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Article

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A Study on Attitude of University Academia towards the Use of Open Educational Resources in Higher Education

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Abstract

The present study was conducted with the objectives a). to evaluating general perception of university academia about using open educational resources (OERs) in higher education; b). to examining the attitude of university academia towards the use of OER in enhancing academic, research and learning pursuance; and c). to identifying problems challenges of university academia in using OERs in higher education. The population of the study consists of university teachers (total 556) of the Islamia University of Bahawalpur, Pakistan. The sample of the study comprises of 278 (50%) of the population. The survey was undertaken through informed consent of the respondents and the respondents participated voluntarily in the survey; however, the response rate was calculated to be 91% as 253 of the respondents completed the survey. The survey adopted a mixed (quantitative and qualitative) approach of data collection. Therefore, two research tools were prepared for data collection. A questionnaire was prepared on five-point rating Likert scale for collecting quantitative data whereas; an interview protocol was prepared for qualitative data collection. The calculated reliability of (Cronbach's alpha) was 0.805 indicating a high level of internal consistency for the tool with specific sample under study. The interview protocol was finalized through expert opinion. The finalized research tools were administered personally by the researcher –questionnaire was administered on 278 respondents with 91% response rate. Besides it, qualitative data were collected from 58 respondents by using focused group interview technique through an interview protocol. The researcher coded quantitative data in Ms-Excel program and analyzed it through mean scores and percentage; whereas the qualitative data were analyzed by grouping the themes. The qualitative and quantitative data analysis revealed that university academia acknowledged the use of OERs in promoting higher education in Pakistan. They affirmed that OERs facilitated them in conducting research, accessing to

instructional materials and learning about innovations and developments in their respective disciplines. They were of the view that OERs were freely available to them and provided access to extensive body of knowledge, latest research practices and instructional experiences. However, they faced some technology related problems in accessing to OERs. These problems included bandwidth of internet, intermittent electricity failure, bugs and computer viruses; and finger's joint pains, backache, headache and computer vision syndrome.

Keywords: open educational resources; research pursuance; academic hub; information and communication technologies; computer vision syndrome; open access.

1. Introduction and Literature Review

The 21st century is regarded as the century of innovations and inventions to have an impact on all kinds of human activities. Education and training as core aspects of such human activities have embraced the 21st century with all its novelties and developments to broader its effects and efficacy in the society. The emergence of Information and Communication Technologies (ICTs) particularly Internet and World Wide Web (WWW) has opened up new avenues of knowledge generation and its dissemination to all. The advancements in these technologies and their capabilities have promoted extensive opportunities of having access to educational resources freely. Amongst others, the development of Open Educational Resources (OER) appeared as one of the significant educational tools for equalizing access to education and educational resources.

The Open Educational Resources abbreviated as OERs appeared as useful innovation of the 21st century for widening access to education and making quality learning materials freely available to users (Geser, 2007). Currently, educational communities like university academia, research scholars, curriculum developers and educational planners are using OERs as intellectual capital and getting benefits to enhance their knowledge and understanding, and overcoming problems and issue they come across in their academic life.

Two definitions (given by UNESCO, 2002; and William and Flora Hewlett Foundation, 2008) of OERs are widely used by the educational communities. The UNESCO (2002) definition “the open provision of educational resources, enabled by information and communication technologies, for consultation, use, and adaptation by a community of users for non-commercial purposes” emphasis on provision and use or reuse of educational resources for academic purpose without any commercial benefit. However, the definition given by William and Flora Hewlett Foundation (2008) that “teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software and any other tools, materials or techniques used to support access to knowledge” seems comprehensive and inclusive of different areas of education. Therefore, the idea of Smith and Casserly (2006) “the world’s knowledge is a public good” (p. 10) justifies OERs and their academic use in a better way.

Different resources of various forms and formats are freely available for consultation and use of academia and non-academia on Internet. Here a question may arise that “Can all kinds of resources available on Internet be considered as open educational resources”? Hunter-Jones (2012) differentiated between open resources and open educational

resources: former having no educational motivation linked to their release, even making a contribution to education and include Flickr, blogs, wikis, and YouTube materials. But the later bases on free knowledge sharing philosophy amongst the global, academic and non-academic, communities including lecture notes, commentary and courseware materials.

