

Open Educational Resources and Intellectual Property Rights: A Study on the awareness of OER and IPR among Elementary Teacher Educators

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Abstract

Digitalization is a major factor in education that brings advancements and mitigates educational boundaries. The accessibility of education has undoubtedly improved because of technological innovations. Computers and smartphones are such technological equipment that is most accessible to everyone, and both offer a broad selection of programs that make educational content available online in different formats. In this age of technological advancements, it is crucial to protect both the author's intellectual property rights and the credibility of the available content. For such circumstances in education, open educational resources (OER) are the workable alternative. This paper aims to measure the awareness of OER and intellectual property rights (IPR) among the DIET teachers of Himachal Pradesh. Future primary teachers who will shape the young brains of our country are being prepared by teachers in DIETs. Teachers use both open educational resources and online educational content, thus, they must be acquainted with these resources and how to use them effectively. Online content and OER are made available under several licenses and IPRs. Providing acknowledgment and monetary gains to the creator or innovator can encourage the educational community, whereas a lack of understanding of IPR could obstruct societal and economic growth. Therefore, any country must spread awareness about OER and licensing and apply it effectively.

Keywords: DIET, OER, IPR, Creative Commons

Introduction

Universal elementary education depends primarily on the role of the teacher. A teacher can take the lead in raising the standard of primary education by incorporating value orientation, environmental and health education, and other topics. District Institutes of Education and Training (DIET) were established in each state and district as the first and only significant institutional investment in elementary teacher education (Sarangapani, 2016). The teacher educators of DIET institutes have significant importance in elementary education as they are responsible for creating competent

elementary teachers. As a result of the District Primary Education Program (DPEP) implementation, more organizations and institutions are now involved in delivering public education at various levels (Azam, & Saing, 2017). To achieve the success of the educational objectives of these institutions open access (OA) resources play a vital role. As the world is exposed to an explosion of knowledge, and education is no longer restricted to instructor and student inside the confines of four walls (Saxena, & Hans, 2018) teacher also needs to upgrade themselves to cater to the need of young curious minds.

A teacher educator must be trained in

pedagogy, science, and technology, as well as using open sources available in education. They need to know how to use the numerous open-access and open educational resources that are available in abundance on various digital platforms. Open access contents are freely accessible online teaching, learning, or research resources that may or may not be edited, remixed, or disseminated in any other way but the educational materials that are openly licensed, freely distributable, in the public domain or made available under a license to utilize intellectual property are known as open educational resources, or OERs (University of Mary Washington, 2022). The integration and adoption of technology and online educational materials is a challenging process that requires comprehensive strategic planning on the part of the policy and decision-makers (Hashim, 2007, as cited in Ghavifekr, & Hussin, 2011). In this digital age, teachers are significantly less likely able to use digital teaching aids in classrooms (Szyszka et al., 2022). The Open Educational Resources provide access to a wide range of international educational materials, which creates several opportunities for digital learning. Open licenses under intellectual property rights are closely related to the concept of open educational resources. It is necessary to understand the permissions given under the copyright license before using any educational content. Copyrights are a type of intellectual property right, along with patents, trademarks, and industrial property rights.

Intellectual property rights help to protect the rights of an original author. Intellectual property is tied to human creativity and ingenuity (Teixeira & Ferreira, 2019). It takes work, time, energy, talent, money, and other resources to develop or create anything new. The proper application of intellectual property rights in any

country or organization may hinder the overall development of the entire country (Sreeragi. 2021). To receive IPR's benefits, one must register with the work under appropriate legal authorities. IPR has mainly two categories- copyrights and industrial property rights. The copyrights include literary and artistic work, while the industrial property rights cover the patent, trademark, industrial design, and geographical indication (Gaikwad, 2020). IPR gives people the legal right to prevent others from doing certain actions, such as pirating, forging, copying, and in some situations, using others' independently developed ideas without the original author's knowledge. Policymakers must include intellectual property rights (IPR) in the basic education framework of the education system and promote IPR registration by facilitating inventors and creators (Chudasama, & Patel, 2021). The OER supports and facilitates the creators' rights. The OER are generally released with creative commons (CC) license, which gives the freedom of copying, distributing, modifying, or using the resource for commercial purposes depending upon the type of CC license. OER websites established by numerous national institutions to make their educational materials accessible to all individuals have helped open educational resources (OERs) gain popularity over time in India (Deivam, & Devaki, 2022). OER is available in different forms and types. Since OER will positively impact teaching and learning, the OER policy framework must distinguish between various OER types and give a precise definition of each (Ebner et al., 2022).

