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TEACHING & LEARNING IN THE DIGITAL ERA

J.Srinivasan, M.Com.,M.Phil.,PGDPM.,

Sri Krishna Arts and Science College,

Coimbatore.

ABSTRACT

The digital revolution is changing our work, our associations and our schedules. It is changing the way kids and youngsters play, get to Information, speak with each other and learn. Be that as it may, up until now, this upset has not changed most Colleges or most instructing and learning process in classrooms. There is most likely that training has a vital part to play in expanding the Indian aggressiveness and lessening joblessness, however what would policy be able to producers do to take full favorable position of rising advances in instruction while staying away from their drawbacks? With the goal of revealing some insight into how India is performing (inside the training field) in the "advanced insurgency" and to how firmly it is inserted both in school educational program and in instructors' training.

Keywords: digital revolution, unemployment, school curricula, innovative learning .

1. INTRODUCTION

This paper tends to the subject of how Colleges can refresh their practices in the computerized time. Research in this field is growing quick, since the improvement of advancements is exponential. Getting a handle on the pith of this regularly changing computerized scene resembles taking a photo of a quickly moving target. The present paper takes a gander at these issues from a worldwide point of view, yet concentrates on Finland as its essential illustration.

The strategy utilized depends on the gathering and preparing of optional information accessible from the copious measure of writing accessible on discernment, learning, Colleges, learning advances, inspiration, and instructor training. Our own unique experimental research is additionally utilized. This investigation is unavoidably theoretical, since anticipating what's to come is constantly troublesome. It is conceivable, nonetheless, to handle some real issues in the writing.

We are confronting various serious issues and dangers identified with environmental change, maintainability of the Earth, and radical imbalance. Such issues are complex to the point that they surpass the limit of individual comprehension. Numerous scientists are worried that there is an inexorably profound creativity hole between such immense useful difficulties and the constrained critical thinking abilities that are advanced by the predominant instructive practices. Gainful investment is fundamental in the rising advancement driven learning creation society. A general public that is situated toward building a supportable future will require the development of advanced inventive skills by all subjects who require

better capacities of seeing things in crisp points of view, improved self-adequacy, and related ways of life as potential makers of information. Along these lines, it is basic to develop academic practices that sustain such abilities from an early age.

In a period of fast innovative advancement and monetary vulnerability, these skills are central for individual and expert improvement as they upgrade residents prosperity and give profession openings. The previously mentioned key abilities were characterized by EU in 2006 and numerous nations have altered these to fit their own social and societal needs. For example, the new national main subjects in Finland characterizes seven center abilities that are focal in Finnish 21st century aptitudes:

- Thinking skills and learning to learn.
- Cultural competencies, communications skills and self-expression.
- Taking care of oneself and everyday skills.
- Multiple literacies.
- ICT competencies.
- Work life skills and entrepreneurship.
- Participation, agency, and the readiness to build sustainable future.

2. REVIEW OF LITERATURE

Joseph Blase and Jo Blase (2006) in their study reveals that over 800 American teachers responded to an open-ended questionnaire by identifying and describing characteristics of principals that enhanced their classroom instruction and what impacts those characteristics had on them. The data revealed two themes (and 11 strategies) of effective instructional leadership: talking with teachers to promote reflection and promoting professional growth.

Michael Eraut(1975) in their articles examined that Innovation is considered as a process of change rather than the dissemination of novel ideas. Factors such as teaching climate, resource allocation and consultancy support are considered. The dangers of a mismatch between “innovations” and problems are discussed, and the importance of giving adequate attention to problem diagnosis is stressed. A possible model incorporating these emphases is outlined in brief.

Mitchell, John, Clayton, Berwyn, Hedberg, John and Paine, Nigel (2003) in their articles stated that ongoing change, wider, deeper and more frequent innovation is now needed in VET teaching and learning practices. However, this report shows that there are good grounds for optimism about the quality and scope of current innovation in teaching and learning practices in VET. The particular and local instances of practitioner innovation found in the research for this project serve as a reminder of the many different ways in which VET practitioners are knowledgeable and innovative. Positive futures for VET are emerging, as a result of this practitioner innovation.

