Article

Rubric Techniques for Analyzing Usefulness of Open Educational Resources

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I N F O

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A B S T R A C T

Open Educational Resources (OERs) are those open-licensed resources that anybody can reuse in different contexts and are available without any financial burden. COVID-19 pandemic has shown an unpredictable shift of teaching and learning activities in school education in virtual mode. Indian school educators have started taking online classes to engage students in carrying out their routine academic activities. Parallelly, the school librarians have also developed new skills to assist educators by providing the required resources or helping them carry out online classes. The situation has paved the way for OERs to be adapted in numerous academic contexts. Librarians provide various OERs to their users in multiple formats, namely audio, video, PDF files, flipbooks and websites. But a practical exercise that schools should carry out before they provide OERs to their students and educators is to analyse the resources to find out their suitability for use in classrooms and the students' purpose of learning. The paper's objective is to apply the rubric's techniques checklist, rating and analytics scale rubrics to analyse the usefulness of the OERs. School educators, librarians and students are slowly becoming the vital users of OERs in the Indian education environment. Adopting the method of analysing the usefulness of OERs will help identify the context in which the school educators can use them to provide the best OERs to their students.

Keywords: Open Educational Resources, OER Analysis, School Educators, Rubric, Checklist

Introduction

Technology has a reasonable claim on improvisation in the field of education. Significant changes are being experienced in the approach and delivery process of information. The openness of educational resources is due to technology only. The open system to knowledge is possible because scientists, scholars, students and teachers ensure that the access barrier to their scholarly content is removed. Budapest Open Access Initiative (BOAI) in 2002 first used the term open access. With the passage of time and the increased reach of knowledge to everyone through the internet, open resources, open education and open educational resources started emerging. Teaching pedagogy also has been modified due to the moment of open education. The Open Educational Resources (OERs) started appearing as supplementary learning resources and are supporting teaching content in a big way in school education.

Open Educational Resources (OERs) are educational materials in the public domain or published under open

Virtual International Conference on
Statistical Tools and Techniques for Research Data Analysis ICSTRDA 2021

Parmar SS et al.
J. Adv. Res. Lib. Inform. Sci. 2021; 8(1)

licences (such as Creative Commons) that specify how they can be used, reused, adapted and shared. OERs can include textbooks, curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and software. (Fedration University Library, 2021)

COVID-19 pandemic and various other variables resulted in a sudden shut down of academic institutions. The numerous learning concepts such as learning with peers, exchanging notes, visiting the libraries and meeting the teacher to clear the topics have become entirely obsolete (Gumb, 2020). The world adjusted to the new norms of social distancing and adapted to online platforms like Google Meet, Skype or Zoom, which became the new delivery stations of education.

School libraries are vibrant if the services and resources are used to the optimum by their users. But the pandemic has impacted this lifeline of libraries. In this unexpected situation, the libraries served the users by providing online resources through their websites or delivering them straight to their handheld devices or apps. But in the process of providing these OERs, the resources have gone through any analytical tool to analyse its suitability and usefulness to the students and teachers. As the evaluation of any content/ source is an integral part of its use. OERs also need to be evaluated before providing them to the teachers and students. Such evaluation or analysis gives them confidence in the information and source they are consuming.

The study advocates the analysis of OERs using fundamental yet simplest forms of rubrics analysis. In the school education system, the use of rubrics is not a common assessment tool. Teachers have been seen using the rubrics to assess the Student's performances and event values. The rubric technique applies to qualitative, numerical or descriptive nature of OERs. Hence, checklists, rating and analytics scales are suggested to be used as tools to analyse the OERs. These scales help the investigator to collect the information about the proposed object on specific pre-decided criteria. These scales are best objects to record the observer's observations, providing assessment tool to gather the information or records. The development of rubrics is based on the criteria decided to analysis the OERs. The suitable rubrics are developed with the set criteria, including essential information reuse factor, would help school librarians analyse the OERs in a manageable and speedy way. On the other hand, if libraries supply any content to the Students after analysis, it will create a positive library service image.

