Using learning designs for strategic change for educational transformation in secondary schools in Trinidad and Tobago

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Abstract

The Ministry of Education of Trinidad and Tobago has been grappling with the institutionalization of School Developing Plans (SDP) in all secondary and now primary schools for over ten years. It is hoped that this will stimulate a culture of collaborative and developmental planning in these schools and promote school improvement and effectiveness through teamwork and involvement of all stakeholders. The major goals of the plan are to increase student learning and participation in the process of building innovative and creative environments in schools where graduates would possess the twenty- first century skills of proficiency in using technology, collaboration and communication, problem solving, teamwork, inventive thinking, curiosity, creativity and risk-taking and cultural literacy and global awareness. To accomplish this, learning design approaches must be traversed and strategic transformation made in order for this target to be realized. This paper presents a look into such learning designs, which will embody Learning Management Systems such as Learning Activity Management Systems (LAMS), with a view of constructing ideas which can be harnessed in this dynamic epoch of this nations' educational revolution and realization of the target of vision 2020 – a programme for the economic, political, educational and social development of Trinidad and Tobago in their quest to obtain "develop country" status by the year 2020.

Keywords: School Development Plan, prestige school/seven year school, vision 2020, twenty-first century skills, inclusive education

Introduction

The process of cultural change is always fraught with turbulent rebellion and challenges (The UNESCO Universal Declaration on Cultural Diversity, 2001). Most humans love the comfort of the culture they have grown accustomed too and teachers are no different in this regard. This present technology driven global aeon is renovating the educational landscape. Wherever technology is introduced in any aspect of education, adjustments are inevitable, to the point where teachers around the world are forced to make constant modifications to their teaching style and delivery of the curriculum. There is simply no choice but to a part of this forward thrust and makeover of educational systems. At one time persons were scared to use bank cards and cell phones but now it is common to see even older folks fiddling with nubs on a cell phone or making best use of the automated banking and financial facilities. Education has been undergoing its stormy weather of metamorphism also with an avalanche of free educational software and open courseware on the internet (Bonk, 2009). The United Nations under its educational arm and conventions (Jomtien, 1990 and Dakar 2000) have been purporting inclusive education worldwide and to combat this governments and their ministries of education find themselves struggling to make the necessary curriculum and instructional alterations. At the heart of all this conversion are educational leaders, teacher and students. There has been much talk about learning and teaching styles but what is imperative in this colossal venture of enthusiasm must be to generate and construct strategically novel learning designs to suit the knowledge construction process of the 21st century (Driscoll, 2000). The government of Trinidad and Tobago have thus been creating avenues and opportunities to fashion

such a milieu (Government of the Republic of Trinidad and Tobago, Strategic Plan, 2002). It is because of this School Development Planning initiative that great ideas will come into fruition. One such school is Waterloo Secondary School which has proposed a theory of addressing this new phenomenon and which will be explained through the participation of all the major stakeholders – administration, teachers, students, local school board, alumni, curriculum officers, ministry of education officials (supervisors) and community groups. It is hoped that this will spark other great proposals throughout the twin-island state of Trinidad and Tobago, so that students can become learners and take their place in society and this global technological village.

Background

There is need for the educational system of Trinidad and Tobago and by extension the English speaking Caribbean, including Guyana, to steer away, in the twenty-first century, from only looking for excellence in students which are based primarily on one high stake, pen and paper, end of primary and secondary school assessment results. At the end of primary education (age 11 to 13) an examination is done called the Secondary Entrance Assessment (SEA) is given to all students. The students who do the best at this examination are placed in so-called "prestigious" schools or "seven-year schools". This occurrence of success of primary schools, in terms of how many student passes for "prestige schools" or "seven year schools", creates inconsistent feelings of superiority and inferiority. Feelings of superiority pervade the institution if the students consistently perform well on these external examinations and inferiority otherwise. Thus, some primary schools in themselves are looked at as being prestigious and parents fight to have students attend these schools.

