

Identifying the Innovative Pedagogies of the 21st Century

Dr. Afiya Jamal

Research Scholar, Department of IASE, Faculty of Education, Jamia Millia Islamia, Delhi

Abstract: Teaching effectiveness and pedagogy are interdependent on each other. As per the needs and the demands of the 21st century, educators' needs to keep themselves acquainted with the knowledge & practices of innovative pedagogy. This article enlists a number of innovative pedagogies like the, formative analytics, crowdsourcing, design thinking, block chain learning, teach back method, learning with drones & robots, translanguaging, mobile learning etc. that could assist a teacher of the 21st century in enhancing their teaching effectiveness as per the needs and demands of the present hour.

Key words: Innovative, pedagogy

THE NEW INNOVATIVE PEDAGOGY AND ITS IMPLEMENTATION

Learning through social media

Most of the learners use popular social media accounts like Twitter, Facebook, Instagram for sharing their thoughts, ideas and engage in conversation on the digital platform. One can make fruitful use of social media platform for learning, seeking expert advice, encounter challenges, defend opinions and amend ideas in the face criticism. There are number of social media accounts that have been sharing information and knowledge. For example NASA (National Aeronautics and Space Administration, USA) shares its work update by multiple twitter accounts named after their spacecraft. So, for an effective teaching a teacher can make use of social media to bridge the learning gap encountered by the learners of the new millennial.

Productive failure method

This is the method of teaching where students are given complex problems to solve on their own without any assistance or instruction by teachers. Sometimes during the course of failing to find a solution to a problem, the learners are equipped with deeper understanding of the concept. When the teacher introduces the concepts, the students are able to

consolidate their knowledge accordingly and are able to make differentiation between the good and bad answers. For example a student is asked to solve a mathematical problem based on certain mathematical concept. Since the child hasn't been introduced to the new concept earlier he/she might try to solve that problem based on previous knowledge/concept and fail to get to the right answer. In such case, when the new concept is introduced to the learner, they make effective use of it in learning and solving the mathematical problems based on it. This mechanism of teaching takes place in two phases. In the first phase emphasis is on enabling learners to explore the problem and try to generate solution on the basis of their previous knowledge. In the second phase, the teacher introduces the correct concept and helps the learner in finding the right solution.

Teach back method

Teach back is a means for two or more people to demonstrate that they are progressing towards a shared understanding of a complex topic. In this method of teaching, the teacher explains the concept or a topic to the learner and later on the learner explains or teach back the same topic to the teacher by reframing it in their own terms. This method lets the learner explore their concepts and it also helps educators to understand the level of understanding of their students.

Learning from the crowd

Learning from the crowd is also termed as crowdsourcing. Although this is a very new method of teaching and learning but it does have future prospects. Here the experiences, knowledge of crowd (general public) is taken into account to solve problems, create content, exchange ideas and combine wisdoms of other. Wikipedia, one of the largest online encyclopedia is run by crowdsourcing where anyone can add to the content knowledge. Online platforms are effectively used for crowdsourcing. Some other examples are kickstarter website, it proposes project

and raises fund from the crowd to implement those projects. Similarly, an application named nQuire-it, i-Spot enables the participants to collect and share a wide range of data like noise levels of different location, water purity standard, air pressure etc. It makes use of the sensor of the phone to collect data. Crowdsourcing can be effectively used in school education to gather and generate wide range of data that would eventually add to the knowledge of the learner.

Learning through video games

Good video games help learners to get acquainted with skills like problem solving, creative thinking. It helped in the improvement of both cognitive and intrapersonal learning. A well designed video games helps children in learning the curriculum topics effectively, it also promotes motivation, openness, positive attitude and positive self-evaluation. Playing with video games can also inspire the learners to learn skills that are necessary for developing the game. There are instances where small age group children learn coding and develop application and video games. Thus, video games can prove to be an effective tool for science based learning.