There are different nourishing factors which have contributed (and are contributing) towards emergence and flourishing of OERs. D'Antoni (2009) has listed distance education, emerging technologies, virtual universities, and online education as such nurturing factors. D'Antoni, (2009) recognizes the efforts of William and Flora Hewlett Foundation and affirms it to be pioneer in originating 'OER movement' by supporting Massachusetts Institute of Technology (MIT) OpenCourseWare initiative in 2001. The initiative responded to transitioning landscape of education and suggested to give course materials on the web. OpenCourseWare; as a web-based publishing endeavor (Vest, 2006) appeared as a new dimension of distance education.

1.1 Core Characteristics and Role of Open Educational Resources

As the name indicates, the Open Educational Resources are open to everyone according need, learning styles and individual context or perspective. OERs present a variety of learning materials by providing free access according to their academic interest. Educationists and researchers use and reuse such materials saving their time and monetary value. They can enhance the quality of OERs by sharing within communities and academic entities including universities. This sharing of quality learning materials in fact adds to reputation of a university and its familiarity in the world. Keeping in view the current use and trend of educational community one may predict that Open Educational Resources will get a pivotal place in education and research.

Open access to educational resources is one of the key characteristics of OERs. University academia and earners can use and reuse these resources for enhancing their research pursuance. They use such resources for knowledge generation by blending them with their personal experiences and cross fertilizing with their ideas (Hussain and Durrani, 2012). Schaffert and Geser (2008) attributed following key features to OERs;

1.1.1 Open Access

OERs are internet based educational contents/ materials to be used for academic purpose by academicians, learners and researchers in the 21st century's knowledge economy. Therefore, by considering knowledge and educational contents as 'public goods' everyone has access to the content according to their need and circumstances which is provided free of cost and/or charge.

1.1.2 Open License

Development of new knowledge and educational contents is considered to be the most valuable asset of a researcher or academician. Providing such assets free of charge only on a single click is a deed of passion and commitment. The creators of OERs hold liberal licenses to enable academicians/users to use and re-use for academic purposes. However, the Creative Commons licensing framework (www.creativecommons.org) provides legal mechanisms for ensuring authors of materials retaining acknowledgements for their work; while permitting its sharing, seeking to restrict commercial activity if they wish so. Therefore, the authors applying a Creative Commons (CC) license to their work pursue

for retaining copyright over the work, nonetheless agreeing to grant those rights partially. The CC provides user-friendly open licenses for digital materials and avoids automatically applied copyright restrictions.

1.1.3 Open Format

OERs are user friendly with respect to their functionalities and ease in using/re-using according to their purpose. OERs are produced in open-formats with normal functionality that allows facilitates academicians for their easy re-use. These resources can be transformed into different formats according to the need of the users; and hence save their time and cost but maximizing performance.

1.1.4 Open Software

OERs are web-based educational resources which need special software to be produced and displayed for public use. OER is a free and open digital publication of high quality university-level educational materials. These materials are organized as courses, and often include course planning materials and evaluation tools as well as thematic content produced with open-source software. The Open CourseWare (OCW) and such tools are examples of open software.

Clements and Pawlowski (2012) found top five methods of using open educational resources by academic community—browsing on different topics and in different subjects (89%); recommendations from colleagues to access certain open access websites (82%); recommendations from personal friends to find educational resources of their respective area(s) (71%); searches within an organization of a good reputation e.g. Massachusetts Institute of Technology (58%), and searches through well ranked resources (56%). Lane (2008) concluded that open educational resources provide academic freedom by addressing the issue of access to education for those individuals and communities who otherwise may not have such access.

The basic function of OERs appears to be supporting and facilitating researchers, academicians and teachers and learners to enhance their research, teaching and learning process. OERs emerged as technology enabled educational resources to facilitate academicians and learners; and apparently are getting the status academic hub. Different projects were started for creating and sharing high-quality open educational resources. These projects include very specialized open knowledge sites and data sets and instructional materials. The availability of OERs and their wider usage affirms their academic acceptance demonstrating overwhelming success. Examples from around the world including Open e-Learning Content Observatory Services (OLCOS) project have witnessed such success by making a difference which OER brought about to teaching and learning strategies. This project was launched in January 2006 and continued up to December 2007. It was a collaborative project with Germany, Hungary, Finland, Spain and Austria as its stakeholders. It appeared to be a landmark in the history of OERs by providing guidelines to educational community. It “produced a roadmap to provide educational decision makers with orientation and recommendations on how to foster the further development and use of OER and free online tutorials for practitioners” (Schaffert and Geser, 2008).

