Interactive Knowledge Experience: Encouraging Student Using Quick Response Code In Higher Learning Institution In Malaysia

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Abstract
In this modern-day era, every dimension has implemented technology as one of the fastest ways to make the work done, anywhere and anytime. One of the tools is Quick Responses (QR) Code which the user will have to scan the pattern of the QR Code to access the link. In education, the QR code can be implemented in higher learning institutions as an alternative for students to learn about their courses. This study was conducted at Faculty Hotel and Tourism Management, Selangor branch, Puncak Alam campus, Universiti Teknologi MARA, Malaysia. The objectives of this study are to investigate the usage of the QR code as one of the learning tools in terms of interactive learning alternatives and the intention to use that leads to student’s positive behaviour towards QR code. Respondents were first to third year undergraduate students who enrolled in Housekeeping course. A survey through questionnaire was conducted to 154 respondents and it was found that QR code is significant as one of the learning tools, interactive and encourage positive intention among students to use it. This study highlights that education in higher learning institutions are flexible in teaching and learning innovation to enhance the student learning experience.

Keywords: QR code, education, learning innovation, interactive, a higher learning institution

Introduction
In today’s education, teaching and learning method can be broadened beyond the traditional classroom boundaries, through mobile devices which allow teaching method and learning styles to be in the hands of the students. Mobile learning, for example, has changed the style of learning among students in higher learning institution (Shahril, Rasidah, Tarmudi, Chik & Noh, 2018). Hernando, Arevalo, Catasus, and Mon (2011) stated that mobile learning or m-learning is the latest learning and teaching practices that received an advantage from mobile devices to enhance student’s learning experience. In today’s society, students are able to engage with educational processes using a pocket size-device than carrying a personal computer to the classroom in which the learning process takes place. The traditional method of delivering knowledge and spending more times in classroom is taking a step backward (Shahril et.al, 2018) thus innovative and creative teaching and learning styles are in demand. It is now where higher learning institutions’ educators in Malaysia geared up to explore creative, innovative and fresh style to deliver knowledge to students.

Quick response (QR) code is one of the learning innovations. Utilizing QR codes can be an effective way to provide particular data and material to students. Plus, QR codes could access any kind of information. Numerous researchers are very excited about the innovation of technology and found the utilization of QR codes in education is fun. They found that the innovation is simple to utilize and execute, as well as low cost (Simon, 2011). Instead of having a face-to-face method in learning and teaching, learning through QR codes would be simpler and easier to use. The study carried out by Zurmehly and Adams (2017) suggested that a teacher-centered learning model is no longer effective this day, as students are comfortable in image-rich visualization and want to develop the possess learning. Therefore, it suggests that higher learning curriculum should include fun and innovative way of sharing and delivering knowledge with their students.

Literature Review
A quick response (QR) code is a type of matrix barcode or form of two dimensions’ bar code that can be read on an equipped mobile device with a camera or QR reader. Student’s need and want can be obtained with a simple QR code as they are available in a range of ways which are able to accommodate students with a sufficient amount of material in an educational context.
Zurmehly and Adams (2017) found that QR codes have been recognized as being utilized for various tools for academic practices and it can emphatically influence student’s motivation and fulfillment. Rikala (2014) mentioned that QR code is flexible as they can support learning in numerous contexts and QR codes are designated with various ways to use it as learning and teaching tools. Handy-carry technology such as QR codes promotes convenience and learning activities can occur outside of the classroom, thus no longer bound in a textbook form.

On the other hand, smartphone or mobile devices are needed in modern society as smartphones are widely used and have revolutionized our lives in the countless state. Students are competent in handling smartphone as they use it for daily basis. Smartphones have been recognized as a valuable technology application that could boost an individual’s learning, therefore, mobile learning has the potential to support learning and education. Zurmehly (2017) mentioned that the technology of smartphone has been well determined as one of the useful tools to improvise teaching and learning practices. One of the most vital features of the smartphone is the capabilities to access to the online network which is convenient for students where information can be reached anywhere at any time (Khalifa & Hend, 2011). Smartphone has the ability to read both QR codes as well as scanning a barcode to bring up product information such as price comparisons and user reviews. The smartphone users just need to download the right app and then simply point the smartphone camera at the codes.

