



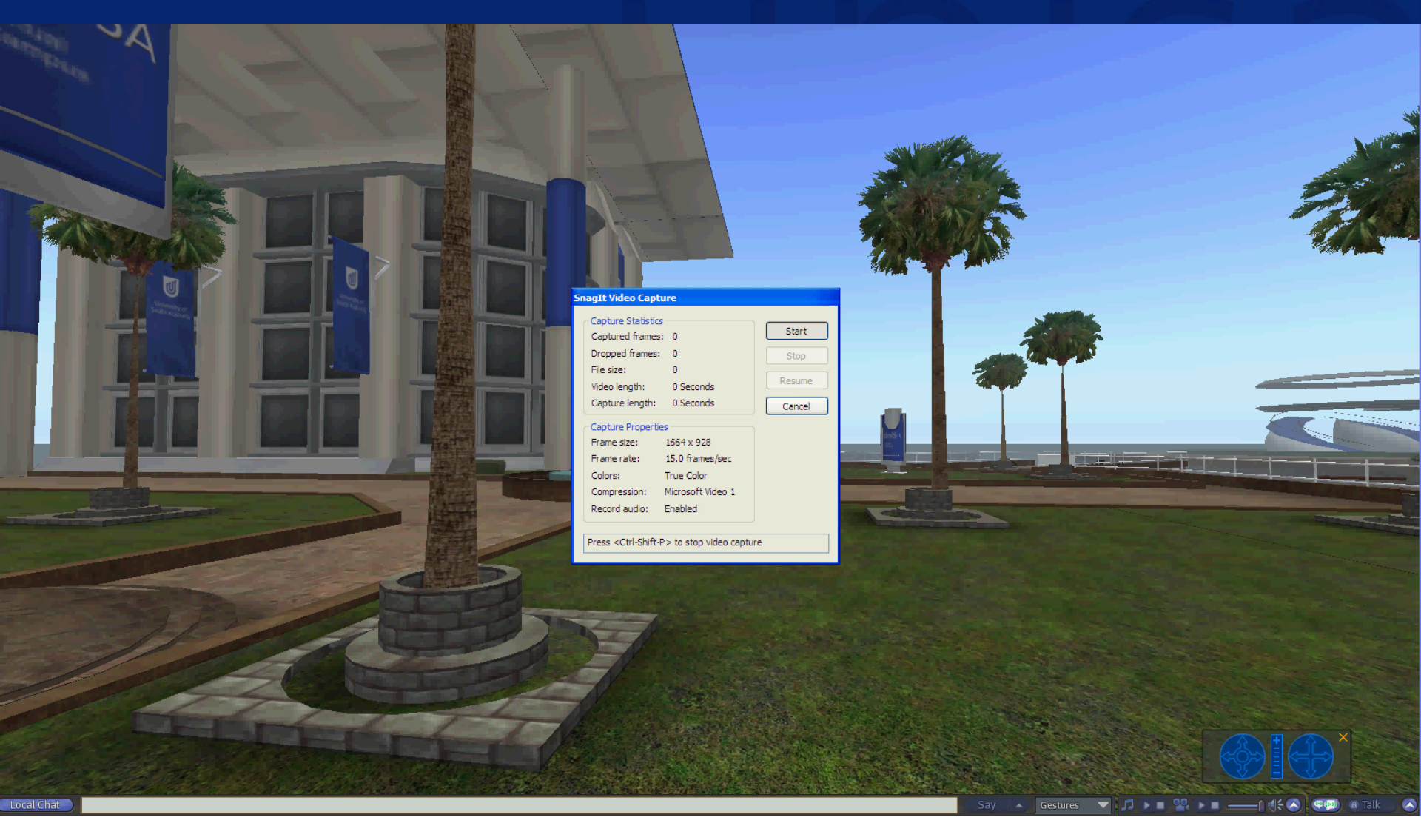
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*Facilitating the ability of graduates to articulate
their employability skills through the use of a 3D
virtual learning environment*

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Snagit Video Capture

Capture Statistics

Captured frames: 0
Dropped frames: 0
File size: 0
Video length: 0 Seconds
Capture length: 0 Seconds

Start

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Capture Properties

Frame size: 1664 x 928
Frame rate: 15.0 frames/sec
Colors: True Color
Compression: Microsoft Video 1
Record audio: Enabled

Press <Ctrl-Shift-P> to stop video capture

Closed Question

- *Question 1*- How appropriate is it to use the 3D virtual learning environment for the delivery of career information to higher education students?