Similarly, educational research and instruction are academic and creative activities. Educational aims at solving educational problems and producing new knowledge to facilitate educators and educationists, researchers and scholars, educational planners and decision makers. The significance of research based knowledge is enhanced by articulating it with situations and questions for learning to solve an academic problem or issue. The emergence of OERs' portals and repositories has enabled researchers and educators to share innovative practices in research and instruction, and their findings to replicate at larger scale. However, currently, considerable literature presents history and status of OERs foreseeing challenges and potential by considering them exclusively within academic teaching and learning context. Nevertheless, academicians can use OERs in disseminating their research outputs to a wider audience and enhance chances of achieving impact as acknowledged by Wicaksono (2012).

1.2 Rationale of the Study

The university academia in Pakistan is considered to be the cream of the country with privileged status in the society. They are expected to play a leading role for social transformation, creating peace and harmony for national coherence. University teachers equipped with appropriate instructional and research skills, and knowledge would effectively impart their due contribution in leading the nation towards prosperity and development. They need to be abreast with latest developments and innovations in the field of education and training. They can do it by having free and open access to academic resources. Their access to open educational resources makes them able to refresh and update their subject knowledge by learning about innovations and developments. The present study was considered appropriate for analyzing attitude of university academia towards open educational resources in the promotion of higher education in Pakistan. The researcher conducted this study aiming at identifying uses, challenges and problems of university teachers in using OERs for enhancing their knowledge, professional skills and competencies.

1.3 Objectives of the Study

The present study was conducted with the objectives a). to evaluating general perception of university academia about using OER in higher education; b). to examining the attitude of university academia towards the use of OER in enhancing academic, research and learning pursuance; and c).to identifying problems challenges of university academia in using OERs in higher education.

2. Research Methodology

It was a small scale survey based on descriptive research methods. The survey was conducted to examining the attitude of university academia towards the use of OERs for instructional, research and learning purpose. The population of the study consisted on university academia/ teachers (total 556) of the Islamia University of Bahawalpur, Pakistan. The sample of the study comprised of 278 (50%) of the population. The sample was taken conveniently by adopting 'convenient sampling technique'. The survey was undertaken through informed consent of the respondents and the respondents participated voluntarily in the survey; however, the response rate was calculated to be 91% as 253 of the respondents completed the survey.

The survey adopted a mixed (quantitative and qualitative) approach of data collection. Therefore, two research tools were prepared for data collection. A questionnaire was

prepared on five-point rating (Likert) scale for collecting quantitative data whereas; an interview protocol was prepared for qualitative data collection. Both of the research tools focused on the use of Open Educational Resources by university academia in conducting research, instructional & learning process and their problems. The research tools were piloted at smaller scale (15 academicians) and finalized in the light of the pilot results. The calculated reliability of quantitative data collection tool (questionnaire) Cronbach's alpha was 0.805 indicating a high level of internal consistency for the tool with this specific sample. The finalized research tools were administered personally by the researcher –questionnaire was administered on 278 respondents with 91% response rate. Besides it, qualitative data were collected from 58 respondents by using focused group interview technique through an interview protocol. The researcher coded quantitative data in Ms-Excel program and analyzed it through mean scores and percentage; whereas the qualitative data was analyzed by grouping the themes.

3. Data Analysis

Following tables show the results of data analysis.

Table 1: General Opinion of University Academia about Use of Open Educational Resources

Statement	Resources					Mean Score
	Level of Agreement Frequencies & Percentages (given in parentheses below)					
	SA	A	UNC	DA	SDA	
General Perception of University Academia about OER						
Access to Academic Resources	107(42.3)	126 (49.8)	2 (.8)	6 (2.4)	12 (4.7)	4.2
Research Papers	99 (39.1)	132 (52.2)	6 (2.4)	7 (2.8)	9 (3.6)	4.2
Pedagogic Support to Learners	111 (43.9)	104 (41.1)	5 (2.0)	21 (8.3)	12 (4.7)	4.1
Guidance Material	97 (43.9)	117 (46.5)	4 (1.6)	21 (8.3)	14 (5.5)	4.0
e-Portfolios	105 (41.5)	126 (49.5)	5 (2)	13 (5.1)	4 (1.6)	4.2
Mobility and Learning	93 (36.8)	116 (45.8)	6 (2.4)	27 (10.7)	11 (4.3)	4.0
Innovation in Learning	102 (40.3)	121 (47.8)	3 (1.2)	17 (6.7)	10 (4)	4.1
Easily Accessible	98 (38.7)	133 (52.6)	1 (0.4)	12 (4.7)	9 (3.6)	4.1
Easily Understandable	87 (34.4)	132 (52.2)	5 (2)	19 (7.5)	10 (4)	4.00

