AWARENESS AND USE OF OPEN EDUCATIONAL RESEARCH AMONG ENGINEERING INSTITUTIONS IN THIRUVALLUR DISTRICT, TAMIL NADU: A STUDY

1. INTRODUCTION

Open educational resources (**OER**) are teaching, learning, and research materials intentionally created and licensed to be free for the end user to own, share, and in most cases, modify. The term "OER" describes publicly accessible materials and resources for any user to use, re-mix, improve, and redistribute under some licenses. These are designed to reduce accessibility barriers by implementing best practices in teaching and to be adapted for local unique contexts.

It is believed that OER will bring phenomenal changes to higher education globally (Hu et al., 2015; Nipa and Kermanshachi, 2018) and yield higher cost savings for students than the traditional textbook system (Dewey et al., 2016). OER provides the user with three kinds of resources, namely learning content, tools, and implementation.

Learning content includes courseware, modules, journals, etc. Tools include software that enables users to use, reuse, deliver, search, and organize learning contents. Implementation resources include property license and acknowledgment to promote publishing and use of open materials (Hu et al., 2015).

One of the major advantages of OER is that it can help to turn the passive learning environment into an interactive one (Yoon, 2017). An interactive learning environment is a software and /or hardware built system that encourages interaction between learners, learner and teacher, learner and the system, and/or teacher and the system (Psotka, 2012).

OER materials ensure and interactive environment by encouraging students to collaborate with their fellow students (Hoosen et al., 2016), and the web-based interactive educational system accommodates students with different learning capabilities and paces (Qi and Xu, 2018; Downes, 2007).

Interactive OER also can provide direction, assistance, and motivation on the personal level for every student thus making students the focus of the classroom instead of the teachers (Yoon, 2017).

Moreover, OER helps the user by providing access to a variety of sources for needed information, and enables students to continue their education without the worry of high prices for textbooks (Abeywardena, 2017).

Advantages of using OER include:

- Expanded access to learning – can be accessed anywhere at any time
- Ability to modify course materials – can be narrowed down to topics that are relevant to course

- Enhancement of course material – texts, images and videos can be used to support different approaches to learning
- Rapid dissemination of information – textbooks can be put forward quicker online than publishing a textbook
- Cost saving for students
- Cost savings for educators
- Consolidate the foundation for more reproducible and inclusive science
- Improve the quality of research produced by future generation of researchers
- Removes barriers to entry and facilitate career progression by offering students to be involved in knowledge generation, enhancing diversity and representation within science.

Challenges of using OER include

- Quality/reliability concerns – some online material can be edited by anyone at anytime, which may result in irrelevant or inaccurate information
- Limitation of copyright property protection – OER licenses change "All rights reserved." into "Some rights reserved.", so that content creators must be intentional about what materials they make available
- Technology issues – some students may have difficulty accessing online resources because of slow internet connection, or may not have access to the software required to use the materials
- Languages in which OER are distributed – use of English as primary language of delivery may limit its use
- Awareness within educational institutions – limits use of OER for research, teaching and learning.

1.OER MOVEMENT IN INDIA

India adopted the OER movement in the year 2007 after gaining support from the government and other agencies. The Indian OER movement is an effort to digitize the current educational system and enrich students with quality learning procedures. Following are some of the open-access initiatives that have contributed significantly to the development of OERs in India.

NPTEL(National Program Technology Enhanced Learning)

Ekalayva

E-Grid

eGyan Kosh

Sakshat

e-PG Pathsala

VLE (Virtual Learning Environemnt of Delhi University)

CEC(Consortium of Educationl COMMUNICATION)

National Science Digital Library

National Repository of Open Educational Resources

E-BIDYA

Flexi Learn Open Course Portal

A-VIEW

SWAYAM

SWAYAM PRABHA

UGC-MOOC

NDL(National Digital Library)

NMEICT(National Mission on Education through Information and Communication Technology

Shodhganga

2. STATEMENT OF THE PROBLEM

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3. LITERATURE SURVEY

According to Hoosen et al. (2016), OER helps students become more engaged in learning by changing traditional learning through reading and absorbing to learning by doing and creating. OER also better prepares students for class by encouraging them to look into the study materials before class begins (Hoosen et al., 2016), and provides topics for students which are particularly relevant, applicable, and interesting to them (Behbahanian et al., 2018).

