

## **Using Student Response System in Enhancing Learning and Teaching Effectiveness in Liberal Studies**

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### **Introduction**

To achieve effective learning and teaching in Liberal Studies (LS), student engagement is essential. As digital technology continues to improve and has become more user-friendly, the application of such technology into learning and teaching Liberal Studies is worth exploring, especially on enhancing student involvement in class through efficient handling of responses. In this article, the author leverages on the experience of using Student Response System (SRS) documented by Wong (2016). The SRS enables the author to gather and summarize answers from students in a Liberal Studies lesson immediately. The Student Response System is made up of a polling website called Poll everywhere, and the mobile phones of students. This article also highlights some points for reference for teachers on how to maximize the use of SRS.

### **Significance of using Student Response System in a Liberal Studies Lesson**

- **Arousing students' interest in lead-in**

In conducting an issue-enquiry of “Solid Waste Management”, the author asked the students to brainstorm words related to ‘solid waste’. In a conventional lesson, teacher might invite students to answer verbally or write the words on the board. With the use of Student Response System, the author created a poll and asked students to type the words using their mobile phones. The name “Student Response System” was mentioned as early as 1997 by Adams and Jansen (1997) in their article called “Information Technology and the Classroom of the Future”. Its use at the Hong Kong University of Science and Technology was reported by Cue (1998). The author used such a system to collect answers from the students, which were then displayed instantly on the screen. This proved to be an efficient way of presenting students’ ideas. Students were excited with this device and the teacher could lead-in the issue enquiry smoothly.

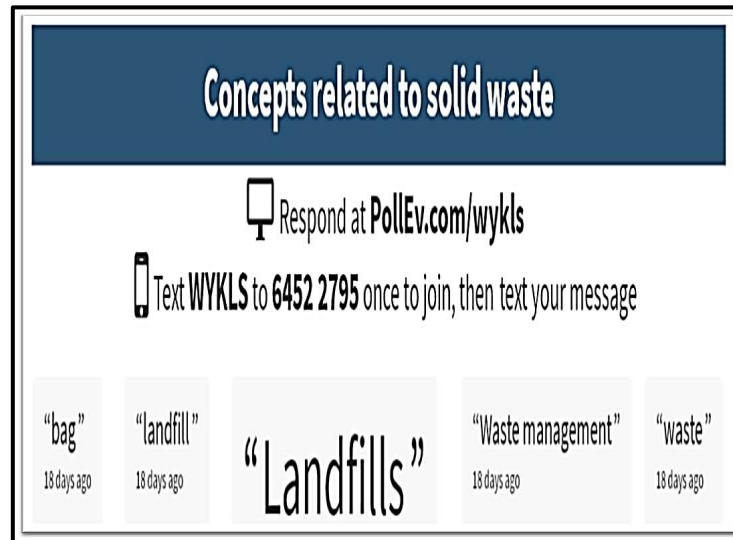


Figure 1: Students' text input through their phone is displayed on the screen immediately

- **Presenting frequency of responses: Size of words show frequency of answers**

In another Liberal Studies lesson checking out students' understanding on 'Reform and Opening-up', both the teacher and students knew the majority of response immediately, and could assess whether the direction of thoughts was on the right track. The function of 'Word Cloud' can display words with higher frequency of input in a larger font. From a cluster of text contributed by students, the teacher can bring out the key words contributed, or rectify any misconception right away.



Figure 2: Students' understanding on reform and opening-up is mainly on the economic aspect, as shown by the largest font in the middle of the screen

- **Highlighting good answers in a quiz**

Since the Student Response System is able to handle students’ response instantly, the teacher can easily check students’ input. In a quiz on “Energy, Technology and the Environment”, students had to write short answers on what environmental problem was about. The teacher pointed out the merits and the problems of a student’s answer easily by enlarging the chosen answer, in turn facilitating learning from peers.



Figure 3: Selected answer is enlarged for students’ attention on the merits and areas of improvement

- **Quantitative presentation**

The students were excited when the polling website showed statistics about the answers immediately and presented them in various formats. For multiple choice questions, the statistics of the answers could be shown as bar charts. Such polling data could be further compiled for use in other learning or assessment tasks, e.g. forming a data source in a test.

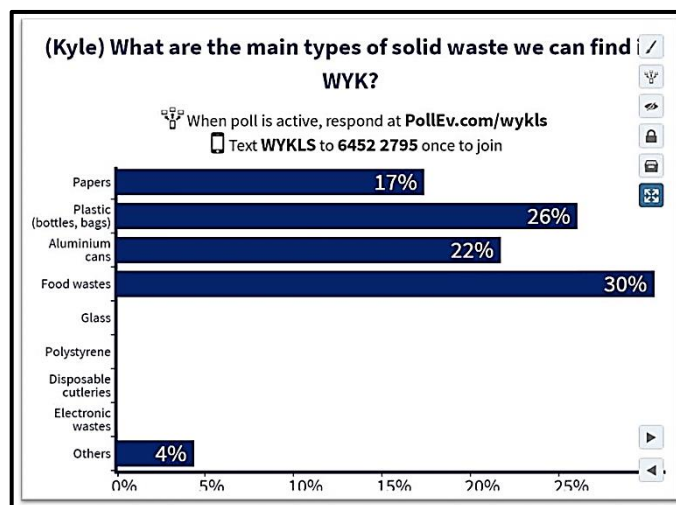


Figure 4: The bar chart shows that food waste and plastic bottles are the main types of waste on campus

- **Handling spatial data**

In another LS lesson in which students had to decide on three locations on campus for placing recycling facilities, the students could simply touch on a spot on the school map displaying on their mobile phone. Their choice was projected on the screen for viewing by all students. This function is user-friendly and can be applied in other topics of issue enquiry that may involve handling of spatial data.



