A Re-Think of Classroom Teaching and Learning Methods

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Introduction

Academic and professional designers, administrators, and the public often try to grapple with the concept of development. There are many interfaces among the stakeholders in the arts and design, and one often feels that they are nearly overwhelmed by the flood of new technology that presents itself in the designer’s service. Since digital technology has revolutionised access to information and tools as well as access to one another, we can now focus briefly on the way we transmit knowledge. Far from the face to face, hands guiding hands and printed page models of teaching, we are now faced with the complex and exhilarating challenges of integrating the new technology into our pedagogies. Perhaps the most pertinent issue concerning how technology is changing the way we teach and the way students learn is the role of multimedia systems in course delivery. This new technology, against a back drop of changes in student expectations, is motivating teachers to re-think pedagogy and existing teaching practices.

The high tech environment of the virtual classroom which utilizes digital content for instruction with or without a live teacher may seem to be somewhat disconnected from the widespread of knowledge transfer and knowledge inputs to and by the non-school based community. The reverse is actually true, provided that digital content is not kept exclusively to schools, and that the public at large gains access to that content. As an example of open access and motivated access by end users, Kenya can point proudly to Julius Yego who became a world champion javelin thrower without formal training because he was motivated enough to learn from YouTube – digitally, online. This has earned him the tag the YouTube athlete.

This paper points to the various categories of digital content and the possibilities of their didactic use in and outside the physical classroom. For those born and raised in a physical school environment, the idea of carrying ‘school’ in our pocket or handbag may seem strange. For those who have never been in a classroom or undergone instruction by a live teacher, the virtual classroom presents no problems. We now look at the triggers of the massive changes from physical to digital learning spaces, the variety of new methods, and the new and flexible possibilities that the integration of physical and digital learning present.

What are the triggers for these changes?

Several developmental and non-static conditions give rise to the discarding of one mode of interaction and adoption of another. Whereas the content of learning may remain the same, the mode of its transmission changes due to a mixture of situations. Some of these triggers of change are highlighted below with respect to the practice of teaching.
1. **New Demands of a Knowledge-Based Society**

   As the body of important knowledge expands exponentially, it is increasingly difficult to compress all that learners need to know within a typical school day’s timetable. There is, thus, a need for efficient ways for learners to acquire and manage information, such as how to find, analyse, evaluate and apply knowledge as it constantly shifts and grows.

2. **New Student Expectations**

   Today’s generation of learners have grown up in a world where technology, such as blogs, wikis, social media and mobile phones is a real part of their environment. Their expectation is that technology will be used where appropriate to help them learn and develop essential skills.

3. **Increased learner motivation**

   New technologies online come with flexibility, diversity, ease of access to content and a wide knowledgebase. These technologies are constantly triggering more student interest. These technological innovations, seen as change agents, impact not only teaching and learning, but also course design, lesson planning, curriculum development, student assessment, administrative support, the location and roles of both teachers and learners.

**What new teaching channels arise from emerging multimedia technologies?**

The most credible and true-to-life approach is the implementation of Virtual Classrooms for captive school, college and university audiences. Virtual classrooms are online environments that effectively manage the development, digitization, distribution and delivery of educational resources. They comprise a collection of easy-to-use asset management tools that provide learners and teachers access to educational resource material.

   Virtual classrooms provide users with interface design controls and exercise and quiz configuration tools. They support industry standard technologies such as streaming audio voice overs with background music and sound effects, resizable video, 2D and 3D animation, interactive questions and answers, photos and illustrations. They also provide actual intellectual property rights and anti-piracy protection to secure content on all digital devices. A good virtual classroom is not vendor specific and it exists on a wide range of devices.

**What unique approaches do Multimedia driven teaching channels bring to the classroom?**

The case of multimedia driven teaching channels is supported by the nature of learning in various disciplines, a nature that opens up to multiple teaching styles and activities. These include:

1. **Blended learning**
In their Handbook of Blended Learning, Bonk and Graham (2006) define 'blended learning systems' as learning systems that merge different modes of teaching, so that face-to-face instruction that requires the physical co-presence of teacher and students is combined with computer mediated instruction for which the teacher’s physical presence is not required. Virtual Classrooms come with tools and multimedia content that can be used to enhance the delivery of courses in real world classroom situations. Techniques from one mode of teaching can enrich the learning experience in another.

Blended Learning is widely used globally, and is useful especially in such situations as listed hereunder:

i.  **Face-to-face teacher centric learning** where the teacher drives the instruction and augments with digital tools.

ii.  **Rotational learning** where students cycle through a schedule of independent digital content study and face-to-face classroom time.

iii.  **Facilitated learning** where most of the curriculum is delivered via a digital platform, and teachers are available for face-to-face consultation and support.

iv.  **Laboratory based learning** where all of the curriculum is delivered via a digital platform but in a consistent physical location. Students usually take traditional classes in this model as well.

v.  **Self-blended learning** where students choose to augment their traditional learning with online course work.

vi.  **Enriched virtual learning** where all curriculum and teaching is delivered via a digital platform and face-to-face meetings are scheduled or made available if necessary.

Blended learning courses can be a way to compensate for the unavailability of educational resource materials. Activities in such courses can be very collaborative when authoring live content and engaging students in group work. They offer conveniences of digital systems but come with the benefits of the physical interactions found in real world teaching environments.