The table-1 indicates general perception of university academia about academic use of Open Educational Resources. The data analysis as given in the table reflected that 92.1% of the respondents were of the opinion that they used Open Educational Resources to have access to the academic resources which they needed for instructional as well as research purpose. Similarly, 91.3% of the academia accessed to research papers and 85% used for getting pedagogic support including learning activities and exercises for active instructional process. In the same way 90.5% valued the provision of guidance materials which facilitated their academic pursuit; 92% appreciated e-portfolios, 82.6% used OER for learning purpose during state of mobility. OER is an emerging concept with great academic potential, therefore, 88.1% of the respondents viewed these resources as innovation in learning; and to 91.3% OER were easily accessible and 86.6% understood them easily and used for academic purpose.

Table 2: Opinion of University Academia about OER in Saving Time

Statement	Level of Agreement Frequencies &Percentages (given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Time Saving Characteristic of OER						
Anytime time (7/24)	122 (48.2)	117 (46.2)	7 (2.8)	5 (2)	2 (0.8)	4.3
Maximum Downloading	101 (39.9)	121 (47.8)	3 (1.2)	16 (6.3)	12 (4.7)	4.1
Limits Travelling	122 (48.2)	109 (43.1)	2 (0.8)	9 (3.6)	11 (4.3)	4.2
Help of Search Engines	97 (38.3)	111 (43.9)	7 (2.8)	23 (9.1)	15 (5.9)	3.9

Open Educational Resources are gaining wider acceptability among academic community throughout the world; and even in developing countries including Pakistan. They have certain characteristics which gave them academic boost. Table-2 reflects attitude of university academic towards time and space related characteristics of OER. According to the data analysis, an overwhelming majority (94.4%) of the respondents showed their positive attitude towards 7/24 availability OER without space limitations. Being available round the clock and at all places, it cut on their (as 91.3% of university academia were of the view) travelling and travel expenses. They (as affirmed by 87.7% of the respondents) downloaded their relevant materials freely and easily according to their need and availability of the bandwidth of internet. Search engines play a crucial role in locating the required materials on the websites by entering the key words, and that's why 82.2% of the respondents affirmed that they accessed to the OER with help of search engines.

Table 3: Opinion of University Academia about OER in Enhancing Learning Pursuit

Statement	Level of Agreement Frequencies &Percentages (given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Use of OER in Enhancing Learning Pursuance						
Self-Directedness	118 (46.6)	111 (43.9)	4 (1.6)	9 (3.6)	11 (4.7)	4.2
Self-Regulated	107 (42.3)	110 (43.5)	5 (2)	13 (5.1)	18 (7.1)	4.0
Self-Confidence	92 (36.4)	113 (44.7)	6 (2.4)	18 (7.1)	24 (9.5)	3.9
Readability	94 (37.2)	118 (46.6)	4 (1.6)	17 (6.7)	20 (7.9)	3.9
Self-Motivation	91 (36)	119 (47)	5 (2)	21 (8.3)	17 (6.7)	3.9
Communication Skills	99 (39.1)	117 (46.2)	7 (2.8)	11 (4.3)	19 (7.5)	4.0
Level of Understanding	107 (42.3)	117 (46.2)	4 (1.6)	16 (6.3)	9 (3.6)	4.1

Learning is continuous social process taking place from cradle to grave. It is reconstruction of experiences in a particular situation. The emergence of OER facilitated the learning process. The beneficiaries of OER are assumed to be adults having some experience of and about life. Therefore, they seem to be eager in using OER in enhancing their learning pursuance by blending new information with their (social) life experience. The table-3 shows opinions of university academia about the use of OER in enhancing their (social as well as academic) learning pursuance. According to the data an overwhelming majority (90.5%) of the respondents were of the view that the use of OER promoted self-directedness among them. By using OER, they (85.5% affirmed that they) became self-regulated; and self-confident and self-motivation (as viewed by 81.1% and 83% of the respondents respectively). OER involve learners/users actively mostly in printed word formats and therefore, 83.8% of them acknowledged that the use of OER improved their readability. Similarly, 85.3% of the respondents were of the opinion that the use of OER enhanced their communication skills; and 88.5% acclaimed that the use of OER improved their level of understanding and comprehension by studying materials and their contexts.

