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IT ALL DEPENDS

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Abstract

To understand, and be able, to design a simulation or game involves a great deal of skill, extensive knowledge and a deep empathy with the content and context you want to replicate - and can also be done in about ten minutes with a minimum set of tools! But it does not stop there. Next comes the paradox of complexity embedded in the simplicity of play, the tenacity required to make it work And finally there is the fearlessness essential to letting go of your power as designer, and perceptions of yourself as educator, that comes with putting it into action.

Keywords

Simulations, games, design, learning, complexity, systems, fun, play, facilitation, activity

Introduction

I am adult educator and my students and I enjoy playing games. The adults I teach are similar to ASCILITE conference participants. They are engaged in an enormous variety of ways, in educating others, usually other adults. They enter tertiary motivated by an interest in learning how to pass on their own skills and competence to others. The games we play have a serious intent, conveyed with as much fun as we can cram into limited time spans.

Together we learn to design, manage and facilitate simulations and games for disciplines as diverse as nursing, computing, policing, art and language education, management skills and legal practice in organizations from 15 to 20,000 employees. While most of our designs are for face-to face learning contexts the underlying principles of design and application are readily transferable to other formats. Our designs are responses to highly specific local needs, have been published (Leigh and Kinder 1999; Leigh and Kinder 2001) and been found in use from Nowra in NSW to Novosibirsk in Siberia.

The design processes transforming locally based ideas into globally relevant learning activities are quite simple, while producing highly complex designs. These principles have remained stable for long time and are the focus of my presentation at ASCILITE. The simplicity of each design conceals much - including the complexity of the contextual analysis undertaken by each designer. The text describing how to manage the process does not tell a casual reader much about what will happen once the activity is under way. Nor can it ever convincingly do so, and also remain a game or simulation. These are some of the many paradoxes inherent in using this form of educational media (process, activity!)

Playing to Learn

Somewhere along the way to adulthood we lose the capacity for spontaneity, regarding ‘education’ and ‘fun’ as diametric opposites. Neither occurs within the other we are told; one is more important for ‘success’; too much of the other impedes ‘progress’ - and I don’t even need to say which is which!

> Play. . is a cross-cultural universal, expressing in an almost unlimited variety of ways the primal biological urge to move, explore, discover, risk, text, master, create and. . have fun. At its very roots it is free, spontaneous and creative [it] is justifiably an authentic end, a way of being, in and of itself. . . Play is a miniature laboratory in which children are protected and allowed to experiment. Children carry on play activities as long as they are interested...it is only adults who are under the compulsion of completing a formal task or of meeting set requirements. (Jensen and Scott 1980)

Why we accept these compulsions is a mystery. How we can bring into formal learning contexts the level of interest that keeps children (of all ages!) engaged with the fun of doing something that seems to have no 'educative' purpose is what I want to explore.

Exploding a few myths

1 Education need not be 'serious'

Education has not always been regarded as a 'serious' enterprise that must avoid play to be legitimate. Plato, asserted that:

> *Enforced exercise does no harm to the body, but enforced learning will not stay in the mind. So avoid compulsion, and let your children's lessons take the form of play*. (Lawrence 1970)

And in the middle ages St Jerome advised the parents of a young girl:

> *Everything that makes learning pleasant and that promotes effort is commended. The teaching of the elements...is to be done through play...she is not to be scolded if she is slow to learn; praise must be the main inducement to real effort... Care is to be taken that her lessons are not made distasteful*, (Lawrence 1970)

Despite this, architects, and educators commissioning new learning facilities, seem to believe that learning only occurs in highly formal contexts positioning 'knower' and 'learner' at different 'levels' of authority. The results of their collaborations suggest a belief that 'fun' and enjoyment must be removed from the 'teaching' space if there is to be any 'real' learning. In the 26-storey building, which is the University of Technology, Sydney's main campus, the windows begin at shoulder height on a tall person, such that as a 'teacher', I am the only one able to appreciate the glorious views of Sydney at night - and only when I'm standing!

2 Fun teaches (but we seldom 'notice' it at the time)

Second - fun provides the cause and means of a great deal of our early learning that has shaped and continues to inform our daily practice. Where do you think you learned more of what you know about how to communicate effectively with your peers? How much of that learning occurred during the course of serious formal conversations seated decorously on hard benches under the direction of a stiffly formal adult? How much is a by-product - or perhaps the real purpose - of participation in hectic games of 'chasings', hopscotch, football, and all the other truly local activities making use of trees and structures in your play area? Are the rules underpinning your interactions with others more realistically rooted in classroom formality or the hurley burley of play? And please note that I am asking a 'more than/less than' question. My proposition is that both 'taught us'. We just identified one as a 'learning experience' much more than the other. We enjoyed one (not noticing the learning), and endured the other (missing the possibility of play)!

