

## Factors Influencing the Faculty's Use of Open Educational Resources (OER)

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**ABSTRACT:** *Open educational resources (OER) allow faculty members to retain, reuse, revise, remix, and redistribute high-quality educational resources at no cost. This study examined the influence of the utilization of open educational resources (OER) among the faculty. A total of ninety-three (93) faculty members, full-time and part-time, from different levels in a private school in Cagayan de Oro City, participated in the study. The concurrent nested mixed method was used with questions taken from the OER Research Hub. Descriptive statistics and multiple regressions were used to organize the data. Findings reveal that the participants' assessments of the use of open educational resources were generally high, specifically in terms of perceived ease of use and perceived usefulness. The extent of participants' use of open educational resources, considering self-efficacy on the use of OER, peer influence, and facilitating conditions, was likewise found to be high. The utilization of open educational resources by the faculty was rated high for videos, lectures, images, and website links. YouTube/YouTubeEdu/YouTube School, TED Talks/TED-Ed, Khan Academy, and Wikibooks. The participants' assessment of the use of OER and its characteristics significantly influenced their intention to use OER. From the qualitative responses, one (1) theme emerged: Advantages and drawbacks. This theme is categorized into enhanced instructional preparation, convenience, and negative issues. This study points to the need of conducting further empirical investigation on Open Educational Resources with the inclusion of learner's needs as well as the perspective of the stakeholder.*

**KEYWORDS:** open educational resources, repositories, OER, usefulness, usability, self-efficacy, peer influence, facilitating conditions

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### INTRODUCTION

The period in which humanity currently learns, works, plays, rests, and exists is referred to as the Information Age. Through the use of digital technologies, news, ideas, images, social interactions, and more can be quickly transmitted around the world in a matter of seconds. Like many sectors of society, the field of education has changed with advances in digital technologies. Open

educational resources (OER) are one of the changes taking shape in this age, and librarians are encouraged to use and implement this innovation.

What are open educational resources? These are learning, teaching, and research materials in any medium—digital or otherwise—that reside in the public domain or have been released under an open license that permits no-cost use, access, adaptation, and redistribution by others with no or limited restrictions. In effect, OER allows teachers to retain, reuse, revise, remix, and redistribute high-quality educational resources at no cost. OER empowers teachers by giving them access to a vast body of literature and allowing them to localize content to better fit their needs (Garcia, Serrano, and Alip, 2017; Arinto, 2017). Using OER offers faculty more freedom in selecting course materials as well as the ability to customize course materials to fit the specific needs of their students and the goals of their classes (Community College Consortium for Open Educational Resources, 2020). Using OER, teachers can develop their textbooks, course materials, modules, videos, tests, and other learning resources. By doing so, teachers contribute to their professional development allowing them to address their need to publish materials by creating OER.

### **Statement of the Problem**

This study determined the factors that influence the extent of use of the faculty members to use open educational resources (OER) for teaching. Specifically, this study sought to answer the following questions.

1. What types of Open Educational Resources (OER) do the participants use in teaching?
2. What is the participants' assessment of the use of open educational resources in terms of the following:
  - 2.1 . perceived ease of use; and
  - 2.2 . perceived usefulness?
3. How are the participants characterized considering:
  - 3.1 . self-efficacy on the use of OER;
  - 3.2 . peer influence; and
  - 3.3 . facilitating conditions?
4. Do the aforementioned factors influence the participants' use of OER?
5. How do the participants describe their experiences on the use of OER in terms of benefits gained and challenges encountered?

## **Conceptual Framework**

This study assumed that there are factors that influence a college faculty's intention to adopt Open Educational Resources in certain courses. This assumption is anchored on the Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology. The two theories have been used to explain why individuals adopt and use particular technologies.