Table 4: Opinion of University Academia about Cost Effectiveness of OER

Statement	Level of Agreement Frequencies & Percentages (given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Cost Effectiveness of OER						
Saves travel cost	122 (48.2)	117 (46.2)	7 (2.8)	5 (2)	2 (0.8)	4.3
Reduces Photocopying Cost	118 (46.6)	107 (42.3)	6 (2.4)	15 (5.9)	7 (2.8)	4.2
Reduces Cost on Purchasing of Books	101 (39.9)	119 (47)	7 (2.8)	9 (3.6)	17 (6.7)	4.0

The development of OER was envisions their free delivery to the users without time and space restrictions. They are freely available to anyone who wants to access and reuse for academic purpose without any binding except given on the website(s). Therefore, one may save expenses in terms of social and monetary capital. The table-4 reveals opinions of university academia about cost-effectiveness of OER. The data analysis portrays that 94.4% of the respondents agreed to the statement that OER saved the travel cost of their users as they could get access to these resources from their homes or work places through internet connections and a laptop or desktop. Similarly, 88.9% acknowledged that the use of OER reduced cost incurred on photocopying of materials.

No one can deny the significance of books even in the age of open educational resources. Apparently, the nature and presentation styles of materials have been changed –hard printed word to soft e-books; but their importance is ever prevailing. Reading books and other materials is necessary for university academia to be abreast with innovations, knowledge and latest researches in the some respective area of specialization. The Open Educational Resources have presented the information and knowledge to all free of cost; and therefore, 86.9% of the respondents asserted that OER have reduced the cost of purchasing books and other instructional materials.

Table 5: Opinion of University Academia about OER in Providing Latest Knowledge

Statement	Level of Agreement Frequencies & Percentages (given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
OER & Nature of Information and Knowledge						
Accurate Information	117 (46.2)	100 (39.5)	2 (0.8)	15 (5.9)	19 (7.5)	4.1
Authentic Sources	110 (43.5)	99 (39.1)	4 (1.6)	17 (6.7)	23 (9.1)	4.0
Latest Knowledge	98 (38.7)	105 (41.5)	5 (2)	21 (8.3)	24 (9.5)	3.9

Open Educational Resources are based on the philosophy that 'knowledge is public good' to benefit all individuals according to their potential and capacity. Therefore, the better the quality of public good the more would be the beneficiaries. The table-5 demonstrates the attitude of university academia towards usage of OER and the nature of information & knowledge accessed through them. The data analysis portrayed that 85.7% of the respondents agreed to the description that OER provide accurate information; and they appeared to be the authentic and reliable sources (as viewed by 82.6% of the academia) of knowledge. Similarly, 80.2% of the academia acknowledged the significance of OER in providing latest knowledge and information to the users. The users can re-use such information according to their requirements under the terms and conditions of Creative Commons.

Table 6: Opinion of University Academia about Basic Characteristics of OER

Statement	Level of Agreement Frequencies & Percentages (given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Basic Characteristics of OERs						
Freely Available	112 (44.3)	105 (41.5)	5 (2)	17 (6.7)	14 (5.5)	4.1
Easily Re-usable	117 (46.2)	105 (41.5)	2 (0.8)	15 (5.9)	14 (5.5)	4.1
Affordable Technology	96 (37.9)	109 (40.7)	4 (1.6)	34 (13.4)	16 (6.3)	3.9
Culturally Accepted	102 (40.3)	113 (44.7)	3 (1.2)	27 (10.7)	8 (3.2)	4.0
Best Practices in Use	107 (42.3)	119 (47)	2 (0.8)	16 (6.3)	9 (3.6)	4.1

Free availability and reusability are the basic characteristics of Open Educational Resources which aim at facilitating the users. Table-6 illustrates the attitude of university academia towards basic characteristics of OER. According to the data analysis 85.5% of the respondents agreed to the statement that Open educational Resources are freely available to them; and they (as stated by 87.7% of respondents) can easily reuse them

according to their academic requirements under the Creative Commons Guidelines. As Open Educational Resources are technology enabled academic resources; therefore, availability of technology plays a crucial role for using them appropriately. The data revealed that 78.6% of the respondents were of the view that the technology used for OER was affordable to them; and they learned about the best practices in use throughout the world (as affirmed by 89.3% of the respondents) for customizing according to their own context(s). Although, Open Educational Resources are created by different academicians in different cultures, yet they appeared to be culturally accepted even in developing countries as affirmed by 85% of the respondents.

