

Opportunities and challenges of open educational resources for the learning communities

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ABSTRACT

Educational resources are the mainstay of teacher education programmes, with specific parts of the curriculum devoted to orienting future teachers regarding issues such as, resource material selection, construction and application. However, in the mainstream education system, regular teachers seldom make use of resources other than the textbook in order to enrich their teaching. The paper discusses the nature of educational resources and their significance in the teaching learning process, along with the opportunities and challenges which they offer.

Key Words: Educational resources, teaching learning process, opportunities, challenges.

Educational Resources in the Classroom

Creating an active and democratic classroom where learners and teachers participate in the construction of knowledge is the ideal which schools strive for. Educational resources are a major contributor to this vision. They stimulate learners' interest in the content by engaging all their senses and enable them to experience different aspects of the concept. In fact, these resources are an essential component of the teaching learning process and help teachers tailor their pedagogic processes for a diverse and multicultural classroom environment. They establish socio-cultural relevance and serve to include learners from diverse backgrounds so that learning can be connected to their unique contexts.

Educational resources are as diverse as the people using them. There are many factors involved in the decision to use a particular resource, such as, learner characteristics and interests, content variables, feasibility, teacher expertise, infrastructural issues and class diversity. A dynamic interplay of such factors determines which resource will be employed during classroom transaction. Textbooks are the time tested resource in schooling. While school books, either prescribed or recommended, remain popular, they are being supplemented by activity books and workbooks. With the advent of information and communication technology, e-books, which allow access to books on electronic devices, have also come into the picture.

Audio-visual resources are an important category. Auditory resources like, recordings of famous speeches, language labs, podcasts and music based education can be utilized to bring the topic alive. Visual resources include info graphics, flowcharts, posters, diagrams, mind maps or any other kind of visual representation of concepts and processes. Geometric shapes, blocks and beads to understand the spatial orientation of mathematical concepts; Science kits and models to conduct experiments and visualize microscopic processes are some examples of kinesthetic resources facilitating a hands-on, minds-on

approach to education. In this digital age, we literally have the world in our palm. There is a plethora of apps and games available that teach concepts in innovative ways. The Covid pandemic forced us to discover novel avenues for connecting with each other through technology. Google meet and zoom became the default options for taking classes in schools. Learning Management Systems, such as, Google classroom were useful in transaction, as well as, administration of educational courses. Capitalizing on such trends, teachers can log in to numerous websites and portals which offer educational quizzes and interactive activities that can be customized for individual learners. Virtual reality technologies are another exciting area. They offer the opportunity to explore environments through immersive experiences which learners would ordinarily not be able to access.

Edgar Dale's Cone of Experience

It is not possible to discuss resources used in the class without mentioning the contribution of Edgar Dale. He was a pioneering influence in the field and established the rationale on which the edifice of teaching learning material is built. His cone of experience is a visual metaphor which tells us about the effectiveness of different kinds of teaching learning experiences. The iconic cone represents a continuum wherein the flow is from the most concrete experiences at the base of the cone going upwards in a graded manner to the most abstract ones at the top. All the five senses are involved in the experiences at the lower levels while there is a gradual reduction in the number of senses used as we encounter the higher levels.

At the base are direct purposeful experiences, such as real world activities and experiments involving direct interaction with the resources. Moving upwards, the level of abstraction increases to feature contrived and dramatized experiences, as well as, demonstrations. As we go further, field trips, exhibits, motion pictures, audio recordings are placed at successively higher levels. Visual symbols and finally text or verbal symbols are at the highest level of the cone. Ironically, in the context of most schools, the cone seems to be inverted, with books and teacher talk dominating the classroom from the initial years of schooling itself. Audio-visual resources and real world applications are relegated to the background. In such a scenario, it is no surprise that many students find the school curriculum boring and incomprehensible. Dale, in fact recommended a judicious mix of concrete and abstract experiences to cater to the diversity of learners in the classroom and ensure meaningful learning..

Opportunities

Educational resources provide manifold opportunities for learning as can be seen from the vignettes given below. These have been collated from interactions with learners participating in classes held during the internship phase of teacher education programmes.

“I keep waiting for ma’ams period. We have so much fun in her class. We are always doing experiments and finding out new things!”

“My friend and I made a model with the teacher’s help. It took some time but it was really exciting finding the material and making everything fit.”

“I did not have any idea that Australia had so many different types of animals. When ma’am showed us a video about the wildlife found in Australia, I was expecting to see kangaroos but there were many animals that I had never seen before.”