Literature Review

The study seeks to implement rubric technique to analyse the usefulness of OERs. Rubrics are matrix used to make the scale level assessment of an object, information, content, human behaviour, work etc. to give a position, grade or ranking to the assessed product (University of Waterloo, n.d.). It's an outcome base, multi-purpose scoring guide for assessing effects and performances. (Wolf and Stevens, 2007). Development of rubrics includes three steps:

- Identifying Performance Criteria
- Setting Performance Levels
- Creating Performance Descriptions

Dianna and Stephanie have developed a checklist to evaluate OERs. They have included a breadth of perspectives and accuracy, alignment, production quality, accessibility, student access, student engagement, cultural relevance and sensitivity, licensing and adaptability. The checklist can use as a readymade document in the OER assessment (Morganti and Towery, 2020). The literature review revealed that studies use various kinds of rubrics to evaluate the students' performance and even on OER implication. Developed checklist/ rating scales rubrics were also found during the literature review, but their use in OERs content analysis could not trace.

Research Objectives

During the COVID pandemic, there was a heavy buzz of delivery of OERs or open informational sources. Depending on the need of the hour and the fact that libraries are the backbone, the academic institutions must continue the resources' supply. But before providing access to any OER content to the students or teachers of the school, libraries should analyse the OER. Hence the following were the objectives of the study:

- To understand thoroughly the technique of rubric
- To apply the checklist, rating and analytics scaling of rubrics to OERs
- To identify the usefulness of OERs by testing the OERs on rubric techniques

Limitations of the Study

- Only checklist, rating and analytics scale rubrics are considered in the study
- Pre-Set conditions used in the study to show the OER analysis are entirely based on the researcher's observations and used only as example
- The results of observation and analysis of OER can vary between studies

Methodology

The study adopted an implication method of rubric techniques for the assessment of the usefulness of OERs. Three OERs content in three different formats i.e. video, audio and text has been taken as a sample and assessed on the specific pre-developed criteria. The developed rubrics are attended based on the observations.

All the three rubric scales are discussed below with their implications on OER:

Virtual International Conference on
Statistical Tools and Techniques for Research Data Analysis ICSTRDA 2021

Parmar SS et al.
J. Adv. Res. Lib. Inform. Sci. 2021; 8(1)

A popular and common method of evaluation is checklist scaling. The technique is best to assess the behavioural pattern of the object. It does not provide any rating. The technique uses the binary format decision making concept, i.e., either Yes or No. The developed criteria for the content are checked based on the decided binary framework. The content with the highest positive response from the fixed binary concept finds the fulfilling majority of set criteria and will be the most suitable content to be made available to the users. The implication of checklist scale rubric in OER assessment:

Figure 1, is a screenshot of a video title 'How Flies Fly' from 'ibiology' (www.ibiology.org). Following are the criteria to analyse the content of the video:

- Educational reuse of content
- Opportunities for students to test their understanding of the material
- Alternative formats
- Sound Clearity
- Transcript/ subtitles availability

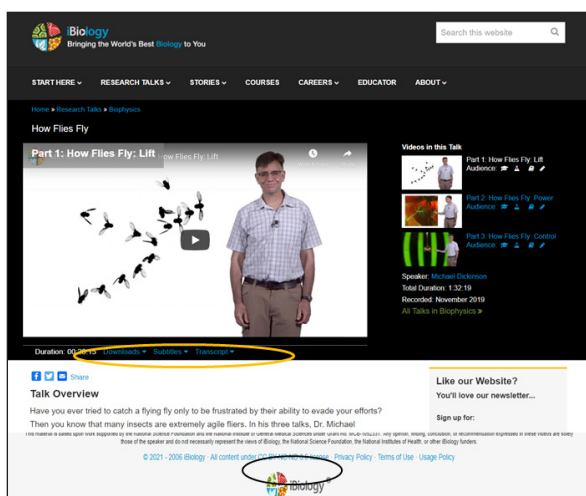The video checked on the criteria, responses are recorded in the 'Yes' and 'No' column of Table 1.

