


Chapter 11

Implementation of Blended Learning Methodology in Course Instrumental Methods of Analysis to Facilitate the Subject Adaptation and Learning Enhancement

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ABSTRACT

Conventional learning methodologies in chemistry had limited its efficacy with respect to the subject adaptation by the learner. Innovative teaching learning methodologies such as experiential learning, blended learning, and problem-based learning are considered the evolutionary methods for the subject adaptation by the learner. Implementation of blended learning technology in analytical chemistry had not been explored at undergraduate level. Design of blended learning methodology of the subject instrumental methods of analysis during the classroom sessions and its efficiency over conventional teaching was assessed using feedback from questionnaires. The questionnaire included feedback that was centered on the two main goals of assisting students in adopting the subject and improving their learning. A questionnaire based on students' learning-centric behavior was created in order to examine their affirmative answers to the same.

INTRODUCTION AND TYPES OF INNOVATIVE TEACHING LEARNING TECHNIQUES: BLENDED LEARNING (BL)

There is constant change in the globe and such changes have an impact on different spheres as well. Even in the field of education, there is no exception. Educational institutions have been significantly impacted by the development of platforms for online learning ultimately pushing traditional approaches to the sidelines. Both traditional learning methods and technology are needed, though. The traditional, face-to-face learning and putting pen to paper, memorizing facts has recently been shifted towards the online (internet) learning as For most students, computers, tablets, and smartphones are available, and access to technology-enabled learning has increased.

Considering the advancement of digital technology and simple access to the internet, teaching methodology has experienced a substantial alteration, particularly during the COVID epidemic. One such learning model which makes learning simple, easier, and effective is blended learning. It combines online learning with traditional classroom instruction. Traditional method of learning (i.e. teacher + homework + classroom) and has been replaced by online learning is called as Blended learning. A teaching approach called blended learning, also referred to as flipped classroom learning, enables learners to customize their learning experiences by fusing conventional classroom activities conducted by instructors with digital media and technology (Khader, 2016).

Teachers can use technology to obtain information that allows them to understand need of students in improving their learning. Teachers become expert in their subjects when they adopt new technology and make effective use of it. In this type

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