In the secondary schools the most important aspect of success depends on how many national scholarships school are awarded. This is computed from the Advanced Level examination results supported on the assumed academic prowess of its students and the teaching and learning designs encumbered by the particular institution. It is a truism that assessment influence instruction (Bartley, 2006). Thus what is promoted is studying by cramming and regurgitating information. Teachers and students gather pass papers of examination and drill students consistently on topics which will be on the exams. The teaching and learning of concepts and problem solving is not an issue neither is teamwork, collaboration or communication. Therefore what is needed to be successful is passing an examination and little or no prominence placed on learning and learning and teaching designs.

The government of Trinidad and Tobago has been speaking towards this transformation of the education system through the 2020 visionary plans for over five years (Vision 2020 Draft National Strategic Plan, 2005). The essence and ramifications are yet to reach the level of the classroom and the administrators, teachers and students. This is because of the amount of monies to be spent on training and retraining of school personnel and the difficulties and slow rate in implementing government policies. The time has come for ministry officials, administrators and teachers to visualize, change and create not only new and innovative instructional design methods but a multiplicity of assessment practices to equip learners to function in this knowledge-based economy of today. Evers & Menkoff, 2004, and other authors have clearly depict how important it is to equip all students with the 21st century skills.

Strategic Change and Learning Design

The quest for strategic change in digitally-enhanced educational learning environments has become widespread internationally with the extensive popularity of the internet. The momentous use of e-learning in secondary education throughout the world (mainly in developed countries) has made it crucial to understand what the critical issues are when attempting to implement learning strategies such as learning designs to support a digitally enhanced learning environment. Bates (1999) agrees that by using technology for teaching, such as LAMS, institutions can prepare students better for a technologically based society. To create the environment for learners today to become adept to deal with the new problems which continue to be present themselves in our world, schools must use what is available to furnish their charges with the right type of education. This type of education cannot be based on cramming and regurgitating but on inventing learning design for curriculum transformation. The way forward for Caribbean schools must be to strategically adjust teaching and learning so that students can have the necessary skills for the 21st century.

It is being proposed that the instructional principles associated with constructivism and connectivism be used which will require learners to solve complex and realistic problems (problem solving skills); work together as a team to solve these problems(teamwork, collaboration and communication); examine the problems from multiple perspectives (innovation); take ownership of the learning process rather than being passive recipients of instruction (understanding the overall concept of to be a learner today); and become aware of their own role in

the knowledge construction process (knowing the importance of knowledge) (Reiser, 2001 and Driscoll 2000). In order for this to work for the learners there must be continuous administrator and teacher development sessions first because it is these individuals who have to implement the new plan. If there is one challenge or constrain to this process of transformation it must be to consistently train and retrain the teaching staff thereby giving them the tools, confidence and numerous resources to assist them in their new role as facilitators (Warner, 2009).

An Example – The Process

The following gives a backdrop of the findings and recommendations of the Waterloo Secondary School (WSS) management team towards its submission of its School Development Plan (SDP) in March, 2010. This was ratified by a data collection drive and total stakeholder involvement. The vision which came from the school's profile is: "to develop human values and lifelong learning skills for the 21st century by character building and through infusing technology to facilitate teaching and learning", whereas the mission is: "committed to ensuring that all learners graduate with skills capable of propelling them to be innovative, creative, collaborative, team players, and self empowered problem solvers, thus enabling them to make valuable contributions to the nation and the world." In order to place value and recognize the voices of all stakeholders' surveys were completed. The stakeholders included the administration body (the Principal, Vice-Principal, Heads of Department and Deans), all teaching staff, the administrative team, the entire student population via the Student Council, parents through the Parent Teachers' Association, the Local School Board, the Alumni and community personnel. A qualitative as well as a quantitative approach was applied.

The main questions were centered on how a collaborative effort can be made to improve teaching/facilitating and learning. Ninety-five percent of the responses hovered around using the available educational technological software as tools of motivation, encouragement, knowledge, communication and collaboration. It was found that 82% of parents surveyed had computers but only 60% had internet access. Eight percent of those parents surveyed had no computers in their homes.