Formative analytics

Formative analytics is defined as “supporting the learner to reflect on what is learned, what can be improved, which goals can be achieved, and how to move forward” (Sharples et al., 2016). This pedagogy makes use of behavioral data of learners for better understanding of teaching & learning process. Formative analytics helps learner to reflect on what has been learned and what goals of learning are yet to be achieved. It provides personalized feedback to the learners. It is the task of teachers and analytic expert to help learners in coping with the difficulty that they encounter in learning process by sharing & discussing with them the formative analytics results effectively.

Design thinking approach

This pedagogy mainly focuses on the concept of learning where a learner is placed in a situation where they think & work like an expert designer. Design thinking can be applied to any subject area that involves creating an innovative & useful product that addresses peoples need. This can be applied in any field like engineering, medicine, computer science,

creative writing to help learners in designing new and innovative products by means of people working in groups. In teacher education, design thinking helps teachers in designing lesson plans effectively. Design thinking is demanding intellectually and practically for both learners & educators. Its main motive is to promote innovation and scientific temper among the learners.

Learning with drones and robots

As stated by Thomas and Munge, 2015, 2017, “outdoor fieldwork is a long-standing student-centered pedagogy across a range of disciplines, which is increasingly supported by information technology”. Drone-based learning is a recent innovation which is being used to support fieldwork so as to enhance students' capability to explore outdoor physical environments. The combination of human senses with the multimedia capabilities of a drone (image and video capture) means that the learning experience can be rich and multimodal. Learning with robots could help teachers to free up time on simple, repetitive tasks, and provide scaffolding to learners.

Translanguaging

The word ‘languaging’ means using a language to create some meaning. Moving flexibly between two similar languages is called ‘translanguaging’. Translanguaging can be effectively used as a pedagogy tool for better learning among students of diverse group. For example, a school is running in a rural area in India where most of the students are well versed in their mother tongue then in that case, teacher can teach in (Hindi/English) by making use of translanguaging. Here, students are encouraged to discuss the learned concept in their mother tongue for better understanding. Slowly and gradually, bilingual students gain confidence in the language that is being taught in the class while monolingual students grasp words of the native language as well. Tools such as mobile devices, translation software, cross-cultural social networks as well as online resources available in other languages, can all contribute to translanguaging among teachers and Students.

Mobile –learning

Mobile learning is widely in use these days. Google is a search tool that is extensively used both by learners and educators. In educational institutions, educators

create WhatsApp groups to share important documents, notes, notifications among his/her students. Mobile becomes an important tool for learning as it is used to record lectures, take screenshot of important notes from books that are available in the library, it is also used for scanning notes/books and converting into pdf for future usage. Students share notes and information among themselves through WhatsApp group, Facebook, Instagram & Telegram. One can say that mobile learning is dominant everywhere. During the coronavirus pandemic, when offline classes were suspended indefinitely, mobile phones were of great help for students in attending the online lectures. Not every student had the privilege of using laptop for online classes. Since, mobile phones are readily available and are used almost by everyone, it is important that innovative ways should be found to engage students in mobile learning through effective ways.

Block chain for learning

Block chain is a term that is closely used while talking about Bitcoin, the crypto currency. Block chain is actually the database technology used in cryptocurrencies like Bitcoin. Data entered on a block chain is stored in blocks that are arranged chronologically so that its origin and authenticity can be verified easily. Though it is in its infancy stage yet block chain technology is being used in education as well. It provides a digital system where many kinds of educational records are stored in thousands of computers. These records can include degree certificates, creative works & credentials. The University of Nicosia, Cyprus was the first Education Institution to store its exam certificates on the Bitcoin Blockchain. A 2019 survey by the research firm Gartner revealed that 2% of higher education institutions were using block chain while 18% have planned to do so over the next two years. One advantage of using this technology is that, the employer instead of contacting the University to verify the educational qualification of a student can directly check it on University's copy of Block chain where all kinds of data are stored. Block chain technology allows students to own & manage their academic achievements, thus enabling them to control their academic identity. Block chain offers secure storage for digital syllabus & curriculum. This could also make educators' job easier via the use of smart

contracts. A teacher could easily program lessons and courses into a block chain, setting up tasks for students and also carry on grading. Online teaching/ online courses will be highly benefited by the incorporation of this technology, as it makes the process much easier and convenient. The only challenge of using this technology in education is ensuring data security, scalability and cost.

