Using Case-Based Reasoning and an Ask System to support Small Business Development Education

Camille Dickson-Deane
Holly Henry
Gordon Graber
Andrew Tawfik

University of Missouri,
School of Information Science and Learning Technologies
111 London Hall, Columbia, MO, 65211

Abstract: This paper discusses the design of a self-paced distance education course targeted at prospective small business owners. Originally derived from a traditional lecture course, the design includes the use of an Ask System and narrative cases to provide the learner with a sense of dialog while at the same time allowing the learner to direct his/her own learning process.

Key words: small business, self-paced, online learning, case-based reasoning, Ask system

Introduction

This paper represents the culmination of the authors' effort to move a traditional (i.e. face-to-face), small business development course to an online environment. The environment utilizes an Ask System incorporating Case Based Reasoning (CBR) for the Missouri Small Business Technology Development Centers (SBTDC). The paper explicates the design rationale and suggests the next steps in the implementation and testing phase of the project.

SBTDCs offer a variety of continuing education to persons who are at different stages of having their own small business i.e. those pursuing, already building or even those who have been in business for quite a while. What is unique about this service is the diverse population it serves; mainly adults whose common interest is either starting or maintaining a small business. Knowles' (1984) theory of andragogy identifies that, in order for adults to be successful in acquiring any knowledge, they must be interested in the topic; the knowledge activity needs to be problem-centered; and most importantly, learners must make their own mistakes through having experiences. This SBTDC course allows the learner to explore questions by modeling mistakes and successes of other entrepreneurs in similar situations.

The Ask System is modeled using Schon's (1983) theory of reflection-in-action and allows non-traditional learners the opportunity to identify the criteria for starting a successful business. This is achieved by assisting the learner to determine what s/he knows and needs to know in order to be successful. The Ask System provides the cognitive hooks through which learners identify the relevant procedures, practices and knowledge necessary to start, develop and maintain a successful business. This foundational knowledge is internalized through a series of stories that illustrate how others in similar situations dealt with the issues surrounding the questions. Jonassen and Hernandez-Serrano (2002) propose that CBR is an apt instructional strategy for introducing learners to the skills necessary to solve complex and ill-structured problems. These problems are typical of those that small business entrepreneurs face in their endeavors.

Business and Educational model

Many models have been proffered to understand the concepts that lead to successful entrepreneurship. Because little consensus exists among the researchers as to the correct model, it is difficult to teach these concepts to learners. Morris, Schindehutte, and Allen (2005) developed a model that attempted to synthesize nearly 18 entrepreneurship models published within the field. The authors note that decision points in entrepreneurship can be identified on three levels: foundation, proprietary, and rules. The foundational level consists of general questions that address the basics decision points of business ownership. The proprietary level allows the individual to combine certain decisions in order to identify a market niche and gain a market advantage. The rules level consists of guiding principles regarding execution of decisions. The foundation level was the primary guide for this course design and it was also, along with the rules level was embedded within the stories used in the course.

Method

Prior to commencing work on the design, the authors met with management at the SBTDC to establish the overall design goals for the project. The primary design principle which was agreed to by all of the project team was to create the course with a problem-centered focus. This design would allow learners to gain knowledge from the actions of characters established in narratives designed to illustrate the foundational knowledge. This knowledge comprised of the learning objectives of the face-to-face course while at the same time exposing potential pitfalls that entrepreneurs commonly face when initiating startups.

After establishing these design goals, the design team worked with a group of subject matter experts (SMEs) from the client SBTDC, all of who had previously taught a face-to-face version of the course that was to be developed. The SMEs were asked to narrate stories about current and past clients, describing both successful and unsuccessful startup attempts.

The decision was made to structure the course using the narratives from the SMEs to answer questions in an Ask System. The Ask system questions were initially derived from the business and educational model described above and honed using both themes that emerged from the narratives and further input from the SBTDC SMEs. By using an Ask system, the learner is allowed to advance through the course material in a non-linear fashion. This addresses the adult learner's need for self-directed learning (Knowles, 1984). In addition, by using questions as navigation, the dialog a learner might have in a one on one session with an SBTDC counselor as well as the way in which the learner needs to think in order to successfully complete the process of starting a new business are both modelled.

Conclusion

As of this writing, the course is in the final review stage. Prior to deployment, user testing wiil be performed using past and prospective clients of the SBTDC to establish the viability of the Ask System as a navigation structure for the course. A possible plan to assess learning outcomes from the design once the course has been deployed is also being developed. Such an assessment will allow for the testing of the efficacy of the Ask System as an instructional design strategy for self-paced distance education products targeted toward non-traditional students.

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