

Understanding 21st Century Learners and ICT for Quality Improvement of Teacher Education in India

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INTRODUCTION

There is little doubt that the 21st century learner is fundamentally different from the learner of yesterday. Some researchers are even suggesting that the neurological wiring of these learners is actually physiologically different from that of their predecessors. Today's undergraduates differ in far-reaching ways from those who preceded them. They are the most diverse college students in the nation's history. Some are immigrants or children of immigrants. Most of these come from bilingual homes or families in which English is not the primary language. Many students seek a degree, first and foremost, as an occupational credential. Many have embraced the consumer mentality that regards instructors as service providers and assumes that because they have paid tuition, teachers should be responsive their needs. A surprising number of these 21st century students consider class attendance optional, convinced that they can master the course material on their own. One of the most striking characteristics of 21st century students is that they are products of a technology-rich environment, which has shaped their educational expectations. They are natural multitaskers, who grew up doing homework, watching TV, listening to music, and instant messaging simultaneously, and who expect constant stimulation. How are the 21st century learners? What are their academic needs? How can we, as the educators, join them in their journey of learning? How can we best meet the needs of students who are quite different from those we saw in the past? These are the questions that have been tried to answer in this paper by focusing on the characteristics of the 21st century learners and its implications for the teacher educators with the ICT concerns wherever needed.

Characteristics of the 21st Century Learners¹, their ICT concerns and Implications for the Teachers Educators

1. Desire to express: 21st century learners want to have a say in their education. They will respond better when their voices are heard. Using various media like mobiles, internets, Wi-Fi etc. have developed an intense desire to express themselves in front of others. If it doesn't happen, they may lose interest or avoid learning in the classroom.

ICT Concern: These learners are having a huge interactive web platform with the help of Web 2.0, 3.0, and now 4.0 as well. Their desire to express their ideas, thoughts, wishes, feelings etc. is satisfied by the thousands of web platforms which allow them chatting, posting photos and videos, video conferencing, hangouts etc. with these facilities their desire to express has increased incredibly.

Implications: To take care of this urge, teacher educators should be an effective communicator and facilitator who stimulate learners to express their views, ideas, emotions and vision. They will have to listen to the learners thoughtfully and responsively inside as well as outside the class. Freedom of expression is becoming the key factor in the education process as it is also a

democratic value. In addition, freedom to choose subjects, teachers and resources of learning are also the expectations of these learners. The teacher educator should allow these learners to express themselves through the web tools available and should also respond to their ideas, feelings and thoughts online to satisfy their urge to express.

2. Collaborate Well: In the 21st Century classroom, teachers are facilitators of student learning and creators of productive classroom environments in which students can develop the skills they will need in the workplace. They love teamwork and figuring things out with their friends. The focus of the 21st Century classroom is on students experiencing the environment they will enter as 21st Century workers.

ICT Concern: The 21st century learners collaborate mainly through some web tools like messengers, video conferencing, blogging, e-mails, forming groups on social networking websites like Google+, Facebook etc. and online learning platforms provided by various organizations. They are always active members of various academic and non-academic groups through their Mobiles, Tablets, Notebooks or Laptops.

Implication: In order to meet this challenge, the teacher educator can frame collaborative project-based curriculum that can be used in the classroom to develop the higher order thinking skills, effective communication skills, and knowledge of technology that students will need in the 21st Century workplace. It is not true that lecture method is useless. However the time for lecturing can be reduced and it should be intervened by some pair work or group work or a small project inside or outside the classroom which can provide them a space to collaborate with classmates and gain meaningful experiences. The teacher educator can also promote collaborative presentations on the syllabus topics and include it in the curriculum itself. The interdisciplinary nature of the 21st Century classroom sets it apart from the 20th Century classroom. Lectures on a single subject at a time were the norm in the past and today collaboration is the thread for all the students eager for effective learning.

3. Highly Competent in ICT: The 21st century learners often have higher level of computer literacy than their parents or teachers. They don't know a world without computers. Genuine computer literacy involves not just technical knowledge and skills, but refined reading, writing, research and communicating ability that involves heightened capacities for critically accessing, analyzing, interpreting, processing, and storing both print-based and multimedia material. Thus the generation gap in terms of physical, intellectual, attitudinal and ideological aspects of personality has been intensified by this vast gap in terms of computer literacy between the student teachers and teacher educators. The student teachers are using latest gadgets with latest software and habituated to learn through multi-media and internet.

