ABSTRACT

The advent of digital technology has dramatically changed the routines and practices in most arenas of human exertion. Information and Communication Technology has paved the way for accelerating a paradigm shift in the teaching-learning processes. Several research findings support that online learning enhances learning as well as higher order thinking skills. However, all topics in science cannot be transacted completely online. Moreover, science as a discipline demands certain modes of transaction such as experimentation, demonstration and discussion. Therefore, blended learning as a pedagogical strategy for facilitating learning by skillfully blending online learning techniques such as delivery of materials through web pages, discussion boards and/or emails with the effectiveness and socialization opportunities of face-to-face instruction become significant.

Though the blended learning strategy is gaining momentum all over the world, most of the researches on blended learning focus on higher education. In this context, the present study attempts to find the effect of blended learning strategy on higher order thinking and learning science among secondary school students.

The study is quasi-experimental in nature and pretest-posttest non-equivalent groups design was employed. An intact group of ninth standard students was taught six units of science using blended leaning strategy whereas the control group was taught the same science units by the regular teacher using the conventional method of teaching. The facilities of an online learning platform – ‘www.thinkquest.org’ were used to provide online learning during experimental intervention.

The study revealed that blended learning strategy is more effective than the conventional method of teaching in enhancing critical thinking, problem solving, science process skills and science achievement. It was also found that students with different learning styles are equally benefitted by the blended learning strategy. Students showed an overall positive reaction towards the strategy. The major difficulties faced by students were that learning using the blended learning strategy was more time consuming and resulted in more work load.
The findings of the research have several implications for the present educational system. Blended learning strategy can be considered as one of the initiatives of pedagogical approaches for integrating ICT in science education. Having established that higher order thinking and learning science can be effectively enhanced using blended learning strategy, serious efforts could be undertaken to improve the quality of science education by integrating online learning with face-to-face instruction.