The student body through the arm of the student council were asked what they think will create a better learning environment for students at WSS. The student population found that they had no channel to learning skills outside of what was provided via the school's academic curriculum. They strongly suggested having an elective period every week so that learners can go to a club meeting of their own choice and learn skills such as tailoring, communication, IT essentials, Drama and public speaking.

The different heads of department met with their teachers to discuss what they saw as the way forward to enhance learning at WSS. Teachers saw the need to be trained on an on-going basis in order to continually be adept with the changing face of educational facilitating methodology and to deal with the different learning styles in an inclusive classroom. They pointed out very vehemently that a one day or even a one week workshop will not suffice. They demanded a need for nonstop/incessant training and retraining. It is hoped that by infusing the technology in teaching that students will be transformed to learners and teachers to facilitators.

The daily discipline issues are also expected to be reduced as learners are expected to be eagerly engaged in lifelong learning skills. Thus, the revolution will be away from teacher centeredness and more learner centeredness. Departments and individual teachers made suggestions of using Web 2.0 tools and Open Courseware (OCW) to facilitate the process of integrating technology into teaching and learning.

All parents were asked to complete a questionnaire and the Parent Teachers' Association as a body and an executive team member was asked to come up with what it saw as vital to making WSS a premium school of learning for their children. The parent body wanted to see their children made ready for the 21st century through Information and Communication Technology (ICT) involvement in their learning. They pledged their support in any way possible to make this a reality for their children.

The Local School Board and Alumni are willing to work with all the other stakeholders to ensure that the vision and mission of the school are indeed realized. The administrative staff emphasized that students need to be engaged more and better use must be made of the existing technology resources by teachers. It was vigorously advocated that students need to use their free time more appropriately. It is hoped that with the creation of well-equipped computer labs that some of the wasted time can be utilized profitably.

Thus the stage was set for the creation of unique and novel learning design strategies to combat and give credence for the implementation of increase effectiveness and efficiency in learning at WSS.

The Intervention - Proposed Learning Design

One of the distinguishing characteristics of generation Y (individuals between the ages of 11-28 and the clientele of secondary school teachers who are between 11 and 20) is their utter confidence, fluency and comfort with computers, digital and internet technology (Oblinger & Oblinger, 2005. This is in stark contrast to their teachers who are quite often not computer literate and who are therefore afraid to use technology resources in their teaching and learning. The first task will be to create teacher development sessions throughout the school term to foster motivation and competency skills. The notion is to first lure these teachers into using the computer themselves for their own personal and necessary needs and then target them with the vast amount of open courseware and Web 2.0 tools. They must see the richness in the resources that technology brings to their teaching which will see them become facilitators with a student-centered classroom.

A learning design describes a progression of learning activities that learners undertake in order to help them achieve particular learning objectives, including the resources and services needed to complete the activities (Miao, Klink, Boon, Sloep, & Koper, 2009**).** Learning designs have the potential to revolutionise learning by capturing the "process" of education, rather than simply putting it into content (Dalziel, 2003). The following is a description of the sequences to be used for teachers and then for the learners.

Heads of Departments
Waterloo Secondary School has presently five Heads of Department (HOD). During the summer vacation of 2010 (July and August) the arrangement is to first collaboratively engage these "heads" in fully understanding the vision and mission of the School Development Plan. Together as a team they must be on the same page in order for the system to move forward. The major goal of the SDP is to increase student learning activities by having teachers, now acting as facilitators, deliver the curriculum using technology as the main resource. All of the HODs have competency issues with the internet and basic computer knowledge and skills. It is impossible to have these individuals at school on a daily basis as it is vacation time so e-learning options are designed.