CONCLUSION

Teaching effectiveness and pedagogy are both interdependent on each other. With the gradual passage of time, the demands of the learners and the society are constantly changing. An effective teacher needs to keep themselves updated by incorporating the new innovative pedagogical practices in their teaching. The above mentioned pedagogical practices like the, block chain learning, design thinking, formative analytics, and crowd sourcing are all in being adopted & practiced by the educational institutions across the world. In this era of globalization, India too needs to adopt these innovative technologies effectively in its education system with the support from government, administrative bodies, educators & learners. New Education Policy 2020 has given lot of stress on the adoption of ICT integrated teaching & learning. Identification and implementation of innovative pedagogical practices by educators at all levels of education would certainly help in raising the standard of learning and teaching as per the needs & demands of the 21st century.

REFERENCE

- [1] Hattie, J. (2003). Teachers make a difference: What is the research evidence? Background paper to presentation of ACER Research Conference, Melbourne, October 19-21.
- [2] Kapur, M. (2008). Productive failure. *Cognition and Instruction*, 26(3), 379-424.
- [3] Killen, R. (1998). *Effective Teaching Strategies: Lessons from Research and Practice*, 2nd Edn, Katoomba, Social Science Press.
- [4] Killen, R. (2003). *Effective Teaching Strategies: Lessons from Research and Practice*, 3rd Edn, Southbank, Thomson Social Science Press.

- [5] Killen, R. (2005). *Programming and Assessment for Quality Teaching and Learning*. South Melbourne: Cengage Press.
- [6] Killen, R. (2007). *Effective Teaching Strategies: Lessons from Research and Practice*, 4th Edn, Southbank, Thomson Social Science Press.
- [7] Killen, R. (2009). *Effective Teaching Strategies: Lessons from Research and Practice*, 5th Edn. South Melbourne, Cengage Learning.
- [8] Killen, R. (2013). *Effective Teaching Strategies: Lessons from Research and Practice*, 6th Edn. Melbourne, Cengage Learning.
- [9] MacGregor, R. R. (2007). *The essential practices of high quality teaching and learning*, Bellevue, WA. The Center for Educational Effectiveness, Inc
- [10] Marsh, C. J. (2008). *Becoming a Teacher: Knowledge, Skills and Issues*, 4th Edn, Frenchs Forest, Pearson Education.
- [11] Marsh, C.J. (2010). *Becoming a Teacher: Knowledge, Skills and Issues*, 5th Edn, Frenchs Forest, Pearson Education
- [12] Medley, D. (1979). *The effectiveness of teachers*. In P. Peterson & H. Walberg (Eds), *Research on Teaching: Concepts, Findings and Implications*, Berkeley, California, McCutchan.
- [13] Sharples, M., de Roock, R., Ferguson, R., Gaved, M., Herodotou, C., Koh, E., et al. (2016). *Innovating Pedagogy 2016: Open University Innovation Report 5*. Milton Keynes: The Open University.
- [14] Thomas, G., and Munge, B. (2017). Innovative outdoor fieldwork pedagogies in the higher education sector: optimising the use of technology. *J. Outdoor Environ. Educ.* 20, 7–13. doi: 10.1007/BF03400998

Online sources

- [1] <https://resourced.prometheanworld.com/pedagogy-learning-practices/>
- [2] www.manukapur.com/research/productive-failure/
- [3] <https://online.maryville.edu/blog/blockchain-in-education/>