**Intention and Behaviour**

Intention refers to users’ behaviours which they act in certain ways or they intend to do. This study would like to investigate the students’ intention of using QR codes as a learning tool during their learning period. The friendly functional of QR codes might influence a student’s intention towards the use of QR codes. Users’ intentions and behaviours might be influenced by the perception of the features of QR codes which can be easily accessible, anywhere and anytime.

Behaviour is anything that involves action and response to stimulation or the manner in which one acts or conducts oneself. Shin, Jung, and Chang (2012) stated that crucial element to understand user’s behaviours and QR codes comprise in psychological and behaviour through observation on how individual acts and reacts to QR codes. As for QR codes, user needs can be fulfilled from the information needed based on the material presented in QR codes and are capable to the social network as an important source of data and have the capacity to transfer data from one device to another and store the data that easily to access simultaneously.

Mandelson (2013) found that utilization of QR codes would be most elevated among more youthful grown-ups which lead to the influence of attitude towards the intention to use the QR codes and guided by both perceived usefulness and ease of use. The positive attitude of students towards the usage of QR code might enhance their intention to switch behaviour towards innovative learning style. Students may find using QR code is interesting and influencing positive attitudes towards their learning choice and add excitement to their learning experience.

Therefore, based on the above argument, this study proposes the following hypothesis:

H1: The intention to use the QR code will lead to positive behaviour of using QR code.

**Perceived Interactivity and Behaviour**

Perceived interactivity (PI) is one of the parts of the characterization of QR codes (Shin et al., 2012). Interactivity is a key behavioural antecedent in using QR codes. Plus, it is also can be defined as the level of opportunities for consumer’s connection with the content of the media (Tazkiran & Yilmaz, 2015). Interactivity has been stated conceptually as a process, a function, and a perception, however, most operational definitions have focused on the processor function (McMillan & Hwang, 2013). Perceived interactivity plays a crucial role in adoption and usage by mediating, enhancing, and facilitating user experience. It is also guided by perceived ease of use which also influences the behaviour of users (Chen et al., 2012). Furthermore, QR codes are perfect for students of all ages since it saves time, provides students with detailed instructions, supplemental information, or links to relevant materials, all of which can enhance the students’ experience and motivate them to use a QR code in the learning experience.

Therefore, based on the above argument, the next hypothesis is formulated:

H2: The interactivity of QR code will affect the user’s behaviour.
The objective of the study is to attain information from students on the teaching and learning approaches in an innovative way, by using a QR code in providing information from the instructor to the students. Specifically, it aims at answering the following research objectives: 1) to acquire student’s feedback on the use of QR code as one of learning tool in terms of interactive and intention to use the QR code.

Additionally, this will be one step to inspire other instructors in the faculty to implement creative and new learning styles and step outside of the conventional method to enhance the learning experience. Finally, little empirical evidence has been reported on the usage of QR code in enhancing the student learning experience in higher learning institutions in Malaysia. It is hoped that this study will provide interesting findings and add to the current body of knowledge, particularly in Malaysia innovative learning practices.

Importance of the study
There is limited research focused on QR codes for teaching and learning use in the higher learning classroom in Malaysia. Thus, this study aimed to investigate and to gain information from students on how QR codes are useful and effective in promoting learning in the classroom and enhancing their learning experience. 154 undergraduate students from Faculty Hotel and Tourism Management, Universiti Teknologi MARA, Selangor branch, Puncak Alam campus, Malaysia that enrolled Housekeeping course were selected for this study. These reflective data may serve useful information for future studies and suggest important avenues necessitating further research.

Methodology
The goal of this research is to study the relationship on the mentioned variables, therefore, in order to address the research objectives and to prove the research hypotheses formulated in the study, this study chose quantitative technique given the current nature of the study. Furthermore, the study is replicable to other service settings and generalizable to a larger population and may be useful as one of the future study references. The researcher collected data through a survey using questionnaires. This approach typically concentrates on measurement and calculation and it involves collecting and analyzing numerical data and applying statistical tests.

In this study, the method of collecting and gathering data from an apart of the population is by using a structured questionnaire. The questionnaire typically contains an item of each dimension. In this study, the measurement of the scale of a questionnaire for all reflective item was based on 5 – Likert Scale. This questionnaire helps the researchers to understand the effectiveness of QR codes students learning practices. The researcher pilot tests the questionnaire by giving the questionnaire to a few selected students. The researcher conducted a short demonstration in using QR codes before questionnaires were distributed to the respondents. The demonstration showed how QR codes can be implemented in academic practices by scanning QR codes on the smartphone.