Figure 1.Screenshot of Video Content 'How Flies Fly' from 'iBiology'

Table 1.Assessment of Video Content 'How Flies Fly' from 'iBiology'

Assessment questions	Yes	No
Educational reuse of content	1	
Opportunities for students to test their understanding of the material		0
Alternative formats		0
Sound Clarity	1	
Transcript/subtitles availability	1	

In the analysis process using the checklist scale of rubric from the decided criteria, the video has received three 'Yes' and two 'No'. The video 'How Flies Fly' follows the openness of the information. Hence it can be supplied to the students and teachers. It is with clear sound and video quality and has subtitles to support the learning.

Rating Scale Rubrics

Rating scale rubrics are used to evaluate qualitative and quantitate information on the developed criteria (Didactics of English Language, n.d.). As in the Likert scale, the respondent must choose the suitable rating number for the decided components. Similarly, in the rating scale rubrics, the set criteria are written on the extreme left column and each criteria assessment marks will be provided according to the observation. Implementation of rating scale rubric in OER assessment.
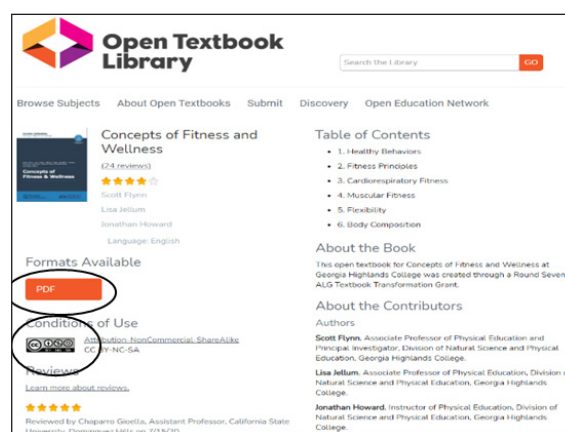

Figure 2.Screenshot of an eBook Resource 'Concepts of Fitness & Wellness' from 'Open Textbook Library'

Table 2.Assessment of an eBook resource 'Concepts of Fitness & Wellness' from 'Open Textbook Library'

Assessment questions	Below Expectation	Meets Expectation	Exceeds Expectation
Accurate Information		2	
Error Free		2	
layout and interface easy to navigate		2	
Alternative formats		2	
CC License		2	

Figure 2, is a screenshot of a website resource page title 'Concepts of Fitness & Wellness' from 'Open Textbook Library' (https://open.umn.edu/).

Virtual International Conference on
Statistical Tools and Techniques for Research Data Analysis ICSTRDA 2021

Parmar SS et al.
J. Adv. Res. Lib. Inform. Sci. 2021; 8(1)

Following are the criteria decided to analyse the contents of the resource:

* Accurate Information
* Error Free
* Ease of navigation of the layout and interface
* Alternative formats
* CC License

The above Table 2, shows that the selected OER resource meets most of the expectations. On the rating scale rubric, it has received ten grades from a total of 12. The resource follows the CC-BY-NC-SA license, allowing users to use the resource for non-commercial purposes and share with others. It allows online reading and downloading of PDF file for offline use. As it provides multiple formats, allows openness and meets other criteria, the library can give the e-book to the students and teachers.

Analytic Scale Rubrics

In the analytic scaling rubric method, specific decided criteria listed out in the first left column and remaining columns remain blank to fill the performance level's scoring by the requirements. Each standard should be scoring

separately whichever the score decided for any criteria in that column, the reason needs to be justified (DePaul University, n.d.). The last row contains the total score. The higher the score, the best the resource content, accessibility and feasibility will be. The list of criteria is wholly base on the observer. While deciding the requirements, the librarian should try to keep all the possibilities included so that all the relevant information about the type of resource should get covered. Analytic rubrics are useful to provide the best feedback. As each strength and weakness related to chosen criteria can be check. Unless each criterion is not weighted, one cannot conclude the usefulness.

