Bringing it Home

The experiential learning context
of *Future Delta*

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Qualitative evaluation results

methods of analysis:

- design practice through iterative cycles of design action, reflection and redesign; framing and reframing of the problem as a way of working toward a solution (Gedenryd, 1998; Schön, 1983);
- grounded theory (Charmaz & Mitchell 2001); phenomenology (van Manen 2007)

Experiential learning contexts are spaces created for people to learn by doing

Learning through experience

The result of a three-part process that includes

- visceral
- aesthetic
- conscious

interpretation in response to sensory stimuli in the physical world (Alexander & Dewey 1987)

Designers articulate aesthetic experiences via design products manipulating

- movement, flow
- colors, shapes
- symbols, stories

…to communicate across all three levels of processing identified by Dewey (visceral, aesthetic and conscious interpretation)

Aesthetic experiences

- draw people into an open receptive space, giving them access to deep and difficult ideas that may not be otherwise accessible (Dulic, 2006)

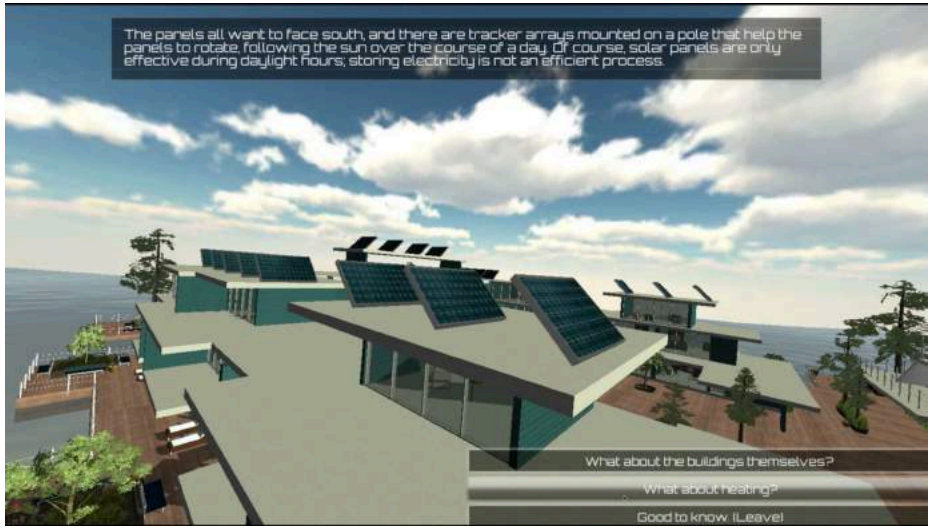
- positively impact human emotions, having the power to attract people and immerse them in experiences through beauty, surprise, and metaphor

Contextual knowledge

Design practitioners engage in reflection-in-action (Schön, 1983), inquiring into the real world design situation

- collecting the less tangible aspects, the stories, feelings, histories and other social and cultural actions that create the specificity of a given community

- linking science with community input, values and cultural understanding



Contextual knowledge is embedded in immersive, interactive, and reflective, spatial and media forms

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Video analysis and observation of *Future Delta* gameplay in a classroom context

Learning context

Gameplay testing in the classroom took the form of an integrated climate change workshop for Grade 10 students at Delta Secondary School which included:

- supplemental researcher elaboration of climate change content
- facilitation of the gameplay
- incorporation of existing classroom learning goals and teaching tools

Classroom context

- created a holistic learning environment
- made analysis of the game learning outcomes challenging

Methods

- in-class observation/facilitation of Act 3
- compiled and manually coded observation notes from game testing Acts 1, 2 & 3
- video transcription and coding of game testing Acts 1, 2 & 3
- analysis of coding across Acts 1, 2 & 3

Results

- there is a range of student **learning styles** that are facilitated through gameplay

- there is an existing **classroom culture**

- a **gameplay arc** emerges over time

Learning Styles

There is a range of student learning styles that are facilitated through gameplay:

- **sensory**: kinetic, visual, aural
- **exploratory**: independent, investigative
- **collaborative**: dialogical, reflective

Examples

- **sensory**: students mimic the actions of the guide dog as the players move through the virtual environment. The speed, cadence and flow of experience is inside and outside of the game space

- **exploratory**: involves discovery of the gameplay mechanics; open world, non-linear

- **collaborative**: cross-classroom and team dialogue; interaction around gameplay progression

Classroom culture

- student interactions are part of an existing teaching pedagogy
- the students bring these embedded experiences into their gameplay
- Future Delta gameplay and classroom learning complement each other

Examples

- table talk – timed discussion at each table about in-game learning and different strategies for reaching goals

- independent research – iphone searches for adaptation/mitigation definitions supplements in-game learning

- gameplay – an additional tool that widens the frame of climate change learning in the classroom

Gameplay arc

- Gameplay skills increase over time
- sustained experiences yield more learning
- gameplay and learning is time sensitive

Examples

The video footage revealed that:

- students became more fluent in using the controls and navigating the open world by the time they were testing Act 3
- students used climate change language - adaptation and mitigation - by the end of game testing
- too much gameplay time was spent on in-game obstacles that were not related to climate change learning

Recommendations

- create gameplay modules that are delivered over multiple classes
- design parallel collaborative activities outside of class time and in the real world
- further test timing of gameplay modules in relation to learning objectives within class structure

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