Most Appropriate

☐

Appropriate

☐

Not Sure

☐

Not Appropriate

☐

Open Questions

Question 2 – What are some of the features or ideas that you like most about the 3DLE immersive virtual careers centre proposal?

Question 3 – What are some of the features or ideas that you do not like about the 3D immersive virtual centre proposal?

Question 4 – What suggestions (additions, alterations, subtractions) do you have which would improve the 3D immersive virtual careers centre proposal?

Importance of graduates being able to
articulate their employability skills

Employability skills \equiv Attributes

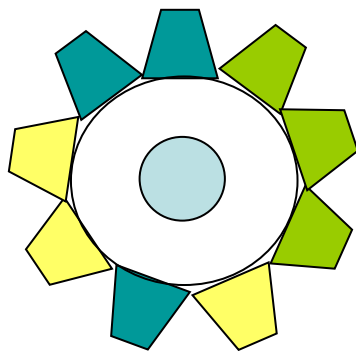
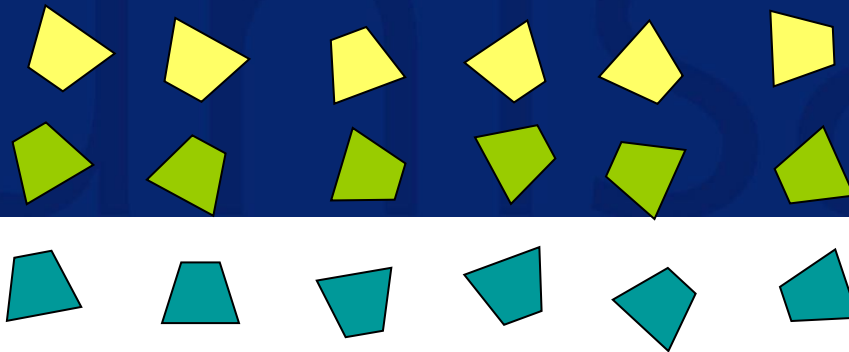
What are Attributes?

- Creativity
- Innovation
- Critical thinking/reasoning skills
- Problem solving skills
- Communication (oral and written) skills
- Collaboration
- Team skills
- Positive attitude/self-confidence
- Initiative/enterprise
- Planning and organisational skills
- and more!

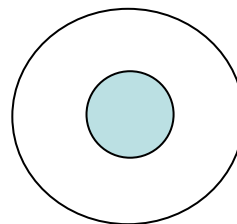
knowledge

skills

attributes



Job



Student

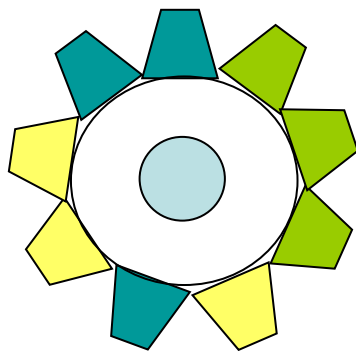
(Nankervis, Compton and
McCarthy 2006)

Readiness for employment is having the 'right'
Knowledge, Skills and Attributes for the position

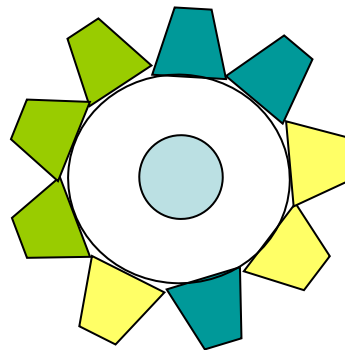
knowledge

skills

attributes



Job



Student

(Nankervis, Compton and
McCarthy 2006)

Key to successful job acquisition is the ability of the applicant to demonstrate to the recruiter one's possession of the appropriate knowledge, skills and attributes for a given position.

It is the applicant's possession of the appropriate employability skills set which is being explored during the recruitment process

(Hobsons Directory 2005; Cleary *et al* 2007)

.....and especially so at the interview stage.

(Elmer 2010)

Employability Skills and Higher Education

However, while the employability skills are promoted in higher education, “their development will be the accidental outcome of conventional teaching processes.”

(Smith *et al* 2009, p.46)

For they appear in general to be neither formally taught, nor assessed in Australian higher education institutions.

(Bridgstock, 2009; Kavanagh & Drennan, 2008)

Why the 3D Virtual learning Environment?