The Technology Acceptance Model (TAM) (1989) developed by Fred Davis is a well-established theory used to explain the behaviors of individuals adopting certain information technologies. TAM is a theory widely used to understand how users accept and use new information technology, and it has been studied in various fields by several researchers (Moon & Kim, 2001). Davis posited that there are influential factors, which move an individual to decide whether or not to use and adopt new technology. Many studies of TAM in educational fields have been conducted to identify hindrance factors of technology acceptance as well as promotion factors. Several studies have identified the factors that affect the acceptance or use of technologies (Muilenburg & Berge, 2005; Iqbal & Qureshi, 2012; Escobar-Rodriguez & Monge-Lozano, 2012). They were empirically used in previous research done by professors, teachers, and students in educational fields. Under this theory, two variables are identified: perceived ease of use and perceived usefulness. Perceived usefulness and perceived ease of use are additional attitudinal factors according to Davis et al. (1989). In other words, perceived ease of use is thought to predict system usage. When technology users are faced with a new technology application, factors that influence how they engage with the website are based on their capability to use the site and their conclusions about the usefulness of the content. TAM provides specific website-relevant elements (such as perceived usefulness and perceived ease of use) as influences on a person's attitude. TAM models were later extended to incorporate other elements such as social influences, open educational resources, cognitive instrumental processes, as well as new variables of anchor and adjustment (Davis, et.al 1989; Venkatesh & Bala, 2008; Venkatesh & Davis, 2000).

## **METHODS**

The concurrent nested mixed method was used to collect two types of data used in the study. The study utilized descriptive statistics such as frequency, percentage, mean and standard deviation and inferential statistics such as regression analysis to determine the types of OER used by the participants, their personal characteristics, and the influence of these factors on their assessment of the use of OER. The participants of the study compromised 93 faculty members, full-time and part-time, from the different levels in a private school in Cagayan de Oro City.

## RESULT AND DISCUSSION

Table 1 illustrates the frequency and percentage of participant's use in teaching.

**Table 1. Type of Open Educational Resources Participant use in Teaching**

Type of Open Educational Resources	Frequency	Percentage
Videos	78	83.87
Lectures	74	79.57
Images	69	74.19
Website links	67	72.04
Open textbooks	64	68.82
Lesson plans	62	66.67
eBooks	61	65.59
Open access articles	60	64.52
Interactive games	55	59.14
Tutorials	47	50.54
Whole course Elements of a course, e.g., module	44	47.31
Government websites	41	44.09
Creative Commons licensed resource	11	11.83

Data reveal that most of the faculty used video (83.87%) followed by lectures (79.57%), images (74.19%), and website links (72.04%). The finding implies that participants used videos, lectures, images, and website links to the fact that this OER is useful in their teaching. Hence, these are immediately accessible to both students and teachers.

Table 2 shows the frequency and percentage of the participant use in teaching.

**Table 2. Open Educational Resources Repositories Participant use in Teaching**

Open Educational Resources Repositories	Frequency	Percentage
YouTube/YouTubeEdu/YouTube School	89	95.70
TED talks/TED-Ed	39	41.94
Khan Academy	35	37.63
Wikibooks	32	34.41
OpenLearn	23	24.79
Massively Open Online Courses (MOOC) (e.g., FutureLearn, MITx, Coursera, etc.)	16	17.20
Creative Commons	16	17.20
Open Educational Consortium	13	13.98
Lumen Learning	11	11.83
MIT-Open Courseware	8	8.60
Connexions	7	7.53
Galileo Open Learning Materials	6	6.45
MERLOT	6	6.45
iTunes/iTunes	5	5.38
CK-12	4	4.30

Data reveal that most of the faculty member used YouTube/YouTubeEdu/YouTube School (95.70%) followed by TED talks/TED-Ed (41.94%), Khan Academy (37.63%), and Wikibooks (34.41%). The finding implies that participants used these repositories because of the inherent usefulness and value they offer in supporting their teaching and learning goals. Additionally, these OER repositories lie in the vast array of high-quality, freely available resources they provide.