Implication: To bridge this gap a teacher educator should update himself regarding the use of latest gadgets and software coming in the market. Not only that, he should be able to incorporate these in his the classroom work effectively so that the student teachers may feel comfortable while learning in the class otherwise there are chances that with the old notes and old methods in the classroom the teacher educator may lose his identity and respect in the minds of the student teacher. For example, the teacher educator should use Google groups, blogging, moodle, hyperlink, web resources and multi-media tools available to

make the classroom interesting as well as to establish friendly relationship with the students. Moreover for Continuous Professional Development (CPD), teacher educators must be computer literate in above mentioned sense of the term.

4. Expect Honesty and Transparency: 21st century learners are advanced learners. Sometimes they have more correct information or details or knowledge regarding the topic of the syllabus than the teacher educator has. So they want you to tell them when you have messed up. They expect you to apologize for it, and move on. The same is the case with plagiarism. If you copy from an internet resource and present in the class as your own you will soon lose your reputation and respect in the whole class. The student may catch you red handed if they are bold and assertive. 21st century learners won't accept this type of dishonest and hypocrite person as their teacher and then they will stop learning from you throughout the course.

Implication: To solve this problem, it is said that to err is human and to forgive is divine. No big deal. Just don't try to hide it. If you try to hide your errors and boast of your knowledge then they are likely to post it on Facebook or other social networking website. You might have to face an embarrassing situation publicly. The teacher educators should be honest learners first and join the world of learning actively.

5. Demand Freedom for Creativity: 21st century learners feel irritated and bored if they have to learn by memorizing. They will do it if you make them, but be prepared to let them loose to be creative, too. The focus is no longer on learning by memorizing and recalling information but on learning how to learn. Now, students use the information they have learned and demonstrate their mastery of the content in the projects they work on. Students learn how to ask the right questions, how to conduct an appropriate investigation, how to find answers, and how to use information. The emphasis in this classroom is on creating lifelong learners. Thus student teacher demand freedom in terms of selecting subjects, teachers, resource materials, ways and methods of learning they use so on and so forth. Now the teacher educator cannot impose upon them strict rules of discipline as it leads to a mechanical process of learning while the students are interested in creativity. They like innovative and creative ideas and interested in doing these types of activities.

Implication: As a result of this characteristic of the 21st century learners, the teacher educators has to demonstrate innovation, flexibility, and adaptability in thinking patterns, work habits, and working/learning conditions. They should also provide opportunities to student teachers to explore their creativity in various ways through curricular and co-curricular activities. Some of the tasks related to the syllabus should be based on creative thinking. The students' creative ideas should also be published either in printed form or online so that they are motivated to express themselves more. When you emphasize creativity freedom automatically enters in the overall behavior and interaction because both are deeply interrelated. The student teachers should also get the freedom to discuss, to ask, to crosscheck the teacher, to opine and to access to various resources at their convenience.

6. Multi-tasking: One of the most striking characteristics of 21st century students is that they are products of a technology-rich environment, which has shaped their educational expectations. They are natural multitaskers, who grew up doing homework, watching TV, listening to music, and instant messaging simultaneously, and who expect constant stimulation. They will certainly feel uncomfortable in the mono-task learning. They would like multi-tasking methods of learning which suits their mindset they have developed through their day-to-day life style and multi-tasking gadgets like smartphones, tablets, laptops etc.

ICT concern: Today's learners work on multi-tasking operating systems like windows. Not only that they are accustomed to surf through multiple websites at a time for various purposes including academic and non-academic. These activities have enabled them with multi-tasking skills and they enjoy if they are given such tasks by the teacher. Therefore a teacher should address their multi-tasking faculty of nature.

Implication: To suit this nature of the 21st century learner, the teacher educators can use multi-media materials in the classroom. They should design proper tasks for each type of materials in such a way that they experience multi-tasking as they experience while handling their mobiles. For example, there may be a task where they have to listen, observe, note down, analyze and respond simultaneously.

7. Learning by Doing : Just try making the 21st century learners sit down and learn from you by watching, observing idly. See what happens. Certainly they will be restless and start other mental or physical activity away from what is being taught. For example, sending SMS to a friend, surfing on Wi-Fi, looking outside the windows, recalling their past memories etc... They don't want to remain passive at any cost in this fast changing world. They are the generation that believes in action, doing and through it experiencing not just depending on observing somebody's action or experiences.