.... Student learning advantages using Web 2.0 and 3D virtual immersive technologies:

- development of higher order thinking (Geng 2007);
- shared learning and collaboration (Calongne 2008; Mason & Rennie 2008);
- development of communication and problem solving skills (Mow 2005);
- better academic outcomes through student involvement (Lau *et al* 2010);
- opportunities to make mistakes without real-world consequences (Savin-Baden *et al* 2010).

Constructivism

Constructivism theory provides the framework for simulation-game pedagogical approach to safe, experiential learning (Starck, 2008). However, for maximum learning to be gained, potential users need to be “engaged within the whole process of development and testing the product” (Starck, 2008 p. 787).

Aims of the Research

- **Identify** the current and potential range of Web 2.0 and 3D virtual immersive tools in use by Higher Education career services;
- **Investigate** the effectiveness of a specific group of the Web 2.0 and 3D virtual immersive tools in facilitating the recognition of and promotion of employability skills in HE students.
- **Determine** the relative efficacy of these tools in contrast with other employability skills recognition and articulation approaches.
- **Develop** a conceptual framework that identifies the primary aspects associated with Web 2.0 and 3D virtual immersive technologies and outlines their relationship to learning effectiveness.

Stages

Stage 1 – determine the appropriateness of utilising the 3DVLE as a pedagogical approach and seeking initial input into the development of the three scenarios using input from students and university staff.

Stage 2 – develop the three scenarios utilising input from employers, educators and students as to look, feel, process and activity within each scenario.

Stage 3 – pilot the three scenarios in order to fine tune their effectiveness using students.

Stage 4 – test the three scenarios against other methods of identifying and articulating employability attributes in order to determine their pedagogical and learning effectiveness.



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Proposed Tools

in the immersive 3D virtual environment

Communication – interview situation (behavioural)

(written  verbal; building up competency)

- game-like, levels, web 2.0 – resources, reflection, collaboration

Teamwork – work team meeting

(taking on different roles; goal and maintenance)

- Web 2.0 - resources, reflection, collaboration

Problem Solving – ‘relevant’ work related issue

(tackling situation from different perspectives)

- Web 2.0 - resources, reflection, collaboration

Employability Skills

“A set of achievements, understandings and personal attributes that make individuals more likely to gain employment and to be successful in their chosen occupations”

(Knight and Yorkes 2005, p. 153)

School of Communication, International Studies and Languages' in-house, 3D virtual sim (simulation) platform



Closed Question

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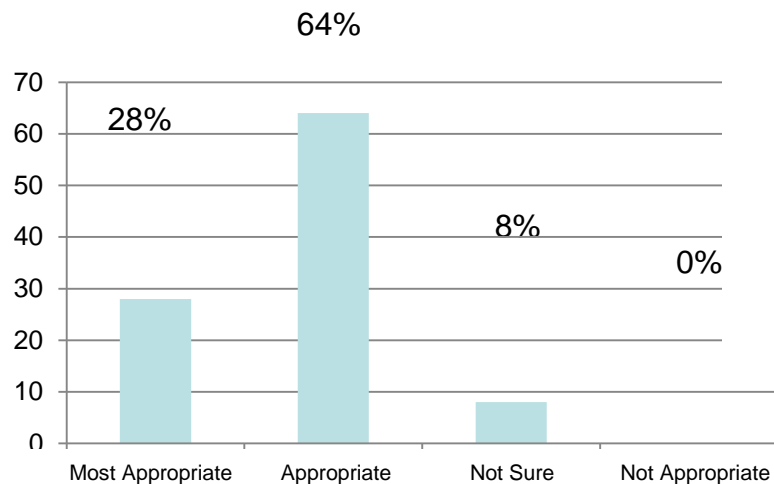
Not Sure

☐

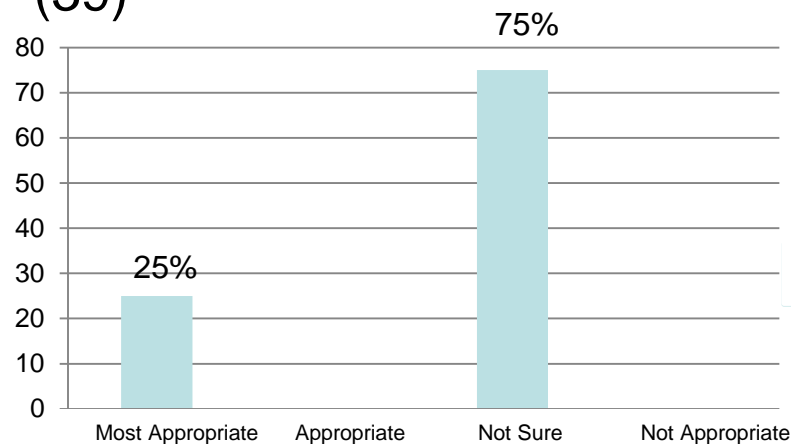
Not Appropriate

☐

Quantitative



Students (39)