**Table 3. Frequency, Percentage, and Mean Distribution of the Participants' Assessment of OER**

Range	Description	Perceived Ease of Use		Perceived Usefulness	
		F	%	F	%
4.51-5.00	Very High Extent	23	24.73	40	43.01
3.51-4.50	High Extent	53	56.99	41	44.09
2.51-3.50	Moderate Extent	10	10.75	10	10.75
1.51-2.50	Low Extent	7	7.53	2	2.15
1.00-1.50	Very Low Extent	0	0	0	0
<b>Total</b>		<b>93</b>	<b>100.0</b>	<b>93</b>	<b>100.0</b>
<b>Overall Mean</b>		<b>3.98</b>		<b>4.27</b>	
<b>Interpretation</b>		<b>High Extent</b>		<b>High Extent</b>	
<b>SD</b>		<b>0.73</b>		<b>0.67</b>	

Table 3 shows the frequency, percentage, mean distribution, and standard deviation of the participant's assessment of OER. As a whole, the data reveal that the participants' assessment rated as high in terms of *perceived use* ( $M=3.98$ ), and *perceived usefulness* ( $M=4.27$ ). This finding shows that open educational resources have greatly helped the participants in their teaching. The usability of the OER indicates better teaching-learning performance and productivity. This aligns with the studies conducted (Cheung, 2017, 2018, 2019) showing the perceived usefulness of OER for teaching and learning purposes.

Table 4 shows the frequency, percentage, mean distribution, and standard deviation of the participants' characterization of OER.

**Table 4. Frequency, Percentage, and Mean Distribution of the Participants' Characterization**

Range	Description	Self-Efficacy on the Use of OER		Peer Influence		Facilitating Conditions	
		F	%	F	%	F	%
4.51-5.00	Very High Extent	29	31.18	29	15.05	38	18.28
3.51-4.50	High Extent	55	58.06	46	47.31	45	59.14
2.51-3.50	Moderate Extent	7	8.60	16	29.03	7	19.35
1.51-2.50	Low Extent	2	2.15	2	8.60	3	3.23
1.00-1.50	Very Low Extent	0	0	0	0	0	0
<b>Total</b>		<b>93</b>	<b>100.0</b>	<b>93</b>	<b>100.0</b>	<b>93</b>	<b>100.0</b>
<b>Overall Mean</b>		<b>4.10</b>		<b>3.75</b>		<b>3.97</b>	
<b>Interpretation</b>		<b>High Extent</b>		<b>High Extent</b>		<b>High Extent</b>	
<b>SD</b>		<b>0.60</b>		<b>0.72</b>		<b>0.68</b>	

The data show that the participants' characterization was rated high in terms of *self-efficacy on the use of OER* ( $M=4.10$ ), *peer influence* ( $M=3.75$ ), and *facilitating conditions* ( $M=3.97$ ). This finding shows that self-efficacy plays a vital role in the effective integration of OER into educational settings. Faculty members with high self-efficacy levels are more likely to explore, adopt, and adapt OER, leading to innovative instructional practices and improved student engagement and learning outcomes. Efforts to enhance faculty self-efficacy through training and support systems can contribute to the successful implementation of OER and promote educational excellence. The finding also reveals that peer influence also plays a significant role on use of OER among faculty members. Positive peer examples, collaborative environments, and shared experiences can inspire and motivate faculty to explore, adopt, and use the OER. By fostering a supportive and knowledgeable community, institutions can harness the power of peer influence to promote the effective integration of OER and foster a culture of open education. This result is confirmed by Eristi, Kurt & Dindar (2012) that the effective use of ICT needs the right consolidation to make it more productive which also entails the right utilization of information resources and technology. This promotes its usage. While the facilitating conditions which play a crucial role in supporting faculty members in effectively utilizing open educational resources (OER) within their teaching practices. These conditions encompass the necessary resources, support systems, and infrastructure that enable faculty to integrate OER seamlessly into their educational settings. Access to comprehensive repositories, technological infrastructure, technical support, incentives, collaborative environments, and supportive institutional policies contribute to faculty members' ability to seamlessly integrate OER into their teaching practices. By creating a supportive ecosystem, institutions empower faculty to harness the benefits of OER, resulting in enhanced teaching and learning experiences. This result is confirmed by Lwoga & Questier (2011) that