Review of Related Literature

In light of the possibility that Epigone could be a future creator, Marjit, & Yang (2015) investigated the connection between IPR and R&D incentives. According to their research,

giving rise to such a possibility can lead to the development of fresh insights that defy accepted thinking. They look at the fundamental connection between intellectual property rights (IPR) and rewards for R&D in the context of copycats who may be future innovators of both simple and complicated technologies. Most of the higher educational institutes (HEIs) lack IPR policies due to several obstacles, such as a lack of qualified staff, a holdup in research funding, and a lack of creative facilities and lack of qualified IPR specialists who can assist instructors, researchers, and students at HEIs is one of the challenges that have a detrimental impact on IP generation (Sattiraju et al., 2021). Teachers cannot do their jobs as effectively without a grasp of the complexity of global evolution as well as without the necessary skills and competence (Sharifi & Imani, 2013). Chidi & Babalola (2016), examine how open access and creative commons may be used as instruments to balance intellectual property rights while also ensuring that information is easily created and accessible. The study supports that creative commons and open access are served as balancing ways for the public interest and intellectual property rights. Open educational resources which released with creative commons are used as a model to help a unified approach in IPR (McAndrew & Cropper, 2011, pp. 2-3). OER are all publicly available materials used for learning, education, and training, and the quantity of OER, as well as its accessibility and dissemination through learning object repositories, has grown significantly in recent years (Clements & Pawlowski, 2012). All OER is distributed under an open license that gives the necessary permissions from the owner of the intellectual property to use the material, and the most well-known of these licenses is Creative Commons (Kumar & Prabu, 2021). The academic community is actively

debating using open educational resources (OER) in teaching, which are divided between outright resistance, partial adoption, and full acceptance (Menzli et al., 2022). OER was utilized by teachers to enhance their instructional techniques, acquire fresh perspectives, and deepen their understanding of certain subjects (Admiraal, 2022). The advantages of OER can not be neglected by the educational community. To fairly use of such resources, it is important for the elementary teachers to distinguish such resources from other copyright materials. In the research gap, it was found that

This research aims to find out the awareness level of OER and IPR among elementary teacher educators of Himachal Pradesh.

The objective of the study

The goal of this study was to determine whether the DIET teachers of Himachal Pradesh are familiar with the concept of IPR and OER. The level of awareness will indicate how the DIET Teacher educators are aware of these resources. Utilizing educational materials healthily and legally has several advantages, including lessening financial burdens and increasing recognition of original work. The objectives of this study are -

- To evaluate DIET teacher educators' familiarity with OER.
- To study the IPR knowledge level of DIET teacher educators.
- To study the relationship between DIET teacher educators' level of OER and IPR awareness.

Hypotheses of the study

- DIET teacher educators' awareness of OER does not differ significantly in relation to gender and teaching experience.

- DIET teacher educators' awareness of IPR does not differ significantly in relation to their gender and teaching experience.
- The awareness of OER and IPR among DIET teacher educators is not significantly correlated.

Delimitations of the Study

The study is delimited to 54 teacher educators of 9 DIETs of Himachal Pradesh.

Methodology

The present study followed the descriptive survey method. The sample of 54 teacher educators from DIET institutes of Himachal Pradesh is selected with a random sampling method. The 9 DIET institutes are selected out of 12 government DIET institutes of Himachal Pradesh. The data is collected with the help of a self-developed questionnaire and prepare a Google form link to send to the 90 teachers who were selected for the study with the help of a random sampling technique. Out of 90 teacher educators, 61 responses were received. The researcher has selected 54 responses for the study, which were completed in all aspects.

Survey Instrument

A structured questionnaire was used in

the survey. The relevant literature on IPR and OER served as a basis for the development of the research tools. The survey questionnaire has 3 parts.

- Demographic information
- Awareness of IPR
- Awareness of OER

The instrument was evaluated by six subject experts in the field of education and open educational resources who determined its face and content validity. The required revisions were then made in accordance with their recommendations. The reliability of the test is evaluated with the test-retest method. The Cronbach's alpha score of reliability was found 0.73, which is under the acceptability threshold. Respondents were asked to rate their degree of agreement with each statement on a scale of 1 to 5, where 5 meant "strongly agree," 4 meant "agree," 3 meant "undecided," 2 meant "disagree," and 1 meant "strongly disagree."

Data interpretation and findings:

The data of the study were analyzed with the help of SPSS in the light of the objectives. The data was analyzed with quantitative analysis, and the outcomes were tabulated.

