Using SimVenture in Computer Science & Information Systems Management

Description: This is a case study based on an interview with Helen Southall, Senior Lecturer in the department of Computer Science and Information Systems at the University of Chester on 22 July 2014.

Course/subject: Computer Science / Information Systems Managements
Type of student: Undergraduate Final Year Students   **Number of students**: Approximately 30

Why use SimVenture?
SimVenture was previously used by a colleague in the department; on their retirement, Helen took over and developed the materials. She and her students have been using SimVenture for three years as part of a range of Computer Science and Information Systems degree courses.

How was SimVenture used with students?
SimVenture was used with final year undergraduate students specifically in the project management course. The educator implemented the software with her class in group sizes of at least three and no more than five. A site licence was purchased, so that the software could be used across the institution. Students are also told that they can purchase a personal copy from SimVenture to use on their domestic laptops but most just use facilities within the institution. The students have one week to get used to SimVenture and then six weeks to go through the three year start up scenario. The only starting condition set was a £20,000 business start-up budget. The students were then allowed to change any other variables but they did have to manage their business for three years. Due to the elements of randomness built into the game, the student groups have diverse outcomes almost from the outset, which teaches the students that you cannot simply copy another group's work and decisions.

Impact on students: The detail of the software was impressive and the students appreciated the realism of the simulation straight away. Their eyes were opened to the many procedures and amount of effort that are needed to run a business, which was a side of business that they have not been introduced to before and to applying theory into practice.

> "It's a game; it's a simulation; it's something that forces you to be involved that you actually care a bit whether it works or not."

The software broadened the students' horizons as they realised that there were more job opportunities available to them in setting up a business (for example: central HR functions).

How was it assessed?
The module containing the simulation is split into two parts, focusing on Business Management and Project management. SimVenture is used in the Business management section as a more engaging alternative to getting students to create business plans (e.g. in Excel). The students are not marked on how much profit they generate, but on two written assignments, with screenshots to evidence their work. The assignments consist of one individual report to demonstrate learning about business ideas and practices (this accounts for a higher proportion of the mark), and one group assignment focusing on teamwork issues and the actual progress of that team's simulation.

Student feedback: The students particularly enjoyed the team working aspect, and taking different roles within the team. Each team required a chair, along with people to take charge of finance, HR, marketing and operations. One person could take on more than one role, or a role could be shared between several people. Most of the work within the Computer Science degree course tends to be individual, so students' appreciated the learning experience afforded them by group work. Initially, a few students disengaged from the game as they were not used to gaming in a learning environment (i.e. experiential learning using a computer game). Other students were reluctant to take risks within the simulation. To solve this problem the students had their team members to cooperate with, and if one of the members was not confident in making a decisive action, then the other group members were able to step in and take the responsibility. The realism of the simulation has given the students confidence in running their own business, and even involved students to the extent that some of them worried about their income within the game.

Educator perspective: Using SimVenture allows the students to gain an idea of the different sides of business even if they are not going to be expert in all aspects. It throws everything at them all at once, exposing them to things like budgeting, cash flow, legal regulations, Health and Safety issues and so on, so that they have an appreciation of why they need to fill in forms and comply with regulations. The simulation teaches them that there are consequences to non-compliance of this aspect of business. First impressions were that it was a great idea, but the help function in the game was not that good. It took the first year to work out what its' strengths and weaknesses were but even so the students had a great time with it. The educator thought it would be beneficial to have a sort of 'Cheat Sheet' to support them in class to direct the students to the right aspect of the simulation. Because the lecturer is not using the simulation full time they are aware that they will be missing out on activities and areas in the simulation that are really good.

How was using SimVenture evaluated?
Initially, the project management material was taught in the first half of the year and then SimVenture was introduced in the second half. The educator noticed how the students 'woke up' in the second half of the module when they used SimVenture so changed the order around. The impact was that this helped students realise that what they considered boring and uninteresting minor project management tasks are crucial. This has really improved their attitude and their work rates for project management as well as their skills in estimation and planning because they realise the relevance of it.

Lessons learned:
- Keep group sizes small, but take into consideration that students could drop out of the group.
- A great way to get students involved in something that they might not otherwise find interesting, teaching students that things that appear less interesting may actually be of crucial importance.

Future work: No immediate future plans to change how SimVenture is used, but interested in exploring working with first year students in a new engineering department.

Authors: Kathrine Jensen and Daniel Yip, Teaching and Learning Institute, University of Huddersfield. SimVenture case study no.2 from the Developing Enterprising Students project. 1 October 2014