

Destiny X – An Interactive Video Game for Life Skills

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LIFE SKILLS IN TRINIDAD AND TOBAGO – SITUATION ANALYSIS

Trinidad and Tobago, a small island state, is in the throes of significant economic transformation as it strives to achieve the ambitious goal of developed country status by the year 2020. This vision promotes an environment where citizens enjoy an enhanced quality of life in the areas of education, health, housing and personal security, comparable to the highest standards obtained in modern societies, which are now knowledge based.

As the country advances the pace of income generation, on the one hand, it faces on the other major social fall out due to alarming rates in the incidence of HIV/AIDS and other lifestyle related diseases; rising levels of poverty, unemployment, functional literacy and increasing levels of criminal activity. This situation flies in the face of the hopes and aspirations of the government, which foresees “developing innovative people and nurturing a caring society” as going hand in hand with economic prosperity.

It is obvious that a disconnection has occurred between the social and economic factors of development, which now requires an intervention to prevent the entire development process from being derailed. According to the ILO (2002, p.7), the overall goal of the global economy should be to provide opportunities for all people to obtain decent and productive work in conditions of freedom, equity, security and human dignity. This requires the attainment of four strategic objectives that are vital to social progress: employment creation, supported by increased and effective investment in human resources development, learning and training for employability, competitiveness, growth and social inclusion of all; promoting fundamental rights at work; improving social protection; and strengthening social dialogue.

A National Policy on Life Skills Education and Training for Personal Development and Employment Enhancement was drafted in 2007 to guide social intervention activities in the education and training realm. It focuses on what has been described by the ILO (2007, p.12) as core work skills, which are essentially non-technical skills that everybody will need in order to perform satisfactorily at work and in society, irrespective of where they work and live. They build upon and strengthen, and often overlap with, the foundation skills developed in basic education. They are aimed at enabling workers to constantly acquire and apply new knowledge and skills. In the case of Singapore they include learning to-learn skills, literacy and numeracy (reading, writing and computation skills), listening and oral communication skills, problem-solving skills and creativity, personal effectiveness (self-esteem, goal-setting and motivation, skills for personal and career development), group effectiveness (interpersonal, teamwork and negotiation skills) and organizational effectiveness and leadership skills. They can also include labour market “navigation” skills such as job-search skills, knowing how to present oneself to prospective employers, how to identify one’s career options and opportunities, and how to identify and evaluate job and education and training opportunities; they also include familiarity with the Internet, as many jobs, career opportunities and guidance services are increasingly available online.

THE SUITABILITY OF A GAME APPLICATION IN EDUCATION

The surge of technological expansion in an evolving digital age constantly challenges us to be more responsive in our approaches to education. Realities such as the Internet and the World Wide Web have inevitably created complex social and economic implications for traditional institutions and static curricula. Educators find themselves exploring new paths, even those previously regarded by faculty as non-academic or whimsical, in an attempt to appropriately harness the existing multiple intelligences of a more

demanding learner population. The application of game theory and design to support learning outcomes and processes within the adult education system is therefore of particular interest.

Play is one of the oldest characteristics of human behaviour. Once revealed to be regarded as 'superfluous', 'unproductive' and 'a free activity standing quite consciously outside 'ordinary' life as being 'not serious'", by the Dutch philosopher Johan Huizinga, educators are re-examining the value of play and games on culture and society. In *Homo Ludens* (Man the player), Huizinga states that 'play cannot be denied' and constantly forwards the central importance of play. It is unlikely that Huizinga (1950) would have imagined the dominating role that multimedia and digital applications now hold in the 21st century.

Salen and Zimmerman (2003) in *Rules of Play: Game Design Fundamentals* prefer to separate the concepts of 'play' and 'game'. They advocate that only some forms of play constitute games i.e. players obey a formalized set of rules and that 'play' is an intrinsic component of games since it forms part of the experience. For them, a game is 'a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.' When applied to particular formal educational outcomes, the idea of a game is transformed by the need to achieve a specific aim and to develop defined strategies and abilities amongst the learner audience. The component of play becomes integrated within a prescribed context with its own rules to derive maximum educational benefit.

The use of electronic and other new media supports non-formal and non-traditional approaches to education. Interactive video games can provide virtual learning environments which offer greater flexibility, adaptability, ownership and distribution of the subject matter. Multimedia objects such as text, graphics, video, animation and sound when used effectively to convey information, help to stimulate richer learning experiences and also recognize the multiple intelligences proposed by Howard Gardner in *Frames of Mind* (1983). In considering game technology for educational purposes it is then interesting to apply John Dewey's pedagogical viewpoint that:

"It is impossible to prepare [...] for any precise set of conditions. To prepare him for the future life means to give him command of himself; it means so to train him that he will have the full and ready use of all his capacities; that his eye and ear and hand may be tools ready to command, that his judgment may be capable of grasping the conditions under which it has to work, and the executive forces be trained to act economically and efficiently."

