Journal of Positive School Psychology http://journalppw.com
2022, Vol. 6, No. 4, 1527-1535

NEW METHOD OF DATA COLLECTION USING THE KOBO TOOLBOX

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Abstract:

Kobo Toolbox is a free open-source tool (FOSS) used for data collection like google forms, survey monkey, etc. However, this is specially used in remote areas or where the internet facility is uncertain. This toolbox stands out for its advanced features like repetitive questions, and skip logic method and has an advanced mode of questions, including photos, collecting GPS coordinates, audio, and video recordings. This tool could be extremely beneficial in education where there is no cost associated with implementing them. Moreover, this is very easier to collect data by sharing the questionnaire link with anyone and copying the stored data. This practice would be most beneficial for students to collect research data as part of their project study. The benefits from this practice are not limited to data collection for their projects, teamwork, and idea exchange. The entire activity was designed to provide students with a different perspective on data collection in a community of learners. Such a collaborative learning setup improves student learning and engagement outside the class and helps them gain the collaborative skill, a much-needed skill for a successful career. Though it is a data collection tool, students can exchange their ideas in the preparation of a questionnaire useful for their group assessment that promotes teamwork and collaborative learning. Especially, when there is no eye contact between students, this might work well for collecting the information among them through sharing the questions on audio/ video mode, etc. However, this may not use as a discussion for sharing ideas. Moreover, the process of collecting responses from external people might improve the communication with them leading to collaboration with external committees in enhancing their projects. Eventually, it is concluded that this practice is implemented in a few civil engineering modules for the student assessments in one of the reputed institutions in Oman. It was also found that the kobo toolbox has better advantages compared to different data collection tools.

Keywords: Education Technology, Kobo toolbox, data collection, Feedback mechanism, FOSS

INTRODUCTION

Advancements in technology have progressed social life as well as educational scenarios over the period. Education technology has reached greater heights after the intervention of flipping in teaching using various e-tools and interactive media to enhance teaching and learning experiences in education **[1].** Students show interest to participate and involve in the activities rather than listening to faculty lectures during class. As per VARK, [Visual (V), Auditory (A), Read/Write (R), and Kinesthetic (K)], students in a class are categorized into different groups when they have their learning styles. As per **[2]** Biggs and Tang's students are not capable of listening

to class for more than 15 min which says lectures are often viewed as ineffective learning experiences. To overcome these issues and to make students engage for a long time, the teacher has to involve students in live activities during class by using various e-tools and activities such as Jigsaw in group discussions could help to enhance student communication skills and their abilities **[3].** However, COVID- 19 pandemic is a public health emergencythat is an unknown guest entered into human life with many effects. But, the effect on education is unbelievable but true. Indeed, it is witnessed that, from kindergarten to doctoral-level studies, students across the globe are experiencing the altering effects of coronavirus as classrooms move online. Many nations have decided to shut down their schools, colleges, and universities for the right reasons. Both students and teachers have been tasked with adapting to an online learning environment. Students are now taking their exams online, which has resulted in a lot of trial and error and frustration for everyone involved. Several experiments and research has been canceled and that creates difficulties for the students. Importantly, these disturbances may not only be a short-term problem but will also have long-term consequences for the affected cohorts, resulting in increased inequality. It is now unable for a student to meet any industry person for data required for his project. Feedback plays a significant role in every assigned task without which the learning cycle will not be complete. Unless students receive appropriate and sufficient feedback on whatever they are being assessed, they will understand their areas of improvement. Earlier when education technology was not well developed, educational institutions were relying on manual methods of collecting feedback from the students for analysis and quality assurance purposes. However, these methods were time-consuming and many times, prone to errors due to manual methods of data analysis. The involvement of free and open-source tools in teaching and learning has revolutionized the customization of learning resources. Free and open-source tools in teaching and learning offer many options for the teachers to download the necessary e-learning tools, customize them as per their purposes and use them in their classes. These tools are even budget-friendly and hence become the best choice for many educational establishments, from a sustainability point of view. **[4][5][6]**

PROBLEM IDENTIFICATION

During the uncertainty period of COVID -19, it is very difficult for students to extract the data to complete their assessment/ research. As they are unable to meet, the required people face to face. Hence, the use of data collection tools such as Google Forms, and Survey monkey are widely used to get required answers to include in the student assessment. However, these online tools require internet facilities to use and it is difficult to collect data in remote areas / where the internet is uncertain. Generally, few challenges were faced during the collection of data such as internet issues, mobile networks, safety issues, manual errors, etc. **[7].** These tools cannot support the internet, or the uncertainty of the internet especially in remote areas. One more important aspect of any online or e-tool is its user interface design. If the user interface or usability aspects are compromised, then this will affect the usage of these tools and hence will affect the implementation. For this Human-Computer Interaction (HCI) aspects are taken into consideration and the usability of any e-tool is assessed against certain pre-defined principles of HCI. These aspects are very important for even free and open-source tools, because, since the tools are available free, one must ensure their user-interface design is easy to understand and adapt. [8][9] Therefore, it is essential to research for a new tool to overcome such types of issues at least shortly. This paper discusses the use of a new tool called KOBO Toolbox with many added advantages over google forms and other data collection tools.