Open Questions

Question 2 – What are some of the features or ideas that you like most about the 3DLE immersive virtual careers centre proposal?

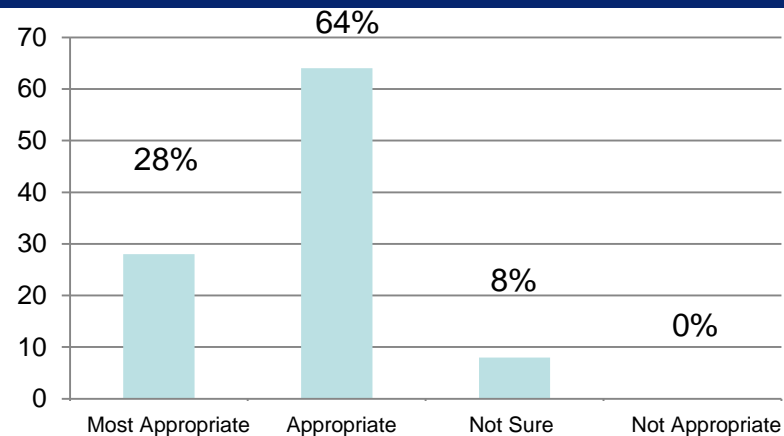
Question 3 – What are some of the features or ideas that you do not like about the 3D immersive virtual centre proposal?

Question 4 – What suggestions (additions, alterations, subtractions) do you have which would improve the 3D immersive virtual careers centre proposal?

Qualitative

Participants	Q1 Appropriate	Q2 Comments	Q3 Likes	Q4 Dislikes	Q5 Improvements
Students (62)	(39/63 – 62%) ‘most’ 28% ‘appropriate’ 64% ‘not sure’ 8%	(23/39 – 59%) Positive – majority: interactive; suitability for today’s learner, ease and accessibility of information; novelty; encouraged people to access resources; ability to explore information at own pace. Negative – minority: lacked detail; needed refinement.	(35/39 – 90%) Practise interviews; choose avatar’s outfit; online saved time and effort; fun; immediate feedback; interactive; alternative to reading; relevance to carer and interviewing	(22/39 – 56%) Animation ‘laggy’; archaic; lame graphics; detail needed improvement; computer interaction stifles spontaneity.	(25/39 – 64%) Needed more people in environment; ability to interact with other people; needs to be accessible by lower-end computers; better colour, graphics, animation; more features; non-gamers may find it difficult to navigate.
Academics (4)	(4/4 – 100%) ‘most’ 33% ‘appropriate’ – 0% ‘not sure’ – 75%	(4/4 – 100%) Very interesting; potentially useful; engaging for users of technology; pre and post measure of learning needed.	(4/4 – 100%) Access to readily downloadable resources; role play better for learning; fun; engaging; novel	(4/4 – 100%) Needs to be accompanied by traditional learning; needs to include scaffolding; not all students interested in immersive technologies; widen gap between have and have-nots.	4/4 – 100%) Needs game or reward elements; ensure ease of navigation; be supportive of participation; need to consult game developers/ youth who play online games.

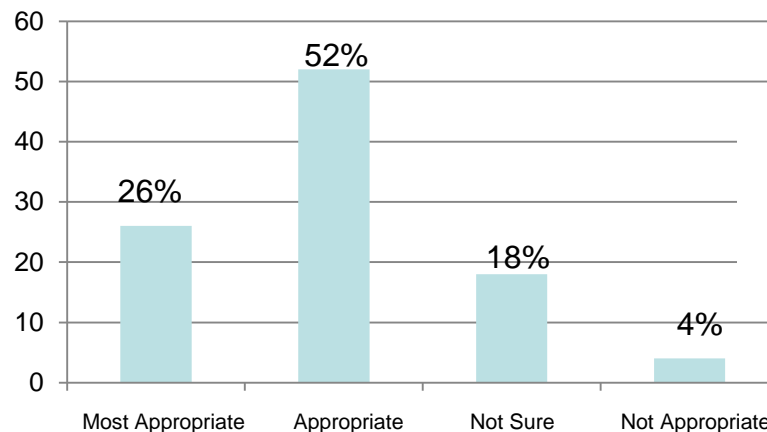
Quantitative - Extended



66 (40%) males
97 (60%) females

Game experience:
none-63; sometimes-74; often-21

Pilot
(Students)
(39)

