility includes investigating the applicability of web-based experiential learning modules which: are interactive and independent of each other so that they can be added and removed as the eCommerce landscape evolves; are relatively quick to develop so that educators can respond to rapid changes in eCommerce; are focused a single eCommerce technology or principle so that educators can refer students to specific modules; and are immediately ready to use so that educators do not need to register students nor configure the simulation. These advantages might result in the use of such learning modules.

With many students now undertaking eCommerce programs and courses online by distance, it will also be important that the web-based learning modules work efficiently over slow Internet connections for students who might be using low bandwidth dial-up connections. Further, they must also incorporate instructions and descriptions which lead these students through the modules because students will not have real-time educators.

This research into web-based eCommerce learning modules can take various forms, ranging from: technical projects examining the use of different web development technologies (such as cascading style sheets, XML and Flash) to streamline the development of the eCommerce learning
modules; to studying which eCommerce principles lend themselves to web-based experiential methods of teaching; and to investigating improvements to student learning of eCommerce when using these modules.

REFERENCES


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