facilitating conditions refer to an individual's perception of the presence of organizational and technical support systems that are in place to enable the effective use of a particular system. Facilitating conditions can exert substantial influence on both the behavioral intention and the utilization of technology (Dwivedi *et al.*, 2011).

Table 5 shows the frequency, percentage, mean distribution, and standard deviation of the participant's intention to use the OER.

**Table 5. Frequency, Percentage, and Mean Distribution of the Participants' Intention to Use**

Range	Description	F	%
4.51-5.00	Very High Extent	36	39.71
3.51-4.50	High Extent	40	43.01
2.51-3.50	Moderate Extent	13	13.98
1.51-2.50	Low Extent	4	4.30
1.00-1.50	Very Low Extent	0	0
<b>Total</b>		<b>93</b>	<b>100.0</b>
<b>Overall Mean</b>		<b>4.10</b>	
<b>Interpretation</b>		<b>High Extent</b>	
<b>SD</b>		<b>0.83</b>	

The data show an overall mean of 4.10 which indicates that the faculty members have high intention to use open educational resources because it was helpful for their teaching needs. The intention to use OER not only benefits faculty's own teaching practices but also contributes to the wider adoption and advancement of open educational resources. Institutions can support and encourage faculty members with high intentions through providing resources, professional development opportunities, and recognition for their contributions, fostering a thriving OER culture that benefits faculty, students, and the entire education community.

Table 6 shows the Regression analysis of the influence of participants' assessment of the use of OER and their characteristics on their intention to use OER. Findings show that the whole model is significant ( $F= 43.29$ ,  $p = .000$ ). Thus, the null hypothesis can be rejected. Participants who assessed highly the use of OER and those who have higher self-efficacy, peer influence, and facilitating conditions also demonstrate a higher intent to use the Open Educational Resources. The data further show that 69.7 percent of the variability of their intention to use the OER can be explained by a combination of the predictor variables ( $Adjusted R^2 = .697$ ). The remaining 30.3 percent can be attributed to other factors not covered in this study. Specifically, among the independent variables, peer influence, facilitating conditions, and usefulness came out as having significant influences on their intention to use OER. The findings indicate that for every unit

increase in peer influence, there is a corresponding .301 increase in their intention to use OER ( $B = .301, t = 3.06, p = .003$ ). As indicated earlier, the faculty members felt that the social groups around them from top administration to immediate supervisor to colleagues, encouraged and supported their use of the OERs. The faculty members had a support group whom they trusted and who shared similar attitudes toward OERs. Those within their sphere of influence had their backs as they ventured into new and innovative teaching strategies. Baker, Hovey, and Gruning (2015) pointed out that faculty members' behavior and willingness to try new things largely lie on the influence of role models.

**Table 6. Regression Analysis of the Influence of Participants' Assessment of the Use of OER and their Characteristics on their Intention to Use OER**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.692	.346		-1.10	.049
Ease of Use	.166	.120	.146	1.38	.173
Perceived Usefulness	.277	.130	.223	2.13*	.036
Self-Efficacy	.159	.137	.116	1.16	.249
Peer Influence	.301	.098	.262	3.06**	.003
Facilitating Conditions	.294	.112	.241	2.63*	.010

Model Summary

$R = .845$	$R^2 = .713$	Adjusted $R^2 = .697$	$F = 43.29^{**}$	$p = .000$
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\*\*significant at 0.01 level