Michael J. Prince and Richard M. Felder (2006) in their study reviews several of the most commonly used inductive teaching methods, including inquiry learning, problem-based learning, project-based learning, case-based teaching, discovery learning, and just-in-time teaching. The paper defines each method, highlights commonalities and specific differences, and reviews research on the effectiveness of the methods. While the strength of the evidence varies from one method to another, inductive methods are

consistently found to be at least equal to, and in general more effective than, traditional deductive methods for achieving a broad range of learning outcomes.

3. PROMOTING PRACTICES OF KNOWLEDGE CREATION IN EDUCATION

Activities that promote knowledge creation

Sophisticated instruments and practices of knowledge creation given to young students may extend their minds. Technologies already exist that involve artificial intelligence, such as Siri and Skype Translator. New technologies may help our students augment their personal and collaborative intellectual resources in a way that makes knowledge creation feasible. This does not happen without scaffolding of the surrounding learning environment and more experienced peers, parents, and teachers.

Such approaches highlight the importance of active personal and collaborative engagement of students in their learning processes. They are able to share objectives, produce artefacts in teams, and apply both self-reflection and peer review. Such processes are central to knowledge creation as it is understood in this context. Activities that promote knowledge creation provide guidance and socialize participants into authentic inquiry-based practices, such as posing questions, designing experiments, analyzing and interpreting results, and, thereby, cultivating scientific skills and acquiring a core understanding of the "nature of science". When students take part in design projects,they are able to develop capabilities to see possibilities, to try out new ideas by sketching and prototyping, and to make leaps of imagination.

Socially shared metacognition

When introducing new technologies, Colleges have two choices. The first is to say that BYOD is forbidden and all private mobile devices should be turned off. This may not be such a good idea, if we want children to learn how to regulate their own learning and use their digital devices for learning. Professor SannaJärvelä suggested that a better option would be to train our youth on how to regulate one's own behavior and how to develop metacognitive skills that help them co-regulate their work in teams.

Socially shared metacognition is one of the crucial components in collaborative problem solving. Socially shared metacognition emerges when group members make their thinking visible and ask questions requiring an explanation or a rationale. Based on these explanations and rationales, the group discusses whether or not they select a new approach or a new strategy for proceeding in problem solving.

Mathematical problem solving in collaborative groups is also a challenge for pre-service teachers, especially if the interaction takes place solely in a computerized learning environment. In a group where the solution was constructed together and ideas were presented and developed further, socially shared metacognition emerged. In this group, the group member's feelings of difficulty decreased during collaborative problem solving.

HOW OPEN ARE COLLEGES TO USING NEW TECHNOLOGIES?

Challenges in using new technologies

In order to prepare for the emerging innovation-driven knowledge society, students and teachers should be engaged in functioning as a knowledge-creating community, oriented toward advancements of collective knowledge. Such an undertaking entails both cultivating shared innovative practices and constructing gradually refined artefacts. After 20 years' research experience in the field, we are well aware of the challenges involved.

In 2009, 94% of Finnish 10- to 14-year-olds children and youth already used computers in their spare time on a weekly basis. The most frequent activities being searches for information on the internet, studying, playing games, reading e -mail, and downloading and listening to music. More than half of these internet users (55%) reported online chatting, and 32% were registered for at least one online discussion forum. However, the use of educational technologies in Finnish Colleges is, on average, far from adequate in terms of quality and frequency.

During previous decades, due to poor infrastructure, lacking human capital (teacher competencies), and institutional inertia, initial efforts of using educational technologies for transforming educational practices of Finland or elsewhere in India have not been successful. Although a new generation of teachers and socio-digital participation has altered the landscape, many teachers' still rely on traditional teacher-centered instructional practices; hence in-depth pedagogic transformations are needed.

