



An assessment of leverage of multi communication through diverse media in imparting knowledge on solar applications to rural students

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Abstract

As the present student generation is digital generation, the knowledge can be imparted to them through Multicommunicating process with the support of new and social media. In this connection, the present research was conducted not only to educate rural students through Multicommunicating strategy but also to assess the status of attitude and scores of achievement of rural students on solar energy and its applications by learning through Multicommunicating process. The digital modules on solar energy and its applications were prepared and they were shared to the rural students for learning through Multicommunicating procedure. As soon as the learning process was over, the status of attitude and scores of achievement of the rural students were assessed. The attitudinal assessment revealed that the learning through media Multicommunicating strategy was easy, exhilarating and also effectual. The attitudinal assessment also revealed that the learning through media Multicommunicating process was a convenient, collaborative and comfortable process. The achievement assessment revealed that the rural students got higher scores in knowledge level test than those of the obtained scores in understanding and applied thinking skill level tests. The achievement assessment also revealed that the overall achievement scores of the rural students in the combined knowledge, understanding and applied thinking level tests crossed the bench mark of first class. As these was constructive connection among the media Multicommunicating strategy, learning through the media Multicommunicating process and academic achievement of the learners, it could be concluded that the media Multicommunicating strategy would be effectively used in educating the basics of science subjects to the rural students.

Keywords: multicommunicating – new and social media – digital modules on solar applications – learning of rural students - status of attitude – scores of achievement

1. Introduction

Energy security is vital for the economic sustenance of any country. The utilization of solar energy, which is a part of energy security, is imperative for the sustained growth of economy. In addition, the utilization of solar energy is imperative for environmental protection and ecological preservation of our country [1]. It is worth mentioning here that the sharing of knowledge on solar energy and its applications to rural students through media Multicommunicating process is mandatory for reaping ultimately the benefits of energy conservation, environmental protection and economic sustenance of our country. The research reviews show that the media Multicommunicating process with the support of new and social media can be used for communication, learning in collaboration and teaching with the cooperation of learners [2, 3]. The research reviews also show that the media Multicommunicating process with the support of new and social media can provide facilities including sharing of texts, spreading of pictures and spreading of videos for enriching the teaching, learning and evaluation process [4, 5]. At this juncture, an extensive research related to the learning of solar energy and its applications by rural students through media Multicommunicating process was framed with the objectives such as (i) to develop digital contents on the basics of solar energy and its applications, (ii) to educate rural students on solar energy and its applications

through media Multicommunicating strategy and (iii) to assess the status of attitude and scores of achievement of rural students on solar energy and its applications by learning through media Multicommunicating process. These objectives of the present novel research were materialized not only by adopting standard materials but also by adhering standard methodology. The research results have been presented in this research paper for the benefits of rural students, educators, energy experts, users of social media and researchers worldwide.

2. Materials and Methods

In the present research work, the vital topic SOLAR ENERGY AND ITS APPLICATIONS was selected and the digital modules on the subtopics such as (i) introduction on solar energy, (ii) solar electrical energy, (iii) solar thermal energy, (iv) Solar electrical and thermal appliances and (v) solar electrical and thermal applications in energy-intensive sectors were developed [6]. It is to be noted here that the digital modules were embedded with multimedia features that mainly comprised suitable pictures, photographs and videos.

In the present research, a group with thirty rural students was formed in connection with sharing of knowledge on solar energy and its applications. As the Multicommunicating strategy was adopted, the developed digital modules, associated study materials and additional study materials were

electronically posted by the group admin to these students through new and social media. The students could study the academic contents in digital modules and subsequently they could interact with group admin for getting their doubts clarified. The students could also interact with each other through posting questions and getting clarified.