Implication: The solution to this challenge is the methods of teaching and learning which promote learning by doing. One of the most popular examples is project method. The teacher educator should assign and guide relevant and meaningful projects to the student teachers. In these projects, they learn by searching, collaborating, communicating, gathering and analyzing data, making or listening to presentations and all the first hand experiences they pass through. Teacher educators should provide various resources like scholars, books, materials, web tools, useful websites, printed or soft materials, multimedia materials etc. not himself dictating from these materials. Let them do. Let them self-learn at least some part of the syllabus.

8. Have a "can do" attitude: Of course, for the 21st century students there is nothing to be afraid of. They are ready to face every challenge of learning. They use trial-error method most effectively in their academic career and routine life both. They are not bothered about the outcome but try to complete the process with 'can do' confidence.

ICT Concern: The daily use of ICT and the millions of online resources have generated a higher level confidence among the 21st century learners. All types of user friendly software and websites are available for free to complete any sort of task and to learn anything. This kind of support has developed "Can do" attitude in the learners. They are no more paralyzed learners depending upon teachers. On the contrary they are now eager to know and do what their teachers know and do.

Implication: If the student teachers are ready to venture, what about teacher educators? There is so much to learn in this world in less time. How can you as an educator know all these things? So a teacher educator better follow the techniques given below:

- Identify the goals and facilitate the learning.
- Have them teach each other.
- Trust your students.

9. Have Multicultural Awareness and Appreciation: This generation is more aware of a variety cultures, countries and ways of life than any generation before them. They are themselves having multicultural family or social background nowadays.

They can appreciate and participate in the programs of the other culture easily rather than their parents and teachers. They believe in cultural exchange and cultural identity both at the same time.

Implication: To satisfy the learners' urge to know about their own and other cultures, the teacher educator can foster cultural awareness and cultural sensitivity in his students. He can also encourage students to learn about other cultures and instills in her students a respect for others and their differences. If the educator himself exhibit cultured behavior, cultural values and cultural awareness in his day-to-day life, the student teachers will automatically join him.

10. Expect Inter-disciplinary Approach: It is we, the older generation, who organize topics into "subjects". The 21st century learner understands that the subjects are inherently interconnected. They want to perceive their studies as a whole, interconnected, logically linked. They want to study physics of drawing and medicine of dancing.

As a teacher educator, it is our responsibility to design and offer at least one or two papers as electives (in CBCS system) that are inter-disciplinary in real sense. If it is not possible, start with assigning them interdisciplinary tasks, assignments and projects. Teacher educators should make their classroom discussion lively by illustrating from other disciplines.

11. Open to Change: In this era of globalization, 21st century learners are accustomed to rapid change. In fact, they welcome and adapt to these rapid changes comfortably. They are ready to change themselves according to changes in the socio-economic and political environment around them where their parents and teachers are not able to adapt to fast changes easily and effectively. Either they take longer time or they have to struggle very hard.

Implication: Teacher educators will also have to remain open to change. They will have to train themselves first in this respect and walk with students hand in hand by bringing about necessary changes in themselves from time to time. Educators expect their students to be life-long learners. Teachers must continue to absorb experiences and knowledge, as well. They must endeavor to stay current. I wonder: "How many people are still using their lesson and unit plans from five years ago?" To be a teacher, you must learn and adapt as the horizons and landscapes change.

Conclusion

If students are to be productive members of the 21st Century workplace, they must move beyond the skills of the 20th Century and master those of the 21st Century. Teachers are entrusted with mastering these skills as well and with modeling these skills in the classroom. The characteristics of the 21st Century classroom will be very different from those of in the classrooms of the past because the focus is on producing students who are highly productive, effective communicators, inventive thinkers, and masters of technology.

Resources

- http://www.ugc.edu.hk/eng/doc/ugc/publication/report/hkied_review_report/chapter_2_e.pdf
- <http://www.colorado.edu/education/faculty/jenniewhitcomb/Docs/teacher%20ed%20role.pdf>
- http://www.ets.org/Media/Education_Topics/pdf/teacherquality.pdf
- http://www.nie.edu.sg/files/spcs/TE21_Executive%20Summary_101109.pdf

- <http://www.columbia.edu/cu/tat/handout3.html>