The multimodal nature of good game applications is ideal to support M.I. because it features the constant interchange of visual, aural, textual and physical skills by tapping into the learner's interpretive competence with images, sounds, actions as well as written words. Crichton and Kopp (2006) believe that integrating M.I. theory and multimedia 'increases opportunities for problem-solving and promotes learning activities that are context-rich and naturalistic.' Using digital applications as instruments to address multiple intelligences can also have strong implications for adult education and development by providing opportunities to revisit and re-examine past conflicts and challenges, as well as, offering alternatives and validating new perspectives.

Multimedia projects, like the Destiny X initiative in Trinidad and Tobago, have the potential to connect real life situations to fundamental learning objectives contained within approved Life Skills curricula. Role-play, just like 'Character Simulation' in video games, is an essential 'medium for participatory learning' in the teaching of Life Skills. Destiny X is a PC based role-playing game (RPG) addressing real-life issues by combining interactive multimedia objects within a web of linked yet non-linear narratives. The pedagogical theme central to the Destiny X pilot is based on values clarification as it relates to decision making. The application offers the capacity for the player-learner to try out alternative courses of action based on his unique value system or judgement but within a pre-defined context or *problématique* and then experience consequences via a 'cause and effect' structure.

Perhaps central to the design of Human-Computer Interaction (HCI) applications like the Destiny X product is the theoretical framework provided by Activity Theory which according to Squire (2002) looks at 'how an educational game/ resource mediates players' understanding of other phenomena while

acknowledging the social and cultural contexts in which the game is situated.' By understanding Life Skills learning and application as participation in social practice, Destiny X designers also seek to translate game playing into participation in social practice.

Interactivity and engagement are therefore key elements driving the motivational capacity of game applications for educational purposes. Though it would be inaccurate to claim that game applications are adapted to **every** type of learning style and infuse **all** the characteristics of knowledge acquisition, the argument that they are powerful teaching tools worthy of investment is solid. The dynamic alternatives generated through high-quality game design when applied effectively by teaching personnel address the 'lost sheep' once abandoned by failed systems of curricula often weak in functionality. Additionally, educators are being confronted by the inevitable emergence of the 'digi-learner' born and bred in the dynamic reality of the digital age. If it is our instinctive duty as education pioneers to constantly seek ways to facilitate the seamless integration of more empowered learners into modern society, then educational software and multimedia products such as game applications have unquestionably secured their position as a valuable stimulus for comprehensive, dynamic and functional learning environments.

THE DEVELOPMENT PROCESS – LESSONS LEARNED

The idea to create an interactive video came out of a sense that the environment in which Life Skills training was imparted, was not ideal to the needs of the target audience. Life Skills targets the out of school population, however, it is delivered along the same lines as the Health and Family Life Education programme developed for the in school population. This creates a contradiction because the "out of school" population is not bounded by the four walls of a classroom. These learners are usually found on the job, in training programmes, at home, or in institutions (e.g. prisons, halfway houses, rehabilitation centers). They are adults with life experiences but not necessarily the appropriate skills to lead successful lives. They therefore require learning interventions that are just-in-time, portable, modular, and contextual, that can scaffold their actual levels of understanding to provide a framework on which to build new know-how.

An important pedagogical tool employed in Life Skills training to meet certain aspects of this challenge is the Role Play. A Role Play provides learners with the opportunity to dynamically script their lessons. It usually requires participation among a group of learners, which makes it, however, location, resource and time bound. We focused on the Role Play methodology, because of its effectiveness in achieving participatory and contextual learning. To overcome the limitations of space and time we looked to technology and came up with the computer-assisted role-playing game which blends elements of traditional role-playing with computer gaming. The electronic media presents a lot of opportunities for developers to simulate real life experiences.

The application, Destiny X , blends interaction with linear video. What should be established at the very outset is that Destiny X, as it currently exists, is no more than a game demonstration. As with all demos, its aim is to help Life Skills practitioners and learners get a feel for the proposed game product. Destiny X is a playable but stripped down demo version and thus, game advancement is limited to a very basic level. The demo however has the same game play concept as the upcoming finished game.

What game developers and team members have essentially done with the demonstration is, begun a process of identifying core content of the Life Skills Curricula that would inform the pedagogical aspect of the game while using interactive multimedia within the context of Trinidad and Tobago. Having identified Maslow's theory as the underlying theme/ game strategy driving the decision paths of the protagonist 'Sheldon', the ideas for possible game structure and activities began in June 2007.