The questionnaires were distributed to the first until final semester students that enrolled Housekeeping course and managed to collect 154 answered questionnaires. The data collection took about 2 months starting from December 2018 to January 2019.

Measurement Scale
The questionnaire used for this research is designed based on the conceptual framework and on literature review, the measurement scale is built as follows:
Table 1

<table>
<thead>
<tr>
<th>Dimensions for QR Codes</th>
<th>Alpha coefficient</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Interactivity</td>
<td>.785</td>
<td>5</td>
</tr>
<tr>
<td>Intention</td>
<td>.842</td>
<td>5</td>
</tr>
<tr>
<td>Behaviour</td>
<td>.689</td>
<td>4</td>
</tr>
</tbody>
</table>

In this study, it illustrated the reliability of three variables. Cronbach’s alpha was employed to examine the internal reliability of the items and used to measure the constructs. Based on Table 2, the results have revealed that the internal reliability of each construct has ranged from 0.6 to 0.8. Alpha Coefficient of 0.689 was set as the minimum criterion. The result has shown that intention had the highest coefficient of 0.842 while the behaviour has the lowest coefficient, which is 0.689 and is still within an acceptable range.

The Pearson Correlation Analysis

In this study, the Pearson correlation analysis is used to measure the association among the constructs. Thus it provides information that will indicate the direction strength and significance of the bivariate relationships among the variables or constructs.

For hypothesis one, the result indicated that there is a positive relationship between the intention to use the QR code will lead to positive behaviour of using QR code. It shows significant relationship which indicated 0.630 (63%) and furthermore, it is supported by 2-tailed significance test 0.000 (<0.05).
For hypothesis two, the study predicted that the perceived interactivity of QR code will affect the student’s behaviour. The result shows that there is a positive relationship which indicated 0.520 (52%) and it is supported by 2-tailed significance test 0.000 (<0.05).

Discussion

There are many educational institutions that clearly have owned learning methods. As for this research, it is suggested that QR code can be one of the teachings and learning innovation that can be implemented in the faculty as one of the learning methods. Students show that by using QR code, it leads to their positive behaviour to use it as it is convenient and the app is easy to be uploaded from their smartphone. This research received a positive outcome whereby the majority of the respondents commented that it is useful and beneficial to the students as it eased their learning process and add excitement to their learning experience.

Interestingly, some of the respondents admitted that this is their first time learning experience that applies QR code in one of the courses offered in the faculty. Students also found that QR code is interactive that increases their involvement in the learning process and participate in all class activities. Students also found that this innovative teaching and learning method enhance their learning process throughout the semester and could contribute to their study performance.

Thus, this study could instill an awareness among other instructors that they could also use the QR code to enhance their knowledge delivery to the students. It would not only ease the students, but it would also give educators another alternative to increase the level of students’ understanding of learning not only Housekeeping subject but any other course too.

This research contributes to the current body of knowledge in the current field of interest, particularly in higher learning institution in Malaysia. It also encourages the educators to improvise the quality of learning method and to take the opportunity in this fast globalization and education-technology era. Furthermore, this application also encourages teaching and learning innovation in academic practices. In order to create effective and quality education, all factors and measurements of this research have resulted in a need to be acknowledged and implemented in the faculty itself.

Recommendation for Future Study

Further investigation in terms of scope of the study can be conducted to expand the QR codes application towards other courses which not just focuses on Housekeeping Management subject. QR codes can be applied in a wide range of academic purposes align with students and lecturers need as nowadays technology is shaping the future education.

The accuracy and reliability of the result can be improved by expanding the sample size, specifically more students from another faculty. Besides, the time frame of conducting the survey should be extended for the researchers to get sufficient time to distribute a questionnaire to a large number of respondents. Moreover, the researchers have only covered three factors that might have impacted the effectiveness of QR code in the learning process. Thus, the future research could explore other variables to study the usage and uniqueness of QR codes that can be implemented in higher academic.

Conclusion

Interactive and innovative teaching and learning experience like QR code have the potential to increase students’ involvement in the learning process through interactive communication. Interactive learning also has the potential to promote trust among students which they will be directed to reliable and guided sources from the instructors. Furthermore, with the QR code, students will receive only the relevant information and messages that relate to their current courses. It can be said that with the usage of QR code, it contributes to learning efficiency through the combination of face-to-face class activities and innovative learning instruction that add excitement to student present learning style.

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