These responses give us a vivid picture of the positive reactions that learners have when teaching learning resources are used. The classroom environment becomes more engaging and joyful for the learners, as opposed to a drab affair where answers to ‘important’ questions are learnt by rote from the textbook. Not only is learning perceived as ‘fun’; the teacher is also seen as a friendly figure who is an active collaborator in brainstorming about how to make models, worksheets and finding novel videos to watch. The possibility of group work and peer learning while engaging in these tasks is immense and helps to foster an atmosphere of team work and cooperation. Also, while engaging in project based learning and real-world puzzles, problem-solving and critical thinking are encouraged.

Enhanced interest in the subject area translates into greater comprehension and long-term retention. Learners also report that when teachers incorporate activities, role plays, illustrations, games, poetry and ICT based material, they experience a greater sense of conceptual clarity. Piaget’s theory of genetic epistemology provides ample support for the idea that children, particularly at the elementary level need concrete objects to aid in the development of cognitive schemas.

The experiential learning that takes place during class discussions centered around real-life examples and material, are conducive to the development of process skills, such as, classifying, drawing inferences, analyzing, observing, predicting and synthesizing. These skills enable learners to have a better quality of life based on rational decision making. The concepts learnt in school do not remain on the pages of a textbook, forgotten as soon as the exams are over. Instead they are incorporated into the intellectual and social spheres of the learners’ lives; and are related to attitudinal change which leads to socially responsible life choices.

Challenges

The importance of educational resources is universally acknowledged. Yet we find that their use remains limited in schools. So, it is important to explore the reasons for the same. Numerous informal interactions with school teachers have brought forth the common challenges they face in this regard.

First and foremost, are infrastructural constraints. Either the resource material is not available in the school or is not accessible to the teachers and students. Although, both government and private schools regularly allocate funds for purchase of teaching-learning material, often times, standard equipment, such as, globes and charts are purchased again and again. Perhaps, due to lack of information about what to purchase and from where. An associated factor is the absence of any reference material like workbooks containing suggestions for activities, experiments etc. which can be performed for specific content. NCERT

textbooks have a number of activities but they are largely ignored. At times, the material required or procedure is not feasible within the school set-up. A regular system of appraisal for inclusion of at least a few activities per chapter may be beneficial. Another hindrance is the practices adopted by many schools regarding usage of material. An undue emphasis is placed on prevention of any breakage of equipment. In some schools, the responsibility of damaged equipment rests solely on the teacher and the money is deducted from her salary. This results in an extreme reluctance on the part of the teacher to provide the available material to students for performing activities and experiments.

Pre-service teacher education programmes have space in the curriculum regarding how to select material based on particular content, as well as, construct and use it as a part of their teaching practice. It has been documented that teachers have an adequate knowledge base but it does not translate into adequate usage. A study by Kumazah & Tettey, researched the usage of teaching-learning resources in Mathematics education and found that teachers are aware of various resources but do not use them regularly. The researchers suggest that teachers should collaborate to prepare material from locally available products. Inertia and peer pressure also contribute to low usage.

Newly appointed teachers are seen making frequent use of resources like, charts, worksheets and models. With the passage of time, this decreases. They are often told by experienced teachers to not 'waste' their time in such activities. Maintenance of 'status quo' and the traditional textbook culture of the school, contributes to most teachers 'falling in line'. Another factor which is frequently cited by teachers is the huge number of students per class. The class size is detrimental to conducting individual or small group activities wherein equipment can be distributed to each group and learning takes place in the constructivist paradigm. The school schedules and packed teacher time-tables also leave little room for the time consuming process of planning for and preparation of resources. Besides the regular task of taking classes, teachers are overloaded with various kinds of administrative responsibilities, once again impacting the time needed for reflecting on their pedagogy and making efforts to enrich it.

A study by Das and Sarkar (2015) about the attitudes of teachers regarding the use of materials in the classroom found a number of roadblocks in this context. Lack of infrastructure was the main finding along with paucity of time due to the pressure of work. Till such challenges are addressed meaningfully, the inclusion of educational resources in an integral manner would remain a pipe dream.

Given the many advantages that they offer, educational resources are or, in fact, should be ubiquitous in classrooms. The pre-service and in-service teacher education frameworks also emphasize their importance. There is a need to listen to the practical challenges encountered by teachers and learners so that the use of educational resources becomes the norm rather than the exception in schools.

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