Figure 5a: A group of students first discussed the locations for placing recycling bin on campus



Figure 5b: A group member selected the location by touching screen with a map displayed on his mobile phone

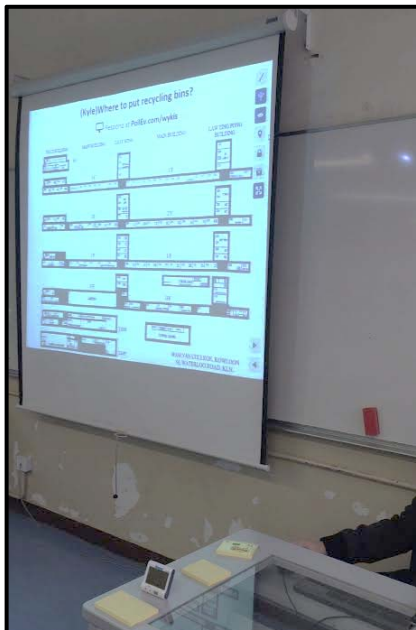


Figure 6a: Students could view their classmates' choice of locations on the map projected on the screen

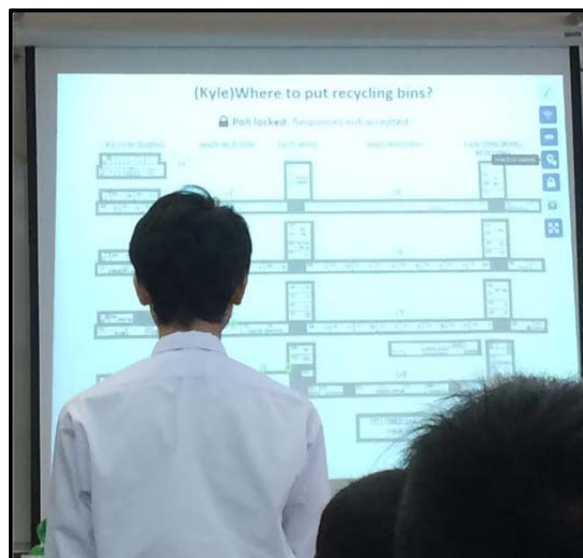


Figure 6b: With students' response displayed instantly on the screen, a student gave comments on the overall choice of locations

## **Useful tips for effective use of Student Response System in Liberal Studies lesson**

Using information technology in Liberal Studies is a double-edge sword. In the context of issue enquiry, teachers must ensure that the students know clearly what the Student Response System is used for and the teacher's expectations are. Only with this understanding, they are able to be on task. The following paragraphs offer some practical tips for Liberal Studies teachers who want to use mobile phones in the classroom in association with the polling web site.

Teacher may prepare a Quick Response (QR) code so the students can connect to the poll by simply scanning the QR code. If the same issue enquiry is to be done in different classes, teacher might create a separate poll for each class to prevent the results being accidentally shown on the screen. Giving clear instructions to the students when designing the questions is important. For open-ended questions, limit the word count to a few words. Also, teacher should set a clear time limit for each question for students to submit their answers.

In the lesson, teacher needs to inform the students about the purpose of using mobile phones for learning. Showing the QR code on the screen or writing the URL of the website on whiteboard can be done once as the students can bookmark the URL and use it directly in subsequent lessons.

The teacher must decide when and how often to use the Student Response System. At the beginning of the class, the teacher can ask students to try out first. It is suggested that a poll be presented several times with intervals. This will help teacher to regain student attention and encourage their participation in the learning process. The teacher can review and analyse the results of the polls by viewing the results on the website or by downloading the polling data as spreadsheets for further analysis.

## **Reflection and Conclusion**

The Liberal Studies lessons incorporating the use of Student Response System show the feasibility of using students' mobile devices and online polling website to create effective learning and teaching sessions. It demonstrates clearly how the application of the information technology that handles collective response instantly could make a difference in Liberal Studies lessons. Sharing of students' ideas in written form in class is an important learning process. Student Response System is a

useful tool to enhance teacher-student and student-student communication in a visible manner. The capacity of processing mass students' response is the strong suit of the system. The instant handling of students' input and visualized presentation help students to grasp the overall picture of their collective response efficiently. The teacher could deepen the enquiry based on the quick summary of students' response. Students in general appreciated and enjoyed the real-time display of processed data or discussion results. Effective use of Student Response System with mobile learning device, amidst prevalence of adopting advanced information technology, is worth promoting in Liberal Studies lessons.

### **Reference**

- Adams, W. J. , & Jansen, B. J. (1997). "Information Technology and the Classroom of the Future." Paper presented at the Society for Information Technology in Education Conference., Orlando, Florida.
- Bugeja, Michael. (2008). "Classroom clickers and the cost of technology." *Chronicle of Higher Education*, 55(15), A31.
- Cue, Nelson. (1998). "A Universal Learning Tool for Classrooms?" Paper presented at the First Quality in Teaching and Learning Conference, Hong Kong, China.
- Wong, A., & Ng, H. (2005). "Peer assessment and computer literacy for junior high school students in geography lessons in Hong Kong." *International Journal of Education and Development using ICT*, 1(3).
- Wong, A. (2016) "Student perception on a student response system formed by combining mobile phone and a polling website." *International Journal of Education and Development using ICT*, (IJEDICT), 2016, Vol.12, Issue 1.

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