Table-1: Analysis of Items

Sl. No.	Items	Mean	SD
1	Copyright License use for Intellectual Property Right.	4.10	0.67
2	IPR license protects the rights of Author.	4.31	0.74
3	Copying the online content without the author permission is an illegal activity.	4.22	0.88
4	Plagiarism is not illegal if the author is cited in the work.	2.30	0.89
5	It is necessary to cite, quote and acknowledge the author when you use his/her work.	4.33	0.64

6	Any educational content available online can be use freely and without any restriction.	2.22	0.86
7	IPR License helps to prevent Infringement.	4.13	0.80
8	All literary work published with copyright	3.63	0.76
9	OER stands for Open Educational Resources	4.24	0.75
10	All OER are released with IPR License.	3.67	0.97
11	Every educational Content available online are OER.	2.70	0.87
12	OER are free to use by anyone.	4.07	0.72
13	OER can be remix to make new educational Content.	3.76	0.91
14	Photos and videos can be OER	2.78	0.64
15	Free courses are available on OER repositories.	3.83	0.73
16	OER are released under Creative Commons License.	4.02	0.62

The survey consists of 16 items. Item no1-8 measures the awareness of intellectual property rights, and item number 9-16 measures the awareness of open educational resources. The item no-4, 6, and 11 are negatively worded and are scored in a reverse manner. The highest means for items 1 and 9 in Table 1 demonstrate that

instructors are highly knowledgeable about the concepts “Copyright License Use for Intellectual Property Right” and “OER stands for Open Educational Resources,” with mean values of 4.10 and 4.24, respectively.

The demographic details are given in Table 2.

Table-2: Demographic Details of the Sample

Demographic status	Item	N	Percentage
Gender	Male	26	48.1
	Female	28	51.9
Experience	Less than 10 years	47	87
	11-20 years	4	7.4
	21 and above	5	5.6

The total respondents are 54 and 26 are male, and 28 are female teachers of different DIET from Himachal Pradesh. The maximum per cent (87 per cent) of teachers have less than 10 years of

teaching experience, and only 7.4 per cent and 5.6 per cent of teachers are under the category of 11-20 and above 21 years of experience, respectively.

Table-3: Awareness Level of OER

Level	Frequency	Percentage
Low	35	64.8
Average	4	7.4
High	15	27.8
Total	54	100

The awareness level of OER from the survey is shown in Table 3. From the table, it shows that 64.8 per cent of teachers have low awareness of OER, while the average level has only 7.4 per

cent and only 27.8 per cent of teachers have a high level of OER awareness. Thus, it can be concluded that the awareness level of OER of the DIET teachers is at a low level.

Table-4: Awareness Level of IPR

Level	Frequency	Percentage
Low	20	37
Average	16	29.6
High	18	33.3
Total	54	100

From the table 4 above, It is evident that 37 per cent of instructors had low awareness of IPR, compared to 29.6 per cent who have moderate awareness and 33.3 who have high awareness. The knowledge level of IPR among DIET instructors is, therefore, poor, despite

the fact that there is no significant variation in the percentage.

Null hypothesis-1 “DIET teacher educators’ awareness of OER does not differ significantly in relation to gender and teaching experience.”

Table-5: OER awareness among DIET teacher educators in relation to their gender and teaching experience

Tests of Between-Subjects Effects					
Dependent Variable: OER awareness					
Source	Type III Sum of Squares	DF	Mean Square	F	Sig.
Corrected Model	4.514a	4	1.129	.112	.978
Intercept	11173.029	1	11173.029	1104.231	<.001
Gender	.000	1	.000	.000	.997
Experience	1.297	2	.649	.064	.938
Gender* Experience	.613	1	.613	.061	.807
Error	495.801	49	10.118		
Total	40899.000	54			
Corrected Total	500.315	53			

R Squared = .009 (Adjusted R Squared = -.072)

The above table:5 explored the ‘F’ Value and significant level related to OER awareness among teacher Educators in relation to their Gender and teaching experience. The above analysis shows the value of significance between OER awareness among the Gender and

teaching experience as follows:

The Gender of respondents with respect to OER awareness among teacher educators related ‘F’ value is 0.00 with a significant probability is .997. “The null hypothesis is accepted since it indicates

that the 'F' value is not significant at the 0.05 level of significance". So it can also be deduced that there is no significant gender difference in OER awareness among teacher educators at DIET institutions.

The teaching experience of respondents with respect to OER awareness among teacher educators related F value is 0.064 with a significant probability is .938. "The null hypothesis is accepted since it indicates that the F value is not significant at the 0.05 level of significance," and it can also be deduced that there is no significant difference among DIET teacher

educators' awareness of OER based on their teaching experience.