Table 7: Opinion of University Academia about Use of OER and Modern Challenges

Statement	Level of Agreement Frequencies & Percentages (given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Use of OER and Challenges						
Economic	101 (39.9)	111 (43.9)	3 (1.2)	26 (10.3)	12 (4.7)	4.0
Intellectual Property	105 (41.5)	113 (44.7)	5 (2)	17 (6.7)	13 (5.1)	4.1
Faculty Comfort	98 (38.7)	113 (44.7)	5 (2)	23 (9.1)	14 (5.5)	4.0
Quality of Content	103(40.7)	115 (45.5)	6 (2.4)	16 (6.3)	13 (5.1)	4.1
Developing Creativity	109 (43.1)	117 (46.2)	5 (2)	14 (5.5)	8 (3.2)	4.2
Compatibility of Contents	96 (37.9)	117 (46.2)	4 (1.6)	21 (8.3)	15 (5.9)	4.0
Universal Access	115 (45.5)	105 (41.5)	2 (0.8)	17 (6.7)	14 (5.5)	4.1
Sustainability	112 (44.3)	109 (43.1)	3 (1.2)	13 (5.1)	16 (6.3)	4.1
Language	121 (47.8)	104 (41.1)	4 (1.6)	11 (4.3)	13 (5.1)	4.2

Open Educational Resources are gaining wider acceptance by the academic communities throughout the world. They have given new direction to the academia, administrators and policy makers to bring innovations in mainstream education systems. However, there appear some challenges which need to be addressed for going ahead smoothly. The table-7 presents opinions of university academia about challenges faced in using OER. The data demonstrates that 83.8% of the respondents were concerned with economic challenges and paying for creation, free availability and provision of OER; and their sustainability appeared a challenge for 87.4% posing if OER would sustain itself to hoarding knowledge. As Open Educational Resources are free to reuse for academic purpose; 86.2% of the respondents were of the view that right for intellectual property was one of the main challenges for the creator of OER.

A good content is user friendly and accommodating academic requirements; therefore, 83.4% of the respondents were of the opinion that faculty comfort is a challenge for OER movement. Similarly, 86.2% recognized creating, providing and maintaining the quality of contents to be a challenge. Likewise, some other challenges were also demonstrated by the respondents and included developing creativity among users, compatibility of contents with local needs; universal access and digital divide; and language. These

challenges were affirmed by 89.3%; 44.1%; 87%; and 88.9% of the respondents respectively.

Table 8: Opinion of University Academia about their Problems in Using OER

Statement	Level of Agreement Frequencies &Percentages (given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Problems of Academia in Using OER						
Electricity Failure	120 (47.4)	109 (43.1)	3 (1.2)	7 (2.8)	14 (5.5)	4.2
Bandwidth	98 (38.7)	107 (42.3)	5 (2)	25 (9.9)	18 (7.1)	3.9
Bugs and Viruses	87 (34.4)	93 (36.8)	6 (2.4)	49 (19.4)	18 (7.1)	3.7
Browsing	89 (35.2)	98 (38.7)	5 (2)	39 (15.4)	22 (8.7)	3.7
Learning From Screen	97 (38.3)	123 (48.6)	4 (1.6)	13 (5.1)	16 (6.3)	4.0
Problems Associated with Long Sitting	103 (40.7)	122 (48.2)	3 (1.2)	11 (4.3)	14 (5.5)	4.1

The table-8 portrays opinion of university academia about their problems which they faced in using OER. The data analysis illustrated that an overwhelming majority (90.5%) of the respondents were of the opinion that they faced problems of intermittent electricity failure which caused frustration laziness among them. Similarly, 81% of the academia faced problems of and due to low bandwidth of internet, and 73.9% faced browsing problems; 71.2% revealed their problems related with bugs and computer viruses. Similarly, the respondents also reported physical problems associated with use of computer for accessing to the OER; and 86.9% stated that they faced problems like dry face, giddiness and blurred eyes due learning from and/ or watching the screen; 88.9% described their problems associated with long sitting and using OER –backache, constipation and sometimes indigestion.