Cox and Trotter (2017) found that language barrier, low level of technological advancement, and lack of consideration in the institutional policy for OER materials copyright are the major barriers in adopting OER materials for lecturer in South Africa. Kasinathan and Ranganathan (2017) found that the existing huge gap of advancement of information and communication technologies between developed and developing countries is acting as a major barrier for OER adoption. In addition to this barrier, they found that multilingual educational

environment of Indian society is also unwilling to adopt. OER as OER materials mainly follow English language.

4. RESEARCH METHODOLOGY AND TOOLS USED

The investigator has adopted the following methodology in this study.

Step 1 Review of Literature

The literature on Open Educational Resources studies have been studied and reviewed which facilitated the

Step 2 Objectives formulated

This study has been framed with the following objectives;

1. To know the awareness of OER among faculty and students
2. To identify use of OER in course level
3. Quality was consistently ranked the highest barrier to OER adoption
4. To identify the barriers in OER
5. To know the difficulties in adopting OER.
6. To identify the way of selecting course materials at cost factor.
7. To identify increase in OER usage.

Step 3 Hypotheses formulated

The following hypotheses were formulated based on the objectives.

1. There exist awareness on OER among faculty and students.
2. There exist significant differences in the use of OER in the course level
3. There exist significant differences in Quality of OEC materials.
4. There exist significant differences towards the barriers in OER
5. There exist difficulties in adopting OER.
6. There exist significant difference in identifing the way of selecting course materials at cost factor.
7. There will be increased usage in OER.

Step 4 Identification of limitations of the Study

The limitations of the study were

1. This study is confined to Engineering institutions in Thiruvallur district of Tamil Nadu.
2. The faculty and students alone considered for the study.

Step 5 Data capturing

For this study, 36 engineering institutions in Thiruvallur district were considered. Nearly 30 respondents will be considered for each institution to the tune of 1200 samples. It is proposed to get equal amount of respondents among faculty and students.

Step 7 Data Analysis

The data collected from the respondents will be analysed to the hypotheses framed and fulfill the stated objectives. For this purposes, SPSS software package has been used. Appropriate statistical analysis will be adopted such as percentile, mean, standard deviation, ranking, correlation, proximity matrix etc

Step 8 Findings

The findings were summarized. Based on the findings, the suggestions and directions of the further research will be identified.

5. ARRANGEMENT OF CHAPTERS

The thesis has been presented in Six chapters.

Chapter 1 The first chapter gives an introduction to the problem of study, discusses awareness and use of Open Educational Resources relation among professionals. The chapter provides the need and purpose of the study besides stating the research project problem, delineating the objectives of the study. Further this chapter highlights the hypothesis, scope and limitations, methods and techniques of research including research design, analysis and interpretation of data.

Chapter 2 An attempt has been made in this chapter to review briefly the important published and unpublished literature and studies on human relation.

Chapter 3: Traces the historical growth and development of Engineering in Thiruvallur district in general. It provides an overview on growth and development of engineering institutions in Thiruvallur district in Tamilnadu in particular.

Chapter 4 provides general overview on Open Educational Resources.

Chapter 5 The fifth chapter deals with analysis, tabulation and interpretation of the collected data through questionnaires collected from different users of engineering institutions.

Chapter 6 provides the summary of the major findings and observations of study.

The thesis concludes with a list of bibliographic references and appendices. The Bibliography has been provided in the 'American Psychological Association (APA) style manual" with small variations in general, maintaining the uniformity throughout except the rendering of Indic names in particular. Instead of reversing the certain Indic names, the natural sequence of occurrence has been taken in.

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