**Advantages and Disadvantages of Blended systems**

Callan et al. (2010) and Garrison (2011) state the Advantages of Blended teaching and learning as follows:

i.  **Affordable** and less expensive to deliver.

ii.  **Flexible** by way of being available to students and teachers anytime and anywhere.

iii.  **Access to global resources** and materials that meet students’ level of knowledge expectation and interest.

iv.  **Self-pacing** for slow or quick learners reduces stress and increases satisfaction and retention.

v.  E-learning allows more **affective interaction** between the learners and their instructors through the use of emails, discussion boards and chat room.

vi.  Learners have the ability to **track their own progress**.

vii.  **Unique to different learner styles** - Learners can also learn through a variety of activities that apply to many different learning styles that learners have.
viii. It helps the learners develop knowledge of using the latest technologies and the Internet.

Tarhini (2013) states the disadvantages of web based systems as, including little or no “live person” contact with the faculty member resulting in feelings of isolation, a difficult learning process with respect on how to navigate within the system, problems with the technology, the need for the student to be actively involved in learning, and increased lead-time required for feedback regarding assignments.

In developing countries, problems such as providing the required funds to purchase new technology, lack of adequate e-learning strategies, training for staff members and most important the student resistance to use the e-learning systems.

i. Lack of a firm framework to encourage students to learn.
ii. A high level of self-discipline is required, learners with low motivation or bad study habits tend to fall behind.
iii. Absence of a learning atmosphere in e-learning systems.
iv. The distance courses minimize the level of contact as e-learning lacks interpersonal and direct interaction among students and teachers.
v. When compared to the face-to-face learning, the learning process is less efficient.

2. Co-authoring

I use the term co-authoring to refer to the collaborative documentation of digital content works by multiple people working together rather than individually. In virtual learning environments core content is often written up by a curriculum developer and content co-authorship is captured by classroom users. Ideally, teachers manage all educational resources in the classroom.

Features

Virtual classrooms provide co-authoring tools that arm users with documentation, commenting, revision, deletion and discussion capabilities within the system.

i. The need for learners and teachers to represent core digital content differently, is supported by context specific tools that allow them to subedit, comment and annotate information.
ii. Further, the need to share or not to share co-authored content, can arise. Simulated learning environments facilitate shared learning within amongst classroom users.
iii. The need to directly modify or alter information is another collaborative function provided for in multimedia learning systems. It comes with the requirement to identify commenters or revisions. This concept also applies to the need to manage versions of the same body of information. Related concerns are storage capacity, labelling notations and guidelines on how to co-author into the system.
Virtual classrooms, provide an appropriate view of documents on a page. Learners expect that multiple items of interest can be on view all at once. This reduces the cognitive processing required to remember each item not displayed.

3. Access to Open Education Resources

Virtual classroom systems lend themselves to freely accessible, openly licensed documents and media that are useful for teaching, learning, and assessing as well as for research purposes. The phrase, Open Educational Resources was first coined at UNESCO's 2002 Forum, and can be described as Open Courseware and designating teaching (UNESCO, 2012), learning and research materials on digital mediums, that reside in the public domain.

E-learning predicates and builds on online resources that have been released under an open license permitting no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Recognition that freely sharing learning resources has the effect of promoting economic efficiencies and improving access to wide groups of stakeholders, has led to the proliferation of the open philosophy in education. Examples of some of these are:

- Open source technologies
- Open source methodologies
- Open source software
- Open source hardware
- Open standards
- Open access to research data
- Open design
- Open knowledge
- Open data
- Open content
- Open courseware
- Open educational practices

4. Self-directed learning - Increased learner control, choice, and independence

The emergence of technologies that provide learners, with autonomous access to data and equal access to knowledge has raised their expectations to assume greater responsibility for, and take charge of, their own learning. Multimedia systems provide opportunities to engage in independent learning activities in which learning is centred on the student. Educational resources packaged as digital content helps learners assume greater control over their own learning helping them become more aware of the strategies that they already use when learning (Holmes & Ramos, 1991, cited in James & Garrett, 1991: 198).

According to McCombs (2012) of the University of Denver noted that most teachers are frustrated by their unmotivated students. What they may not know is how important the connection is between student motivation and self-determination. Research has shown that
motivation is related to whether or not students have opportunities to be autonomous and to make important academic choices. Having choices allows learners to feel that they have control or ownership over their own education. This, in turn, helps them develop a sense of responsibility and self-motivation. When students feel a sense of ownership, they want to engage in academic tasks and persist in learning.

5. **Teacher-centred learning**

Live Classrooms comprise features that help the teachers manage educational resources and facilitate the learning process. Contrary to the fear of many teachers that giving students more choice will lead to their losing control over classroom management, research reveals that the opposite happens. McCombs explains (2012, chapter 13), how students who understand their role as an agent over their feeling, thinking, and learning behaviours, are more likely to take responsibility for their learning. To develop autonomous learners, however, teachers need to learn how to help students develop the ability to make appropriate choices and take control over their own learning.

6. **Social learning: Collaborative approaches to the construction and dissemination of knowledge**

Virtual learning environments simulate the cognitive process that takes place in a social context through social media type tools. Learning can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement.

To summarise, we have looked at the new digital technology and how is has already influenced content delivery in and outside the physical classroom. We have also described the range of varied combinations of physical and virtual learning tools as well as the options for locating, acquiring and managing information. While the types of and blends of learning tools and learning experiences are many, their application in real life learning situations is just being explored. Optimistically, we can look forward to not only to democratising information but also to democratising the learning process and revolutionizing what we now call ‘education.’

Everybody will be able to take and also give to a global knowledge base and will be able to acquire the literacy, numeracy and spatial skills so essential to survival in our ever evolving world.

**References**