3 Learning can be designed for play

Much information about educational design treats it as a serious enterprise, using immense edifices, called design metrics and models, to tell us how to do it. Whether we use a sequential design process, an interactive design process, a project management based strategy or an algorithm, the word 'fun' is seldom present. Nor is there mention that such models were seldom created using the terms and conditions of the model itself! I have seldom seen a designer admit to any messiness preceding the clarity of their final product. A good friend, Dick Duke, broke silence on this matter. Having described in close detail the

design processes and strategies he uses for development of environment and town planning games - in 'Gaming: the Future's Language' (Duke 1974) - he suggested that

- Initially there is a stage of muddling about
    - This is an iterative process as different perceptions of the problem emerge
- Assemble all know elements - without concern for their coherence
- Sort it into groups (according to any defensible logic) - arrange these into temporary clusters
- Organise it conceptually (he uses a detailed conceptual wheel)
- Look for conceptual explanations that accurate explain the phenomena
- Test them for internal coherence

Duke calls this a 'bass-ackward' analysis, a wonderfully playful word that incorporates his awareness of the paradox of presenting something 'logically' that actually describes forms of discovery often dismissed as 'unscientific' emerging from intuition and hard work. The 'look-forward' focus of much educational design inhibits recollection of its 'bass-ackward' origins; unless we remember to look for it.

Design basics

The process of designing games and simulations is thousands of years old, and the basic models are all known. Co-existing with this antiquity is a marvellous flexibility enabling endless reinvention of ideas.

Seven key elements in simulations and games

I rely on seven basic components to introduce the design and use of simulations. They provide 'headings' to guide the work-in-progress and to which I return for a final check on the robustness on the design.

Sequencing

The first three of these principles concern *sequencing* the activity. There must be a beginning, called the '*briefing*', a middle called the '*action*', and an end, called the '*debriefing*'. They cannot usefully occur in any order than this, although the 'middle' and the 'end' may be alternated many times, in more complex designs. During the briefing the facilitator is in charge. They are the only one who knows about what lies ahead and must capture and retain the attention of all participants for the duration of the 'briefing'. Then they must step aside completely from all exercise of 'power' during the action! Where a particular design incorporates a facilitator's interventions they must take great care to be explicit that this is entirely in the context of the design. That is they must not draw on their own perceptions or insights during this time.

Components

The remaining four elements combine to bring a simulation or game to life. These components are the *rules* guiding the action, the *roles* participants adopt, the *scenario* within which they operate and the *recording* processes preserving the learning outcomes and potential for new knowledge. Each has a lot of detail behind them. Unlike the structural elements they are not arranged in order but are contiguous with each other. The rules guide the action toward production of records of the lived experience of a scenario.

What do we need to know to design a simple game?

While I identify with Duke's 'bass-ackwards' approach, my answer to the question of how to 'do' the design process uses to Jones' wonderfully simple arrangement of four key questions (Jones 1985). He identifies only four key questions

- Who are the learners?
- What is the 'problem'?
- What do the learners have to 'do'?
- What materials do they have to do it with?

The most important thing to understand about Jones' four questions is that they can occur in *any* order, and will do so *repeatedly* before you have achieved a design that meets your particular needs.

Adult learning principles

Personal learning preferences and modes influence how we live and work. Frameworks for identifying such preferences include the Myers Briggs type Inventory (MBTI), the Learning Cycle of David Kolb (Honey and Mumford 1986), and the Team Roles Inventory of Meredith Belbin (Belbin 1996).

My guiding principle is that these are about 'preferences' not 'absolutes'. We can access all the processes described in any such tool, but our life experiences and 'natural inclinations' tend us towards some behaviours/preferences and away from others. Once human beings understand there are many ways to learn, and quite different ways of taking and processing information, they can think more clearly about their own preferences, and simultaneously appreciate the immense diversity of 'ways of being' that are just as valid yet different from their own. Such awareness assists individuals and groups to recognise the value of diversity and to use it constructively for improvement of their particular contexts.

In designing and using simulations and games it is vital to remember that their 'differentness' sometimes unsettles individual's 'taken-for-granted' assumptions about the 'rightness' of particular approaches to teaching and learning. This 'unsettling' of such norms may be exactly what the designer intends in order to introduce new possibilities and options. Appreciating that we learn in different ways helps sustain a focus on what is to be learned and the potential for fun even in the midst of highly 'disturbed' activities.

Chaos theory - a guiding set of principles

I titled this paper '**It All Depends**' in acknowledgment of Heisenberg's 'uncertainty principle' a familiar concept to physicists less well known in the social sciences. He showed that experiments designed to detect light as a particle did so, while experiments designed to show it is a wave also did so, but it is not possible research properties of 'wave' and 'particle' simultaneously. In doing so he demonstrated there is no possibility of absolute truth at the quantum level and that the search for proof of propositions about 'predicability' could never succeed.

> Even in principle" Heisenberg said, "we cannot know the present in all detail. For that reason everything observed is a selection from a plenitude of possibilities and a limitation on what is possible in future. (Watson 2000)

That 'what we observe is not nature itself, but nature exposed to our method of analysis' (Heisenberg in (Capra 1989). is a crucial principle for users of games. It helps in comprehending that the complexity, and sheer indeterminacy of a simulation or game are its greatest strengths! That we do not know 'for certain' helps guide our exploration of possibilities emerging from well designed, well managed activities.

Summary

Design is highly personal, yet can be relevant to diverse contexts. Combinations of the seven components listed in this paper vary endlessly yet share common characteristics distinguishing this form of learning design from any others. Whatever we do, the outcomes of a game will 'all depend' on the interplay of factors that cannot be fully controlled yet need to produce results of some benefit to players. The apparent simplicity of all this will initially conceal the real complexity that is involved. Inhibitions about 'fun' and 'laughter' may impede application of games to learning contexts but need not prevent us from playing.

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