In the present research, the researcher conducted two tests for assessing the status of attitude towards learning through the present novel strategy and scores of achievement on solar energy its applications. The first test was related to attitudinal assessment and it had the questionnaire with 10 questions and it was developed on a four point Likert type scale responses of strongly agree, agree, disagree, strongly disagree ^[7]. The second test was related to achievement assessment and it had the questionnaire with 30 questions (in which 10 question was related to assessment on knowledge in concept, 10 questions was related to assessment on understanding in concept and 10 questions was related to applied thinking skill in concept) and the questionnaires consisted of multiple choice questions with four responses options with only one correct answer ^[8]. The test papers were valued and the test results have been documented in this research paper.

3. Results and Discussion

In the present research, the knowledge on solar energy and its applications was imparted to rural students by adopting Multicommunicating strategy. In addition, the status of attitude and scores of achievement of the rural students were assessed. The Table 1 presents the profile of rural students, whereas the Table 2 and Table 3 present the attitudinal status and academic achievement of the same students.

All the participants were second and third year UG students and so they had the age variation from 19 to 21. It was observed that their residence and college locations were in rural areas. Even though they had rural background, they had experiences not only in handling mobile phones but also in using the new and social media. They were using the new and social media for about two years as an average and it was noted that the most of the participants were in groups on

common interests and they used to utilize the new and social media for communication, entertainment and sharing current affairs. It was also noted that some of the participants used the new and social media for academic purposes.

All the participants invariably opined that the learning through media Multicommunicating strategy was easy, exhilarating and also effectual. They also opined that the learning through media Multicommunicating process was a convenient, collaborative and comfortable process. The rural students gave the feedback that the extensive study of digital modules, associated study materials and additional study materials that were got through different new and social media were useful to them for enriching their knowledge. The rural student also gave the feedback that the learning of solar energy and its applications was beneficial to them.

All the participants had achievement scores that crossed the bench mark of first class. Even though there were no face-to-face communication between the instructors and learners, the students could excel on the whole at knowledge, understanding and advanced thinking level tests. The academic achievement with reference to achievement scores of the rural students could be correlated to the positive attitude towards media Multicommunicating strategy, learning through Multicommunicating process and communicating through Multicommunicating procedure ^[9]. The academic achievement in connection with achievement scores of the rural students could also be correlated to sharing of schedule events, digital modules, associated study materials and additional study materials to them ^[10]. The academic achievement with reference to achievement scores of the rural students could be attributed with the exposure of rural students in the use of media, experience of rural students in the usage of smart phones and continual utilization of media for communication with their friends and relatives ^[11]. The academic achievement of the rural students in connection with achievement scores of rural students could also be attributed with their interest, involvement and interaction during the learning tenure of the course on solar energy and its applications ^[12].

4. Tables

Table 1: Profile of rural students

Age	19 to 21 years
Academic level	Second and third year students of UG
Academic course	Studying UG course
Residential and college location	Rural
Mostly used social media	WhatsApp, Facebook and Twitter
Purposes for using new and social media	Communication, Entertainment and Sharing of information
Average time spent and years of usage	One hour daily and two years

Table 2: Attitude of student respondents

Statements (MMC refers to media Multicommunicating process)	Response (%)			
	A	SA	DA	SDA
Learning through MMC is easy	80	20		
Learning through MMC is interesting	80	20		
Learning through MMC is convenient	80	20		
Learning through MMC is comfortable	60	40		
Learning through MMC is effective	60	40		
Learning through MMC does not provide information of fellow learners			20	80

Learning through MMC does not provide collaborative learning			20	80
Achievement can be assessed by subjective questions			30	70
Achievement scores cannot cross the benchmark			30	70
MMC is an opt strategy to teach and learn the basics of science	80	20		

Table 3: Results of achievement

Parameters	Achievement scores (%)		
	Minimum	Maximum	Average
Knowledge level scores	70	90	76.0
Understanding level scores	60	70	61.7
Applied thinking level scores	60	70	60.7

5. Conclusion

As these was constructive connection among the media Multicommunicating strategy, learning through the media Multicommunicating process and academic achievement of the learners, it could be concluded that the media Multicommunicating strategy would be effectively used in educating the basics of science subjects to the rural students.

6. References

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