METHODOLOGY

In this section, the authors have discussed the usage of the KOBO Toolbox. One has to create a free account on the website, to begin with. The stepwise process is given below with the screenshots of the KOBO toolbox.

Step 1: Login to www.kobotoolbox.com

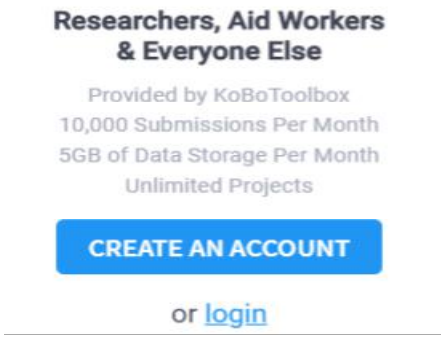

Fig.1 Create an Account Page

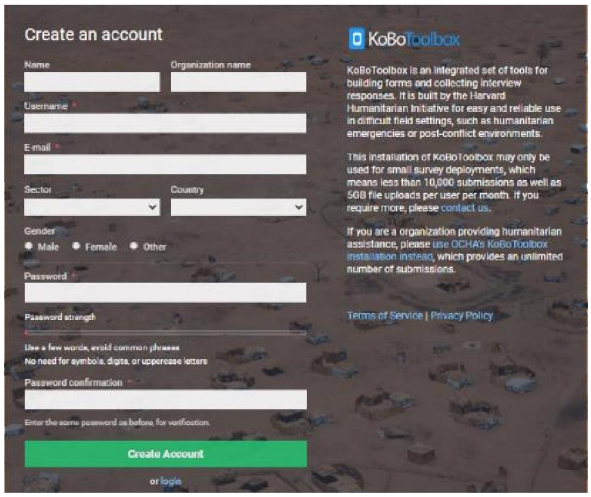

Fig 2: Create an account – Provide basic details on username and password.

Step 2: Upon creating an account, an activation email will be sent to the given email address

Step 3: Click on the link and activate your account

Step 4: The interface of the Kobo tool Box Home page and click on NEW

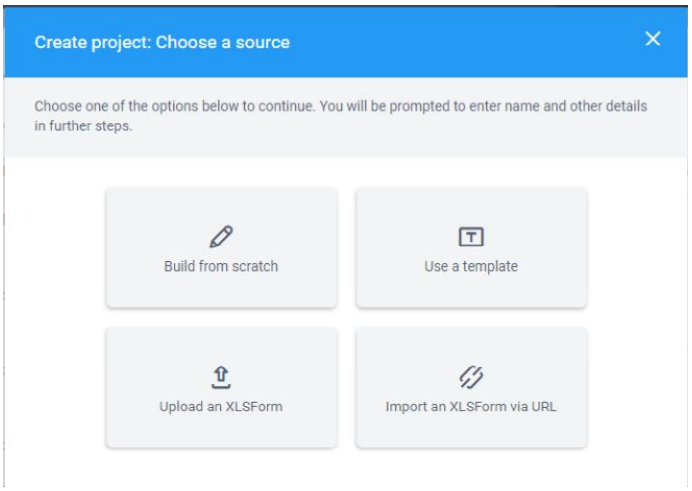

Fig 3: Create a Project

Step 5: Select build from scratch and provide the required details of the activity.

Step 6: Interface of Question Page and click on the + symbol to create the question.

Step 7: Click on Add Question to view different modes of questions

Fig 4: Different mode of Questions

Step 8: Select the type of question required in your activity

Step 9: Click on the delete option to delete the question if is not required.

Step 10: In addition to the above-mentioned questions, there are different modes of questions such as SKIP LOGIC and REPETITION METHODS, which add better advantages to the KOBO toolbox. Open settings and click on skip logic to frame questions.