The gender*experience with respect to OER awareness among teacher educators related to "F value is 0.61 with significant probability is .807 which shows that 'F' value is not significant at 0.05 level of significance" and it can be concluded that there is no significant difference between the OER awareness among teacher educators based on their gender and teaching experience.

Null hypothesis-2 "DIET teacher educators' awareness of IPR does not differ significantly in relation to their gender and teaching experience."

Table-6: IPR awareness among DIET teacher educators in relation to their gender and teaching experience

Tests of Between-Subjects Effects					
Dependent Variable: OER awareness					
Source	Type III Sum of Squares	DF	Mean Square	F	Sig.
Corrected Model	29.385a	4	7.346	1.088	.373
Intercept	12895.202	1	12895.202	1910.327	<.001
Gender	26.372	1	26.372	3.907	.054
Experience	5.049	2	2.524	.374	.690
Gender * Experience	26.937	1	26.937	3.990	.051
Error	330.763	49	6.750		
Total	46356.000	54			
Corrected Total	360.148	53			

R Squared = .082 (Adjusted R Squared = .007)

An analysis of table-6 leads to the conclusion that the 'F' Value and significant level related to IPR awareness among teacher Educators in relation to their Gender and teaching experience. The above analysis shows the value of significance between IPR awareness among the Gender and teaching experience as follows:

The Gender of respondents with respect

to IPR awareness among teacher educators related 'F' value is 3.907 with a significant probability is .057. It shows that the "F value is significant at 0.05 level of significance. Thus the null hypothesis is rejected," and it can be concluded that there is a significant difference between the IPR awareness among teacher educators of DIET institutes based on their gender.

The teaching experience of respondents with respect to IPR awareness among teacher educators related to “F value is .374 with significant probability is .690, which shows that ‘F’ value is not significant at 0.05 level of significance and the null hypothesis is here accepted,” so it can be concluded that there is no significant difference between the IPR awareness among teacher educators based on their teaching experience.

The gender*experience with respect

to IPR awareness among teacher educators related to “ F value is 3.99 with significant probability is .051 which shows that ‘F’ value is significant at 0.05 level of significance.” It concluded that there is a significant difference between the IPR awareness among teacher educators on the basis of their gender and teaching experience.

Null hypothesis 3: “The awareness of OER and IPR among DIET teacher educators is not significantly correlated.”

Table-7: Significant correlation between awareness of OER and IPR

		Awareness of OER	Awareness of IPR
Awareness of OER	Pearson correlation Sig. (2-tailed)	1	.157 .257
	N	54	54
Awareness of IPR	Pearson correlation Sig. (2-tailed)	.157 .257	1
	N	54	54

Table 7 shows the value of Pearson correlation between awareness of OER and IPR awareness is 0.157 with a significant value of .257, which shows the minor positive correlation between the awareness of OER and IPR, but the “value is not significant at 0.05 level of significance, and the null hypothesis-3 is accepted”. We may conclude that there is no significant relationship between the OER and IPR awareness among DIET teacher educators.

Discussion

The objectives of the study were to explore the level of awareness towards OER and IPR as the OERs are a type of Open Source that have the power to change academic practice in response to the effects of fast-advancing technology (Hatzipanagos & Gregson, 2015).

The study revealed that 64.8 per cent of teacher educators have low and only 27.8 per cent of teacher educators have

a high awareness of OER. However, the awareness of IPR among teachers is low, i.e., 37 per cent and 33.3 per cent high. The extended technological uses in educational curricula reflect more significant social developments, which demand for teachers to acquire fundamental knowledge of intellectual property as a component of digital literacy (Starkey et al., 2010). According to UNESCO, governments, higher education institutions (HEIs), and businesses should collaborate to continuously develop the framework for digitally transforming teaching (UNESCO-ICHEI, 2022). The study reveals a minor but not significant positive correlation between the OER and IPR awareness among teacher educators.

Conclusion

Due to recent major developments in worldwide information availability, ideas concerning the rights and responsibilities of intellectual property

are transforming in the educational technology field. Likely, a teacher who lacks this advanced knowledge will not be able to impart technical literacy skills to students, such as protecting one's own ideas, using others' ideas lawfully, and respecting others' intellectual property rights. Studies show that teacher educators differ significantly in computer anxiety based on their region

and gender (Saxena, Kumar, & Singh, 2019). The educational community needs to involve in the growing, open education movement, which can create and utilize open resources that contribute to the availability of freely shared information through open licenses that enable usage, editing, translation, enhancement, and sharing by anyone.

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