It appears that educators or researchers have not sufficiently addressed the challenge of developing knowledge practices that trigger meaningful pedagogical uses of technology. In many cases, students and teachers have been expected to directly appropriate digital technologies to find meaningful practices for using them, without questioning prevailing educational practices and institutional routines or reflecting on the role that technology plays in transforming the context of education. To move further, we need to take a fundamentally different approach in terms of starting with new pedagogies and opportunistically appropriating diverse (more or less ubiquitous) technologies for assisting various aspects of learning and instruction. Some pilot projects regarding implementing technologies in Colleges through transforming social practices have already revealed promising results.

With the changes regarding the socio-digital revolution bubbling under surface as well as the upcoming policy updates (the revised National Core Curriculum), many Colleges (for instance all the Colleges in the city of Kaarina) have now taken a stance to open up their prevailing practices to critical evaluation and the development of novel approaches that utilize new technologies, such as investing in technological tools, participating indevelopmental pilot projects, and teacher training. There are also some highly advanced Colleges in terms of architecture, interior design, technology, and pedagogy. One of the best examples is the award-winning UBIKO school (University training school of University of Oulu).

WHAT PEDAGOGIC INNOVATIONS REQUIRE FROM TEACHERS

Guiding extended pursuits of inquiry in Colleges requires that teachers learn to orchestrate knowledge-creation projects, as distinguished from the conventional focus on merely here-and-now situational interaction learning.[117] An elementary teacher's long-term orchestration of inquiry learning was analyzed in Viilo's and her colleagues' study. Grade 5 and 6 students took part in an 18 months inquiry- based project focused on studying, analyzing, and examining artefacts. Their activities were mediated by the Knowledge Forum environment. By analyzing videotaped classroom practices and teacher's structured project diaries it was possible to relate planned and enacted activities to one another. In many cases, planned activities could not be carried out and the teacher had to improvise and redirect activities after negotiating with students. Although student agency and initiative is important in technology-mediated inquiry learning, the teacher's strategic guidance also plays a crucial role because only she can have a clear understanding of long-terms objectives of an inquiry project. Creative efforts produce valuable results only through deliberate but flexible structuring and systematic guiding. Such an example shows how demanding it is to develop new practices in Colleges. Intensive efforts in teacher education are needed.

Technological innovations are not necessarily pedagogical innovations. If the teachers' goals are mainly directed towards contents and knowledge acquisition, new technologies do not change very much. For instance, in many cases MOOC environments are mainly used for structuring and organizing learning materials. There is not very much space for knowledge creation. Originally, ConnectivistcMOOCs were started in Canada. They were heavily integrated around social media. Commercial MOOC approaches are more often integrated in very traditional ways.

Flipped classroom is more likely to flip the logic of learning than MOOCs.[118]This approach is quite new, and the best sources to learn about it may be found in Twitter. #flipped #flipped learning compensate for the lack of literature. Flipped classroom means that instead of using contact time for knowledge transmission, the students or pupils acquire the needed information before the session. The F2F time is then used for such expert- like ("mind-teaching"[119]) activities as solving collaboratively complex problems, getting repeated feedback from teachers and tutors, investing deliberate efforts for recovering failures and improving performance, and engaging in joint elaboration, discussion and creation of knowledge. Such approaches call for transforming teacher education.

A new kind of educational leadership is called for to change Colleges

Developing new learning environments and positioning them successfully into operation requires a corresponding supportive atmosphere and culture. Contemporary ICT-based solutions can improve learning results only if the surrounding social practices are updated and revised accordingly. However, the pedagogical shift is not the only factor that is challenging the operative working culture in school context: also the amount of administration and responsibilities has increased and thus reduced the time available for pedagogical development work.

How to react to these contemporary demands is, eventually, always a matter of leadership. Therefore at least in Finland many innovative Colleges have already developed various practices of shared leadership to ease the situation, and mainly purely out of practical reasons. Shared leadership means the distribution of different organizational responsibilities between the employees. This spares

time and liberates the school's principle to promote the pedagogical development work at school, for instance by participating, encouraging and leading by example, which should be the main role of a modern principal.

