**Exploratory Learning in ViStA**

The *Virtual St Andrews Project*

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**St Andrews Virtual Worlds**

**Virtual St Andrews Cathedral**

**Laconia Acropolis Virtual Archaeology (LAVA)**

**A Virtual World Orientation for Overseas Students**

ViStA was originally conceived as a safe world environment for prospective overseas students to adjust to a new geographical region and to self-directed learning.

By building ViStA, students could:
- Meander around (a small part of) the University and town.
- View students videos, traditions etc.
- Read interesting historical notes within the college halls.
- Visit the Student Advice Centre for a variety of information.
- Meet other current and prospective students.

**Rationale:** To reduce student stress, encourage social networks and promote information finding. Also to reduce repeated questions to staff.
Project Objectives

- Ease transition to University before arrival: University has reduced time for orientations (1/3 of our students are EU/overseas, OECD state 4 million worldwide are overseas students)
- Develop a sense of familiarity and socialisation
- Reduce acculturative stressors: anxiety, loneliness
- Help with the (change of) learning strategies
- Embed good practices.
Rationales for using VWs

Pedagogical:
- Enhancing motivation/engagement
- Facilitating collaboration
- Access
- Safe environment

Institutional:
- Operating in global context
- Flexibility of provision
- Enhancing campus experience

Mayrath et al. (2008)
Savin-Baden et al. (2010)

Immersive Virtual Worlds

Immersion: The degree to which a user’s senses are engaged. The desirability & meaningfulness of user activity (Driver & Driver, 2009)

Advantages:
- High level of immersion leads to engagement
- Greater scope for collaboration

Disadvantages:
- Technology-led
- Technological learning curve for users
- Training and building costs

Savin-Baden et al. (2010)

ViStA: Data Collection

As we started to build ViStA, we asked ELT, Computer Science and IT students for their pre-arrival concerns.

Surprisingly the majority of concerns were not about their academic studies but about:
- Accommodation - What the residences provided
- Transport - how to get to St Andrews
- University Life - Social activities, St A traditions
- Day-to-day Life - buying clothes, food, laptops

Survey April 2013

Some Management students recently did a survey for an assessment and discovered that, out of 118 students:
- 34% had read no pre-arrival information (!)
- 25% had problems adapting to University life in the 1st week
- 67% didn’t know what the Students Advice & Support Centre (ASC) could help them with

This implies a large cohort of students feeling stressed or not knowing who to see or where to go. Therefore some support system, that collates and collects all information could be useful (if used).
Student Responses after using ViStA v1

Negative responses
- Content
  - "Just a bunch of links."
  - "How is it better than Google maps?"
  - "I will only use it prior to arrival"
- Technical
  - Dislike of avatar
  - World incomplete

Positive responses
- Content
  - "Really interesting to visit."
  - "Can I add content?"
- Project
  - "Can I manage the project?"

Findings (so far)
- ViStA a good vehicle for uncovering student concerns
- Students wanted to extend it for localised social networking.
- Academic concerns were of less concern for reducing anxiety.
- VWs a powerful tool to guide a student towards study readiness; if enough scenarios or exercises are developed to allow them to work at their own pace.
- ViStA usable as an informal learning tool.
- Students wanted to leave stories and videos for future students.
- Staff wanted to use it to chat to overseas & prospective students but issues of privacy need to be solved.
- Staff wanted to personalise their avatars (cats).
- In-world presence implies student cohorts self-organising.

Educational Issues Raised
- How much contextual information do students require before starting an activity, effectively how much do we lead?
- Embedding good educational practices indicates building appropriate (mandatory) scenarios for searching for references, writing styles, academic integrity issues etc.
- Educators find it hard to monitor students without having a constant presence (privacy and negation of discussion or activities)
- Without monitoring how can we assess, check collaboration, evaluate learning? Will students "just have fun" instead? Peer or report assessment may not be accurate or transparent.
- Inclusion and accessibility issues demonstrate that we must be careful of language instructions and assessment considerations as VWs are a foreign environment.

Exploratory Learning Issues
One aspect of this work was to investigate whether students follow exploratory learning patterns; Asking questions, investigating further, creating information, discussing, reflecting.

Students followed the first four during project development but reflection is still not strong in either group or individual work (Honours and Masters students).
Teaching & support in-world

- Staff have to rethink/restyle their teaching to offer valuable lessons/scenarios for students to use self-directed learning.
- Video and podcasts can be stored centrally (timed access if necessary)
- More informal learning may be used as back-up (blended learning).
- Inversion of didactic lecture approach?
- Alternative language support required.
- Personalisation issues

Sustainability

The ViStA world is growing rapidly. This month a large student based class work (Computer Science Junior Honours group project) will be added. This will cover most of St Andrews geography and allow us a base on which to build:

- Interactive avatars - AI based
- Scenarios - how to behave in a tutorial, how to open a bank account, how to make a GP appointment etc.
- Exercises - for research methods, such as using R for statistical exercises, academic integrity etc.
- Social Networks for current students to talk to prospective students.

Some 2013 MSc CS/IT dissertation students are working on AI for Non Playing Characters, language learning and building more teaching and socialising areas.

Consolidation

Within the University some units have shown great interest in adding to ViStA:

- ELT
- Library for displaying the reserve collection.
- ASC (Student Advice & Support Centre)
- Alumni groups
- Training for academic integrity
- School of Psychology are interested in doing research on student stress

External interest:

- The University of Abertay security forensics researchers are interested in building some joint in-world security scenarios for training purposes. (Use of cloud)

We will be working with research educationalists to help with the design of scenarios and learning goals.

Future Plans

Over the few months of the project we noted that there were many possible directions we could go in, employing a variety of pedagogical experiences to support students in new learning styles.

- Peer communication using VOIP (also for private conversations)
- Student-generated scenarios
- Staff generated scenarios: Academic integrity training/Use by the Advice & Support Centre/Psychological stress experiments/language learning.
- Multimodal literacy?
  => Teaching support system to empower self learning
**Conclusion**

We posit that by allowing students to self learn, perhaps using informal learning and support networks, in an organic immersive environment, we encourage and improve diverse learning strategies.

John Stuart Mill stated that “What an utter failure a system of education must be, if it has not given the pupil a sufficient taste for reading to seek for himself those most attractive and easily intelligible of all kinds of knowledge.” (Inaugural Address to St Andrews in 1865)

For reading substitute “information or knowledge gathering” and these words are still true.

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**References**


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**ViStA**

Thank-you for listening.

Any Questions?

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