\*significant at 0.05 level

## CONCLUSION

Based on the findings of the study, it may be inferred that open educational resources have greatly contributed to the faculty's teaching needs. The use of these open educational resources provides opportunities for faculty to access a variety of resources in the fastest and easiest way possible. Well-designed instruction integrated with OERs can transform the way students access and share information and, at the same time, conduct collaboration, which can result in the creation of new knowledge. All factors, specifically perceived ease of use, perceived usefulness, self-efficacy, peer influence, and facilitating conditions, can be used to predict the intent of OER use in the faculty's future teaching practices. The faculty, on the other hand, appears to be adept at using OER, and through regular use, they have figured out how to incorporate technology into the teaching process. In this way, technology are essential instruments for facilitating teaching and instruction.



Furthermore, the significant influence of perceived ease of use and perceived usefulness on the intention of OER use is consistent with the Technology Acceptance Model and the Unified Theory of Acceptance and Use of Technology. In other words, faculty who think that OER is easy to use and useful are more likely to use such resources in their teaching.

## Recommendations

The following recommendations are offered:

1. That administrators:
  - 1.1. endeavor to provide institutional support in the creation of an OER repository that will house learning materials created by the faculty member.
  - 1.2. enhance the school's technological infrastructure to enable better utilization of open educational resources.
  - 1.3. support the training and literacy program offered by the library.
2. That librarians:
  - 2.3. continue the conduct training and literacy programs on the use of open educational resources, the Creative Commons, and the 5Rs (Reuse, Revise, Retain, Remix, Redistribute), to enable faculty members to effectively use the resources.
  - 2.4. provide a list of free open educational resources to complement eBooks, e-journals, and online databases.
  - 2.5. strengthen the promotion of the use of open educational resources to enhance awareness of the open educational resources particularly those underutilized.
  - 2.6. collaborate with faculty members in content curation of new learning materials and textbooks to optimize eLearning.
3. Future researchers consider another study on open educational resources to include learners' needs for OER and the perspectives of other stakeholders such as the administrators and academic deans.

## REFERENCES

- Community College Consortium for Open Educational Resources, "Members," Open Education Consortium, 2020, <https://www.cccoer.org/about/members/>
- Coleman-Prisco, V. (2016). Factors influencing faculty innovation and adoption of open educational resources in higher education. Boston, Massachusetts: Northeastern University. Retrieved from <https://repository.library.northeastern.edu/files/neu:cj82pn16v/fulltext.pdf>
- Creswell, J. W., & Plano Clark, V. L. (2017). Designing and conducting Mixed methods research. Sage.
- Davis, F.D., (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", MIS Quarterly, Vol. 13 no. 3, pp. 19-340.