Shared leadership also demands collective guidelines to ensure convergence of decision making. This highlights the importance of one's own vision and strategy.[131] Furthermore, teachers' ownership of their own work and commitment increases and the shared responsibilities encourage them to implement new practices of collaboration, such as various teams that focus on different responsibilities of their school. Such practices of collaboration, directly and indirectly, also increase the amount of activities that happen somewhere between the classrooms and official administration.[132] This kind of cultural transformation led by visionary leadership can be seen as a crucial adaptation for future needs and should influence also the design of new learning environments.

4. FINDINGS

✓ It is important to base our conclusions on perceiving learning as knowledge creation, rather than emphasizing mere knowledge acquisition. 21st century skills are integral parts of learning.

✓ Learning takes place between people and their cultural surroundings. It is therefore important to develop collective cultural practices, physical learning environments, and institutional routines (e.g. assessment) to support engagement, innovation, and knowledge creation at school. Paradoxically, this can be done by supporting local agency and participation.

✓ The knowledge practices of digital natives are different from previous generations, even though there is no reason to assume that their cognitive system is profoundly different from ours. They have just extended their minds differently with new kinds of tools.

✓ Well-being and Social and Emotional Learning (SEL) are at least as important as other 21st century skills (such as media literacy, cultural awareness, and complex problem solving). Arts, music, sports, and handicraft are also important for balanced emotional and cognitive development.

✓ Instead of computer-supported learning, it would be advisable to talk about new forms of Socio-Digital Participation (SDP). This includes media literacy, such as using social media and search engines.

✓ There is no evidence that learning styles or types would be informative in designing learning environments. Alternatively, it would be advisable to observe users' motivational profiles or study orientations. Meaningful and engaging learning methods are advisable, which support collaboration and self-regulation.

✓ Pedagogical innovations are needed – technological innovations are often pedagogically weak. Fragmented projects start and end, but fundamental structures remain the same. Systematic development of flipped and inquiry-based learning programs with meaningful use of technologies would be advisable.

✓ We need constant reforms in Colleges and teacher education. The Colleges are not following the important developments of society. We have perhaps spent too much time looking at test results, such as PISA.

5. DISCUSSION AND RECOMMENDATIONS

This brief took stock of issues relating to three sets of focus technologies: Open Educational Resources, 1:1 computing environments, and computer data systems. Each of these focus technologies promises a different type of contribution toward a "digital revolution" in Europe. However, each also comes with its own unique limitations and challenges. For example, although OERs promise widespread, instantaneous access to knowledge, it is yet unclear how to ensure that learners regularly access and benefit from those resources. Similarly, although 1:1 computing environments promise to support changes in classroom instruction, they also face questions regarding their best and most appropriate uses. Finally, computer data systems promise to improve what educators see and understand about students. Even so, the success of these systems is influenced by issues including access, interoperability, and questions about which data are most appropriate. The disparities in these various challenges point toward the need for tailored approaches to supporting the uses of particular technologies. However, some trends do emerge when considering these focus technologies as an ensemble. The following discussion describes commonalities among the focus technologies, as well as recommendations that might serve technology implementation generally.

CONCLUSION

In the end, the transformative power of any technology in Colleges depends on human choices and circumstances. As digital technologies become increasingly ubiquitous in daily life, it becomes ever more important to consider not only how they might contribute to learning, but also why. In other words, some of the work of ensuring a "digital revolution" in education is about logistics, investment, and policy. However, some of the work is also about good storytelling. Learners will not engage in online learning if they do not subscribe to a vision about its potential benefits. Digital devices will go little used if students and teachers do not envision a new mode of schooling. Computer data systems are poor investments if communities and educators do not agree about the end goals of schooling and which data conform to those goals. Thus, the challenge of the digital era is as much about making well -informed decisions, as it is a matter of developing insight into what convinces people to make the most of their technologies in the first place.

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