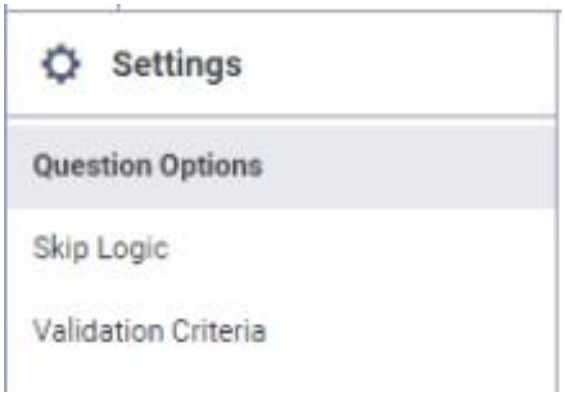

Fig 5: Settings page

Step 11: After completion of questions, click on the SAVE option available on the right-side top.

Fig 6: Save Button

Step 12: Click on the Home button available on the left side top

Step 13: Click on Drafts on the home page and select your project title.

Step 14: Click on Deploy.

Step 15: After the project is deployed then click on Deployed on the Left Side ofthe Home Page

Step 16: Finally, click on the copy option (Right side down) to select the link and share it with the respondents.

NEW RESOURCE FOR STUDENTS AND FACULTY

Since the aim of teaching students and educators how to use the KOBO toolbox was to raise awareness of the wide range of options available, it was important for staff to be aware of the new methods that occurred among students in their assessment. It was important for students to understand and know their preferred new data collection tool.

RESULTS AND DISCUSSION

Every assessment is called the complete one only if it is coupled with an appropriate data collection method as the closure. Earlier this used to be done by many teachers in the hardcopy of feedback form. With the advent of Education Technology and enhancements in various free and openly accessible online tools, collecting and analyzing feedback from the students has become very easier. Kobo Toolbox is a free open-source tool (FOSS) that is used for data collection and feedback mechanisms. It helps students to capture data with electronic devices like phones and tablets, as well as paper and laptops. Kobo Toolbox is a similar tool to collect data like google form, survey monkey, etc. with a lot of benefits. This tool is specially used in remote areas or where the internet facility is uncertain. Moreover, it is a very easier tool to use and copy the stored data. This would be most important for students to collect research data as part of their assessment or project study. In this paper, the comparison studies of Google forms with the kobo toolbox are discussed. Generally, the google form can be used for creating a quiz, collecting data such as questionnaires, etc. with the limited mode of questions like the multiple-choice, short and long answer, date and time, etc. Whereas the kobo toolbox has various modes of questions including capturing GPS points, live Photos, video, audio and video messages, file uploading, etc. Furthermore, the responses could be collected at a place where there is no internet facility or uncertain, but these responses would be submitted only in presence of the internet.

There are a few advantages of using this instrument in student evaluation. If we look at these activities in a broader context, the results are not limited to a single department in a college. This method will be used by all students in all departments of the college to collect data for their assessments. It has aided students in obtaining knowledge efficiently, allowing them to save time and effort during this pandemic. Finally, data collection, like writing, is an occupational ability. Students should be mindful that in their professional lives, they will be involved in data collection in a variety of locations, including those in remote areas, where their data will be critical. Students would be able to access the required information for their evaluation.

THE EFFICIENCY OF THE PRACTICE

From Students & Staff Feedback: We assume that receiving feedback is critical for evaluating results. It is mostly used as a starting point for improvement [10]. Furthermore, we discovered that the use of the kobo toolbox increases the quality of students' work and identifies areas for improvement. It’s a very useful process. This method was well received by the students, and it was used regularly for the data collection of their assessments. Student and staff feedback was overwhelmingly positive and successful. The appropriate use of technology can save time and effort with quality output and encourages students to complete their assessments. Students will be able to easily correlate and comprehend the data. Few questions are shared with the students and their responses and overall, the feedback has been positive and satisfactory.