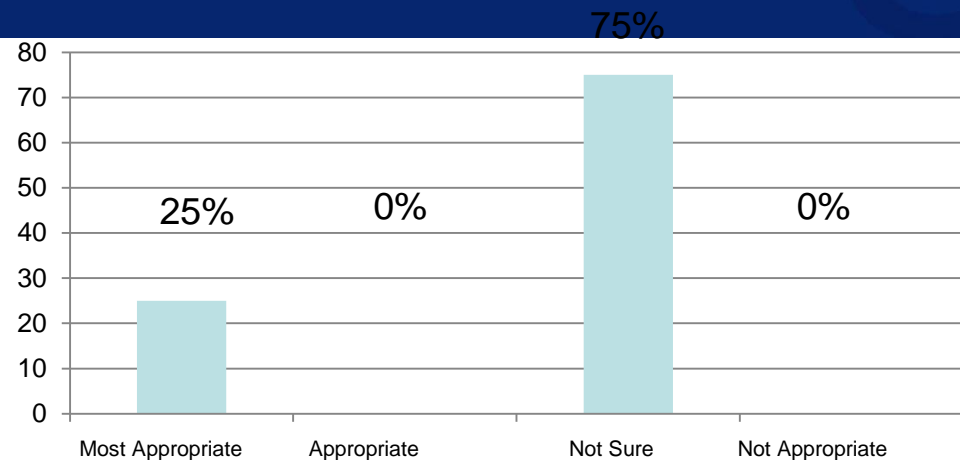


Extended
(Students)
(163)



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Quantitative - Additional

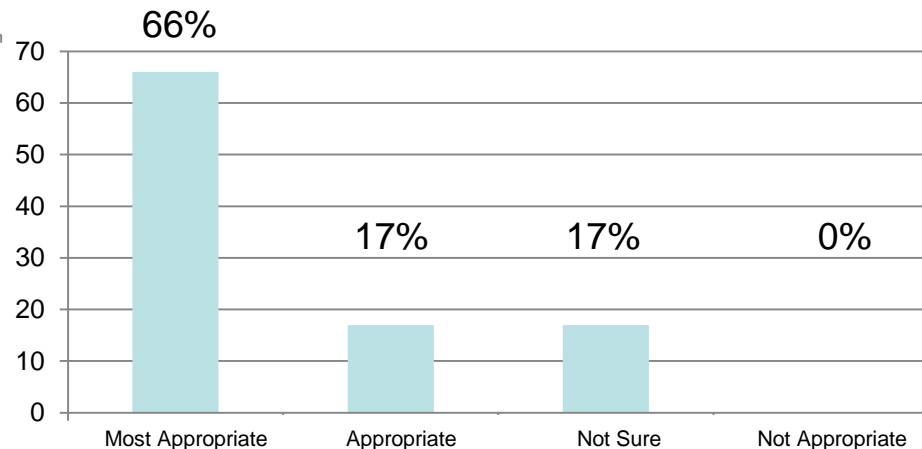


1 (17%) males
5 (83%) females

Game experience:
none-4; sometimes-1; often-0

Additional
(Academics)
(6)

Pilot
(Academics)
(4)



Discussion and Conclusions

1. Overall the feedback on the proposed use of the 3DVLE was positive with students
2. Questionnaire feedback from the staff in this study was somewhat different to that gained from research by Gamage, Tretiakov and Crump (2009) where “quite positive” feedback was exhibited by educators.
3. Both student and staff feedback emphasised the motivational aspects (fun, interactive, game-like) of using the proposed approach. Consistent with Tanti and Kennedy-Clark (2010) and Sweigart, et al (2010).

Limitations

1. Initially the short questionnaire did not seek demographic information (such as age, gender, experience using of 3DVLEs) of participants. This was corrected in later questionnaires.
2. Did student responses represent their respective generation (Gen Y for example)?
3. Did student responses reflect gender preference for playing computer games or accessing virtual worlds?