The implication of analytic scale rubric in OER assessment

Figure 3, is a screenshot of a musical piece resource title 'My Little Kingdom' from 'Free Music Archive' (https://freemusicarchive.org/). To assess the resource four criteria were decided namely:

* Music Sound
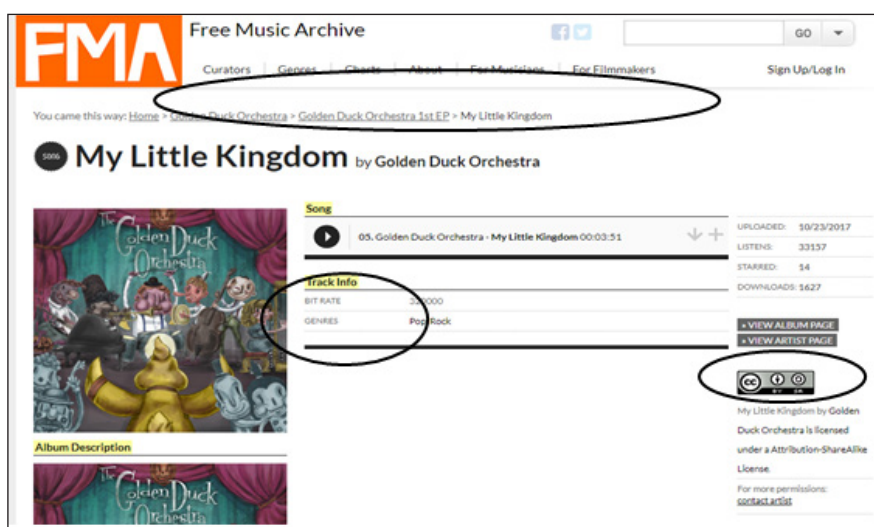* Organisation
* Technology used
* Openness

Figure 3.Screenshot of Music Resource 'My Little Kingdom' from 'Free Music Archive

Table 3.Assessment of Music Resource 'My Little Kingdom' from 'Free Music Archive

Particulars	Poor 1	Fair 2	Good 3	Exceptional 4	Total Score
Music Sound				Music sound appears clear	4
Organisation			The listing of music is appropriately categorised as Genres, Musician, Filmmakers		3
Technology used				Downloading and playing of music is convenient	4
Openness				CC-BY SA Licensed	4
Total Score					15/16

Virtual International Conference on
Statistical Tools and Techniques for Research Data Analysis ICSTRDA 2021

Parmar SS et al.
J. Adv. Res. Lib. Inform. Sci. 2021; 8(1)

Table 3, shows the analysis of music OER through analytic scale rubric. In the observation on the decided criteria, the content receives an impressive 15 out of 16. Hence the resource is suitable to be provided to the students and teachers for their learning. The music has good sound quality, the content is well organised on the website and can be searched through genres, musicians or filmmakers. It is licensed under CC-BY SA, means allowing the reuse of the music piece. But the new work should be licensed under the same license under which current music is licensed.

The school librarians similarly can adopt the method of any form of the rubric in the assessment process of OERs. Most of the time, they can make OER assessment observations by taking sample OER content. But the librarians need to observe the OERs wisely, without any biases and give their users open knowledge experience.

Conclusion

School educators, librarians and students are slowly becoming vital users of OERs in the Indian education environment. School libraries are developing their platform to provide the OERs. But the librarians need to take care when online content or shared links are being provided to the library users since they are being provided to the people who might not be aware of the copyright or usefulness. The provided OER content usage will not be known. Hence, it is the library's responsibility to evaluate the content before giving access to any online content to the users. It should assess the information and informational source on specific criteria like copyright, authenticity, reuse value and quality. The rubrics like checklist, rating and analytics scales can be customised and OER resources can be evaluated using these tools.

When the open resources are analysed using the basic rubrics techniques, they will help the school teachers and students use a tested and trusted information resource. Secondly, as the copyright issues, reuse information possibilities and other technical requirements will be pre-checked by the librarian and noted, the users need not worry about these conditions. Librarians can also assure that the users' resources are genuinely open and relevant to their users' needs. Steven Redhead has rightly said, "Careful evaluation of information that is portrayed as fact is critical." Therefore, adopting the right methods of analysing the usefulness of OERs will help identify the context in which the school educators can use them to provide the best OERs to their students.

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