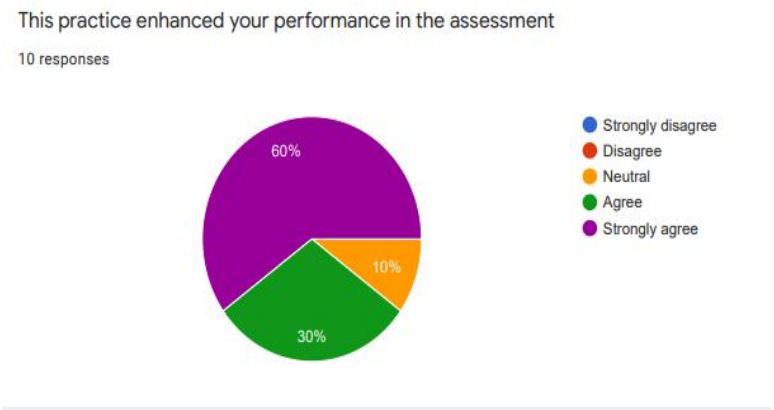

Fig 7: This practice enhanced performance in the assessment

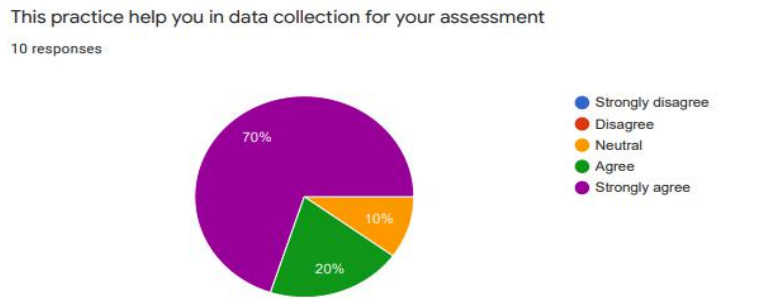

Fig 8: This practice helps in data collection for your assessment

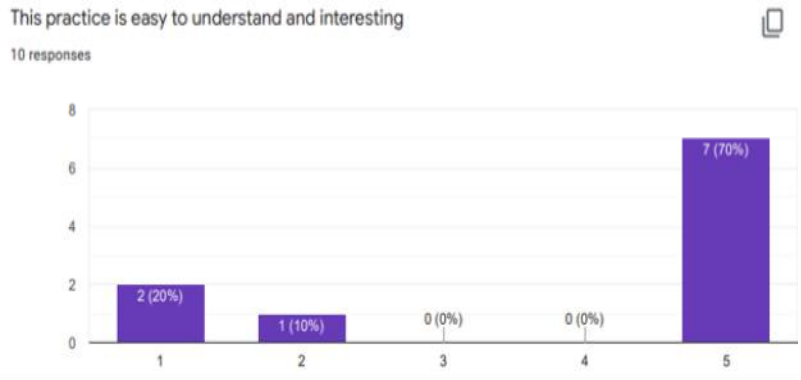

Fig 9: This practice is easy to understand

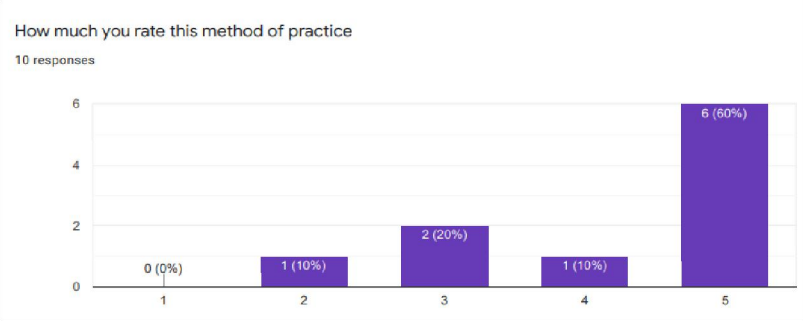

Fig 10: Rating of this practice

CONCLUSION

Many industries are seeing an increase in demand for sustainable growth, with education being one of them. The use of free and open-source software to create electronic resources like games and other activities could be extremely beneficial. There are no costs associated with implementation since these tools are freely available online on a variety of platforms. [4]

Based on the students' and colleagues' feedback on this practice shown the effectiveness of the KOBO Toolbox for data collection is good and this tool could help students and any person to collect data from various places where the internet facility is uncertain. Since various tools are existing for data collection, KOBO Toolbox is an explenery due to its effects such as repetition and skip logic which is added flavor of this toolbox. Besides, it has an advanced mode of questions such as video and audio recordings, GPS points, cameras, etc. This tool would be more suitable in remote areas. Moreover, students are keen to implement this practice in their research.

Various emerging trends to enhance teaching and learning in Higher Education sectors are continuously progressing and the tools are keep getting upgraded from time to time. [9] However, free and open-source tools along with various open educational resources have taken online education to new heights. Currently, the tool was used in Civil Engineering subjects, however, the authors have planned to share this practice with colleagues and to measure the effectiveness in other specializations and modules as well to have it implemented institution-wide and to check its effectiveness in different nature of subjects. To learn the usage of this tool, basic knowledge of computer usage is enough and hence it is important to organize a common session of all the staff members to disseminate knowledge and let everyone uses this as per the nature of the subject they are handling.

ACKNOWLEDGMENT

The authors would like to thank everyone who were encouraged directly and indirectly with their valuable feedback to implement this practice.

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