4. Findings of the Data Analysis of the Interview Protocol

The qualitative data collected through interview protocol was analyzed by thematic analysis technique.

OER is an emerging concept with great academic potential. There is wider demand of OER in modern educational institutions of higher education. In response to a question, the respondents acclaimed that, *“We use Open Educational Resources to have access to the academic resources which we need for instructional as well as research purpose. We access to research papers and get pedagogic support including learning activities and exercises for making our instructional process active and individualized. We also get guidance materials for our academic use and e-portfolios help us bring innovation in teaching learning process. We have easy access to OER with clear understanding”*.

Open Educational Resources are gaining wider acceptability among academic community throughout the world; and even in developing countries like Pakistan. Various characteristics make them innovative and different from conventional resources. Almost

all of the interviewee respondents appreciated OER by stating *“we can access to OER at anytime from anywhere –office or home or café. The emergence of OER has helped us cut our travelling and travel expenses. We can download relevant materials freely and easily according to our requirements. However, bandwidth of Internet matters a lot as more bandwidth makes us easy in downloading maximum materials in shorter time”*.

The emergence of OER seems to be facilitating teaching learning process. Generally, the OER users are assumed to be adults having some experience of and about life. Therefore, they seem to be eager in using OER in enhancing their learning pursuance by blending new information with their (social) life experience. A group of interviewee described that *“the use of OER makes us self-directed, self-regulated, self-confident and self-motivated. Using OER enhances our readability and communication skills. We also feel raising our understanding level and comprehension by studying materials from Creative Commons”*.

The OERs are freely available to anyone who wants to access and reuse for academic purpose without any binding except given on the website(s). The interviewee asserted that *“OERs are cost-effective. They (OER) save our travel cost and we can have access to these resources from our homes or work places through internet connections only by having a laptop or a desktop”*.

Reading books is as necessary for university academia as water for life. Apparently, the nature and presentation styles of materials have been changed –hard printed word to soft e-books; but their importance is ever prevailing. Almost all of the interviewees acknowledged OERs by stating, *“The Open Educational Resources have presented information and knowledge to all free of cost; and have reduced the cost of purchasing books and other instructional materials”*.

Accuracy and authenticity are the basic characteristics of any source of information. About these characteristics, the participants were of the voice *“OER provide accurate information; and they seem to be the authentic and reliable sources of knowledge. These provide us with latest knowledge and information. We can re-use such information according to our requirements under Creative Commons’ terms and conditions”*. They further appreciated the technology by acclaiming *“the technology used for OER is affordable for us and we customize models for using in our cultures and contexts”*.

Open Educational have given new direction to the academia, educational administrators and policy makers to bring innovations in mainstream education systems. However, they are facing some challenges and problems which need to be addressed. The interviewees were of the voice *“we are concerned with economic challenges. Who will pay for creation, and free availability of OERs? How these will become sustainable? Why someone will invest for NO return? Right for intellectual property is also a big challenge for us. Why someone will create quality materials with zero or fewer restrictions”*? Similarly, the interviewees spoke about universal access and digital divide; and language challenges.

The interviewees discussed some of their problems associated with OER and longer use of computer. They overwhelmingly specified *“we face problems of intermittent electricity failure causing frustration and laziness. We face problems of and due to low bandwidth of internet, and slow browsing; we also have faced problems associated with bugs and computer viruses. We also face some physical problems associated with use of computer for accessing to the OER like dry face, giddiness and blurred eyes (computer vision*

syndrome) due learning from and/ or watching the screen. Usually we face physical problems which are associated with long sitting and using OER. These problems are backache, fingers' joint pain, dehydration and sometimes indigestion".

5. Conclusion

The qualitative and quantitative data analysis demonstrated that university academia acknowledged the use of OERs in higher education in Pakistan. They affirmed that OERs facilitated them in conducting research, accessing to instructional materials and learning about innovations and developments in their respective disciplines. They were of the view that OERs were freely available to them and provided access to extensive body of knowledge, latest research practices and instructional experiences. However, the respondents reported some challenges like rights for intellectual property, economics and sustainability of OER, digital divide and quality of contents and faculty comfort. They also reported some technology related problems in accessing to OERs. These problems included bandwidth of internet, intermittent electricity failure, bugs and computer viruses; and finger's joint pains, headache and computer vision syndrome.

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