Week 1: During the last week of the term before the summer vacations, the HODs will be given three sessions of face to face instruction. It is here where the vision, mission and the way forward is concretised with this middle management group. The main endeavour is motivation to move on and be a part of something grand and really special for the learners. Video presentations will be shown demonstrating the success and challenges of other similar schools with comparable plans and their procession to accomplish similar goals around the world. Open and frank discussions are expected to ensue and a collaborative mode met. After the stage is set for the transformation, the LAMS and the" Ning" platforms will be introduced to them as the stage where this group will now meet, learn and communicate informally. Thus the course of action would have begun with these individuals using technologies without much thought.

Week 2: The objective of this week is to have the participants use the internet and explore the Ning. They will learn how to upload photos, send forum post, chat and share their new experiences. A portfolio with their reactions to this new dimensions and how they feel these events can be placed into their teaching must be kept and presented to all at the end of this e-learning extravaganza. Links to all subject areas will be provided with suggestions as to how to get to these sites. If the need arises then tutorial sites will be made available and the collaboration will continue. The Ning will be expanded upon easily and they will be told how this is possible.
Week 3: An example using LAMS to assist slower learners in understanding the basic concepts of Mathematics and English Language will be presented. A step by step introduction of what a learning management system is will be given and then LAMS presented along with MOODLE as an alternative. The aim is to have teachers think about the free assessable assistance online to deal with the different types of learners in their classrooms. It is imagined that the group will experiment with LAMS and look into MOODLE later after these sessions are completed.

Week 4: A gentle introduction and creation of podcasts, wikis and blogs will be explained on the Ning with supporting video presentation s from YouTube. Everything that is new to the participants will be presented with supporting documents and tutorials. For each week of this e-learning adventure there will be a fresh exciting heading with lots to explore and experiment with. It is hope that by this time the participants will be overwhelmed with the length, breath and magnitude of choices and uses of the internet as facilitating resources opportunities. In their minds the slogan should be "where should I go today in this knowledge-rich environment of the internet.

Week 5: This is by far the most important week of this process. The participants will be asked to comment on the sum of their total experiences. In particular they will be expected to share with everyone on the impact of

their own learning and how they envisage its use in their own teaching and future continuous learning. Also, they are expected to be soaring with enthusiasm to pass on this new found light and way forward to all the teachers in their departments.

It must be noted that the activities of the five weeks is purely introductory and exploratory so that these individuals be made aware of the value and multifaceted approaches the internet brings to teaching and learning. This should encourage teachers to start the process to mentally modifying their thinking to be facilitators in the execution of their duties. The problems and task of preparing and dealing with inclusive education can now be attacked as a team instead of individuals and then there are the internet and search engines and educational groups like Teacher Tube and Classroom 2.0. The process of change must begin with administrators in order that the goals of the SDP to be realized.

Teachers/Facilitators and Learners
When the new school year begins in September and progresses, it will become the duty of the HODs to share their experiences with the teachers in their department about the value and enormous potential the internet has as a learning and teaching tool. Having a first hand knowledge and familiarity of some of the internet uses ongoing teacher development will continue but from a departmental level. There will be whole staff sessions but the department sessions will be where most of the training and retraining and collaboration take place.

The effects of all of this will be felt by the learners who are expected to now have new enthusiasm and excitement in their acquisition of knowledge. It is expected that at the end of the school year learner performance will be increased, not only in terms of assessment results, but in the attainment of 21st century skills.

The Next Step

Funding for the SDP is of paramount importance for the success of this project. The first step of preparing the teaching staff to deliver the new curriculum (and a technology way forward) has been decided upon and the necessary plans passed by the administration of WSS. The present computing facilities at the school is sufficient for the training of teachers but if learners have to be factored in then it will not be sufficient. If the educational arm of the 2020 vision has to become a reality then the national policy for ICT in school must be financed. An open system of internet access anywhere on the school's compound is needed for learners and teachers. The stage is therefore set for the two top strategic objectives to be implemented: to train staff in the use of technology, hardware, software, Open Courseware (OCW), open software and Web 2.0 tools; and to introduce intervention strategies aimed at all learners being able to develop 21st century skills.

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