

TEACHING AND LEARNING THROUGH QR CODES

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Technology is very closely related to language learning throughout the world at all levels. Technology creates this possibility wherever you are in the universe. Teachers and learners can go online to read or listen to a subject, materials about different areas of interest, and then write or speak about what they discovered. Computers were introduced to teaching and learning as CALL (Computer Assisted Language Learning) and many enthusiasts strongly advocated their usage, espousing the many advantages they could bring to both language learners and teachers. Recently, information and communication technology (ICT) in the form of learning and the Internet have presented additional benefits to the learning situation. The pandemic period, the exam itself was postponed. But can this affect the learning ability of the students? The question arises. The government is focusing on e-learning while researching on how to improve this learning. The Department of Education has adopted a system called QR Code in the textbook with the Department of Technology. With the help of these, this project will explain how students can learn at home.

In the era of computer aided technologies, the number of learners is increasing day by day through various media, along with the teaching and learning technologies. But with the development of technology all the functions of the computer have been made possible through the mobile phone.

Technologists, textbook designers, teachers and students are innovating new tools for teaching and learning. Nowadays, mobile application processors are very important in teaching and learning. Many Mobile application processors are located to stimulate students' intellectual abilities.

1. Research Questions

Tamil Nadu textbooks have QR Code for lessons, illustrations, questions and additional information. How and why is it created? Can they develop the skills of teachers and students? What are the problems caused by these and solutions to eliminate them? Is it possible to develop higher education? This project is designed to answer such questions and clear the doubts.

2. Aim and Objectives

To develop QR Codes

To introduce teachers and learners QR codes

To evaluate the QR code usage

3. Review of Literature

The following authors have contributed their observations and findings in this field. They are of great help and support to this research: Hwang, Wu, Tseng and Huang (2011), Baker (2010), Ozcelik and Acarturk (2011), Teng, Lee and Kinshuk (2011), Al-Khalifa (2011), McCabe and Tedesco (2012).

4. QR Codes

The 'Quick Response Code' also known as the 'QR Code', was introduced by Denso Wave company in 1994 from Japan. It is made of small and large, white and black shaped squares. This includes web addresses, profiles, and numbers. The code is provided in the converter. In the early days QR Codes were used for vehicle registration. Nowadays we see it in every field such as financial, newspaper, roadside name board, music, video, books, invitation, product, shopping, (from small shop to supermarket), corporate company, finance institutions and so on, the codes used by all sectors today. They are using it as a unique code for themselves.

Using QR Codes for education is another way of using the Internet. There are social and psychological origins of needs, which generate expectations of the mass media or other sources and which lead to differential patterns of media exposure resulting in need gratification and other (often unintended consequences ACCEPT REJECT 46 message, a business card or almost any information can be embedded into the two dimensional barcode. With moderate equipped mobile devices, QR Codes can connect users to the information quickly and easily (LAW, SO 2010).

Since 2011, QR codes have been used in different domains. According to Walsh and Andrew (2011), some of the beneficial uses of QR Codes include bridging printed materials to electronic materials, reaching voiced materials, opening embedded videos, providing libraries with external resources and reaching appropriate help. This codes can be found in today's curriculum and textbook.

5. Tools for to Develop QR Codes

There are many open tools or websites available in play store and online, we can use to create a QR Code. I personally use an app called QR Scanner and QR Encoder. It is fast and easy to create our own code. We can save the code as an image and print it or attach and share within any document. We can also use a website link to Generate QR Code. If you use a website, the QR Code be used for commercial use but one needs to be sure about the website's terms of use.

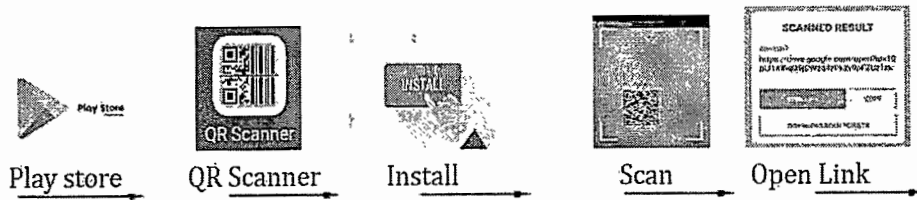
6. QR Codes in Text Book

QR code system has been introduced in Tamil Nadu textbooks since 2018 by Textbook Corporation. Initially, this code system was introduced for 1st, 6th, 9th and 11th classes new textbooks. The audio and video recordings of the lesson are made available to the

students through the QR code created in the course. This code is present in all textbooks today.

7. The usage of QR Codes

Classrooms, textbooks with new technologies available from elementary school onwards are seen in the field of education as new inventions in developing the learning ability of students and teaching of teachers. Now, to reduce textbook readings line by line, you can scan the QR codes found in the textbooks designed with the latest technology on your Android / Smart Phone and learn the message in the lessons in details. On each page, near the lessons, there is a digital code and QR code to view the corresponding images as videos. These codes can be scanned and viewed as video using a mobile phone or app.



8. Role of QR Code on Teaching and Learning

Many learners are more interested in learning through technology-enabled learning tools. Thus the QR code is used as an intermediate tool to see and understand lessons. There are plenty of processors that can sense QR codes on a mobile device. With the help of these, the code helps students and teachers, learn and teach additional information about the language and other subjects. This will make it easier for students to understand.

9. Motivate to learn themselves

By introducing such types of Android applications to students, the QR code is set up so that they can learn at home, before conducting lessons, during discussions with friends, and when in doubt. Thus, these codes help students to develop their own learning style.

10. Diksha App

The Diksha APP; Diksha Digital infrastructure for knowledge sharing National Platform for our Teachers, who are our heroes, was developed by the Central Government to improve the learning ability of students and teaching tools for teachers. It also includes resources for competitive exams and takes the themes of the lessons in the textbooks and converts them into videos. DHIKSHA APP has produced videos in various Indian languages (Hindi, English, Kannada, Marathi, Tamil, Telugu, Urdu). It is designed to create QR codes.

11. Merits of the QR Codes

- a) Big themes, pictures and videos are identified in this QR code.
- b) It is incorporated in all school textbooks.
- c) Additional messages attached.
- d) Internet addresses, links are located to attract students.
- e) If they scan QR codes, videos are found in emotional form.
- f) Through this code students are directly focused on the subjects.
- g) Distraction is reduced.
- h) The learning skills of primary and higher secondary school students have increased knowledge through this code.

12. Demerits of the QR Codes

- a) **Damaged** codes cannot be scanned in some places.
- b) Number of teachers and learners do not have a sense of these.
- c) QR codes are included without video attachment for various subjects.

13. Propose to Higher Education

This system is effectively used by primary and upper primary schools even up to twelfth standard. I suggest that in the future, the higher education system should use this system for textbook, lessons, exam, and evaluations. It is faster than all tools.

Conclusion

With the development of the school education sector, the DIKSHA APP and QR Code have been developed as a platform for teachers to share students' knowledge with a focus on the curriculum. E-learning is being promoted during this period, and public education is being advised to use educational television channels. But students find it repetitive to see the same message over and over again. They are unaware that learning in this way enhances memory. It is also important to remember, to listen and understand rather than to apologize. At this point, students should be instructed to use the QR scanner as well. Self-learning should be encouraged among students. Place QR codes in different areas of the class room that will take students to different online activities. It can save our space and textbooks, and help keep your classroom greener.

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