At this elementary stage in its design and development, even though Destiny X is playable it is not a stand-alone game and cannot be used for independent study. Due to the fact that the demo design presents not only the game dilemma and strategy but also raw life skills curricula (terms, definitions, acronyms, lengthy theory) without making an authentic association between game activities and the video clips, a disconnect between the game dilemma and the learning process is noticeable. As a result, the

presentation of the demo still relies heavily on the physical guidance of a knowledgeable and energetic presenter to drive the learning processes.

Since game advancement is reliant on a decision-making process which also depends on the overall interpretation of the game dilemma (via video, life skills learning exercises), the necessary paths to attaining the desired life skills and thus finishing the game successfully could be more subtle and smooth. Critical thinking game activities woven intrinsically into the play of Destiny X should test knowledge, comprehension, analysis, application, synthesis, and evaluation as it relates to the game dilemma. Destiny X in this very basic format only allows the player to assume and control the decision-making process for one character who is Sheldon, the protagonist. All other characters act as external forces helping to create a more complex conflict for the players. Due to this fact the final question at the end of the demo, 'which character made decisions based on mixed-up values?' can be misleading at this stage in the game's development. It however, is meant to leave a window open for the development of multiple decision paths for multiple players. Why not assume the role of Ziggs, a character who is already emerged in crime and desperately trying to get out? Or Lisa, how does one manage a personal relationship with someone from a totally different background and lifestyle?

Without doubt the fully-developed Destiny X product holds much promise for the teaching of Life Skills. The first ever of its kind in local life skills curriculum, Destiny X as a source of motivation and engagement was immediately apparent at its launch in October 2007. Rather than create a virtual world, the realistic and situational videos depicting current social ills of the Trinidad and Tobago society when embedded within the fabric of the game strategy provided an authentic framework that both tutors and learners could easily identify and discuss. The use of real video seems to inherently convey the seriousness of the subject matter even within a game structure. Sandford and Williamson (2005) in *Games and Learning* make an interesting remark in support of this,

'A computer game does not necessarily have to be the latest cutting edge edition. It's not competing against other games but against a whiteboard.'

Another observation is the value-added effect of real-video. The dramatic expressions of the game protagonists within this movie-like approach were open to multiple interpretations and offered 'edutainment'. Tutors felt that even though the video clips were developed along the specific game theme, they were in fact multi-thematic and faceted and could be used in sessions as independent video on lessons involving family conflicts, sibling rivalry etc. In terms of a formal educational approach, Destiny X can be used for that reason as a starting point in tutor-led discussions. Sandford and Williamson (2005) however caution that

'when using traditional computer-based learning tools, the teacher's role is paramount in securing a successful learning experience. The outcomes of any lessons-based computer activity will depend on the introduction of the task, the interventions made during the activity and the way that the activity is set in the context of the students' wider educational experience'

The ultimate intention, however, is to develop Destiny X as a standalone application available to the user whenever the learning intervention is required. As such, we evaluated learner responses on a number of issues which could impact this use. 63% of the group felt that they could interact with the game without guidance. Less than 50% thought they need to have basic IT skills to play the game (43%). 66% indicated that they were able to follow the plotline in a logical fashion. 81% understood that the objective was for Sheldon, the main character, to grow based on their choices.

The evaluation revealed, however, that playing the game and acquiring a sound understanding of concepts were distinctly different. Only 37% felt that the concepts and terms were explained simply, while just 50% felt that there were enough instructions/examples to understand the concepts.

It became evident during the evaluation that a period of learning **about** the game was needed before learning could take place **through** the game. Tutors underestimated the level of familiarity with the game required on their part to successfully assume this central role. Before being able to use Destiny X or any

video for that matter, tutors need a solid and comprehensive understanding of the game, so as to identify learning opportunities and to sufficiently strengthen students' learning experience while using the game.

THE WAY FORWARD

As we move forward with the development of Destiny X as a pedagogical tool in formal educational contexts we are aware that there will be unique challenges. Our major priority, however, is to ensure the required learning takes place through the assistance of the application. As the target audience is not homogeneous, we foresee that the game application will need to have built in flexibility to accommodate both independent and assisted use. We expect our focus will therefore be on "levels of familiarity" with respect to the learner's understanding of the concepts and supplementary activities and materials to support greater know how.

While the application encourages the learner to take control of the learning situation, for those who require a "guide on the side", if there isn't one readily available, it is our intention to build a social culture around the application which provides opportunities for seeking guidance or simply a sounding board, through blogs and other online forums.

With respect to topic coverage, the branching plotline of the game gives us a wonderful opportunity to examine a range of issue using either the same cast of characters or adding new relationships as the story progresses. The significance of Destiny is that it mutable according to the decisions we make in like. This is the X factor in the development of this application, which makes for a very interesting journey.

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