- Davis, F.D., Bagozzi, R.P. and Warshaw, P.R., (1989), "User acceptance of computer technology: a comparison of two theoretical models", *Management Science*, Vol. 35 no. 8, pp. 982-1003.
- Deshmukh, U.B. (2018). open educational resources and the role of Librarians. *International Journal of Science and Research*, 9 (2).
- D'Souza, F. (2021). Awareness and use of open educational resources: A study. *Library Philosophy and Practice*, 1-11. Retrieved from <https://www.proquest.com/scholarly-journals/awareness-use-open-educational-resources-study/docview/2617203300/se-2>
- Dwivedi, Y., Rana, N., Chen, H. and Williams, M. (2011), "A meta-analysis of the unified theory of acceptance and use of technology (UTAUT)", *Governance and Sustainability in IS*, pp. 155-170
- Eristi, S. D., Kurt, A. A., & Dindar, M. (2012). Teachers' views about effective use of technology in classrooms. *Turkish Online Journal of Qualitative Inquiry*, 3(2), 30-41.
- Escobar-Rodriguez, T., & Monge-Lozano, P. (2012). The Acceptance of Moodle Technology by Business Administration Students. *Computer & Education*, 58, 1085-1093.
- Feldstein, A., Martin, M., Hudson, A., Warren, K., & Hilton III, J. (2012). Open textbooks and increased student access and outcomes. *European Journal of Open, Distance and ELearning*, 2.
- Florida Virtual Campus. (2012, August). 2012 Faculty and Administrator Open
- Kim, B. W., Lee, W. G., Lee, B. R., & Shon, J. G. (2015). Influencing factors in OER usage of adult learners in Korea. *The International Review of Research in Open and Distributed Learning*, 16(2), 1–17.
- Kimmons, R. (2016). Expansive openness in teacher practice. *Teachers College Record*, 118(9), 1–34. <https://www.tcrecord.org/Content.asp?ContentId=21521>. Accessed 13 June 2019.
- Kimmons, R. (2015). OER quality and adaptation in K-12: Comparing teacher evaluations of copyright restricted, open, and open/adapted textbooks. *The International Review of Research in Open and Distributed Learning*, 16(5), 39–57.
- Krelja Kurelovic, Elena. (2020). Acceptance of Open Educational Resources driven by the Culture of openness. 429-435. 10.21125/inted.2020.0185.
- Lau, S., & Woods, P. (2009). Understanding learner acceptance of learning objects: The roles of learning object characteristics and individual differences. *British Journal of Educational Technology*, 40(6), 1059-1075.
- Lwoga, E. T., & Questier, F. (2014). Faculty adoption and usage behaviour of open access scholarly communication in health science universities. *New Library World*, 115(3), 116- 139. doi:<https://doi.org/10.1108/NLW-01-2014-0006>
- Moon, J.W. and Kim, Y.G. (2001) Extending the TAM for a World-Wide-Web Context. *Information and Management*, 38, 217-230. [http://dx.doi.org/10.1016/S0378-7206\(00\)00061-6](http://dx.doi.org/10.1016/S0378-7206(00)00061-6)

- Muilenburg, Lin & Berge, Zane. (2005). Student Barriers to Online Learning: A Factor Analytic Study. *Distance Education - DISTANCE EDUC.* 26. 29-48. 10.1080/01587910500081269.
- Mtebe, Joel & Raisamo, Roope. (2014). Challenges and Instructors' Intention to Adopt and Use Open Educational Resources in Higher Education in Tanzania. *International Review of Research in Open and Distance Learning.* 15. 249-271. 10.19173/irrodl.v15i1.1687.
- Tang, H. (2020). A qualitative inquiry of k–12 teachers' experience with open educational practices: Perceived benefits and barriers of implementing open educational resources. *The International Review of Research in Open and Distributed Learning*, 21(3), 211–229. <https://doi.org/10.19173/irrodl.v21i3.4750>
- Tang, H., & Bao, Y. (2021). Latent class analysis of K–12 teachers' barriers to implementing OER. *Distance Education*, (in press).
- Taşpınar M, Gümüş Ç. (2004). Internet access, use, and sharing levels among students during the teaching-learning process. *The Turkish Online Journal of Educational Technology – July 2011*. Retrieved April 08, 2023, from <https://pdfs.semanticscholar.org/4e1b/442d6397278a8cd2ff1daf2a162a391881e7.pdf>.
- Tipton, J. (2020). *Faculty use of open educational resources: Attitudes, norms, and self-efficacy as behavioral predictors* (Order No. 27835189). Available from ProQuest Central. (2444587437). Retrieved from <https://www.proquest.com/dissertations-theses/faculty-use-open-educational-resources-attitudes/docview/2444587437/se-2>
- UNESCO (2016). Study on international collaboration on Open Education Resources (OER). Commissioned study prepared under a consultant contractor for UNESCO. [https://en.unesco.org/sites/default/files/oer\\_study\\_march\\_2017.pdf](https://en.unesco.org/sites/default/files/oer_study_march_2017.pdf)
- Venkatesh, V. and Davis, F.D., (2000), "A theoretical extension of the technology acceptance model: four longitudinal studies", *Management Science*, Vol. 46 no. 2, pp. 186-204.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal studies. *Management Science*, 46, 186–204.