

# Navigating Opportunities On QR-enhanced Knowledge Spaces

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## Abstract

This initiative revolves around the utilization of QR codes to offer quick access to a variety of reading materials and reference resources. By bringing in this technology, the researcher is not only making learning materials more accessible, but also encouraging students to look and delve into a variety of books, making their study experience more enjoyable.

This approach is designed to enhance the learning experience by eliminating barriers to accessing essential materials. Students will find it easier to explore a diverse range of educational content, creating a deeper engagement with their studies.

In utilising the power of QR codes, the initiative is not just about technological advancement but a strategic move to bridge gaps in educational accessibility, creating a more inclusive and dynamic learning environment for everyone involved.

Keywords: Innovation, QR-codes, Reading

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## 1. Objectives

This innovation aims to:

1. Make comfortable corners by transforming gardens into comfortable reading areas where students can enjoy books;
2. Introduce QR codes to make it easy for students to access virtual books using their phones or tablets;
3. Compensate for the inaccessibility of our school library by offering a wide range of virtual PDF books;
4. Adjust to the new reality where our library is now a classroom and the recent earthquake affected our school.
5. Inculcate a love for reading by providing a welcoming environment and modern access to books; and
6. Combine technology with traditional reading spaces to create a contemporary and effective learning experience.

## 2. Background

The onset of the COVID-19 pandemic prompted libraries worldwide to reassess their operations and services, revealing both challenges and opportunities for improvement. Cheung et al. (2023) highlight the importance of making libraries and librarians visible during such crises, emphasizing the role of innovative initiatives in maintaining support for library resources and services. Similarly, Sims (2016) underscores the

significance of effective communication tools, such as newsletters, in advocating for the value of libraries and engaging stakeholders.

Moreover, collaborative efforts, as demonstrated by the University of Florida's partnerships in digitization projects, showcase the potential for leveraging technology to expand access to library resources, even in regions with limited internet connectivity (Digby, 2021). By addressing accessibility barriers through minimalist technology solutions, libraries can enhance the reach and usability of their collections, thereby fostering a culture of continuous learning and knowledge sharing.

Transitioning to the concept of reinventing libraries through QR codes for accessing digital books, these insights converge to emphasize the importance of adaptability and innovation in modern library services. By embracing technologies like QR codes, libraries can bridge the gap between physical and digital resources, offering learners broader opportunities for reading and exploration beyond the confines of traditional library spaces. This approach not only enhances accessibility but also reflects a commitment to meeting the evolving needs of diverse communities in an increasingly digital age.

In response to the unavailability of our school library, repurposed into a senior high school classroom, and the unfortunate damage caused by a recent earthquake, this project, "Project NOOKS (Navigating Opportunities for QR-enhanced Knowledge Spaces)" takes shape. Recognizing the importance of having a reading-friendly atmosphere for students, even when faced with space constraints and unforeseen challenges.

The concept involves converting overlooked corners within our school premises into warm and inviting reading nooks. To enhance the reading experience, we're leveraging QR codes as a modern solution. These codes will provide easy access to a collection of virtual PDF books, ensuring that students have a diverse range of reading materials at their fingertips.

This initiative not only addresses the immediate need for an alternative reading space but also aligns with the changing landscape of education by integrating technology seamlessly into the learning environment. By repurposing underutilized spaces and embracing digital access, we aim to create a conducive and contemporary reading experience for our students, despite the limitations posed by the current circumstances.

### 3. Beneficiaries

The implementation of QR codes for accessing digital books at Don Manuel Rivera Memorial Integrated National High School brings about numerous benefits for various stakeholders within the school community. Primarily, learners stand to gain significantly from this innovation. With easier access to reading materials and reference resources via QR codes, students can conveniently supplement their learning both inside and outside the classroom. This QR-powered materials empower them to explore a wider range of educational content, creating a culture of independent inquiry and lifelong learning.

Similarly, teachers at the school benefit from the QR code system by being able to seamlessly integrate digital resources into their lesson plans. With readily available materials accessible via QR codes, teachers can enrich their teaching materials, cater to diverse learning styles, and enhance the overall quality of instruction. This integration of technology also opens up new avenues for interactive and engaging teaching methodologies, ultimately enhancing the learning experience for both teachers and students.

Furthermore, visitors to Don Manuel Rivera Memorial Integrated National High School, such as parents, alumni, and community members, also reap the rewards of this innovation. By providing easy access to reading materials and reference resources through QR codes, the school demonstrates its commitment to promoting literacy and knowledge sharing beyond its immediate student body. Visitors can engage with the school's academic resources, gain insights into its educational initiatives, and contribute to a collaborative learning environment.

Overall, the adoption of QR codes for accessing reading materials and reference resources at Don Manuel Rivera Memorial Integrated National High School represents a significant step towards fostering accessibility, enhancing learning outcomes, and enriching the educational experience for all members of the school community.

### 4. Methodology

Design-based research, a methodological approach, parallels research methods in engineering or applied physics, where products are crafted for specific purposes (Brown, 1992; Joseph, 2004; Middleton et al., 2008; Kelly, 2014). Accordingly, researchers employing the design-based research approach to educational

inquiry resemble engineers in the development of new products: Initially, they pinpoint a problem requiring attention. (Scott, et al., 2020).

For the objective of elevating learners' library experience through redesigning library spaces and implementing new technologies, DBR is particularly well-suited. This methodology allows researchers to engage in a series of iterative cycles, starting with the identification of needs and opportunities for improvement in the library environment. Researchers can then collaborate with library staff, educators, and students to co-design interventions that address these needs and align with the goals of enhancing the library experience.

Through iterative design and implementation cycles, researchers can test and refine various aspects of the innovation, such as the layout of library spaces, the selection of technologies, and the integration of digital resources. By gathering feedback from stakeholders and conducting ongoing evaluations, researchers can assess the effectiveness of the interventions and identify areas for further improvement.

Moreover, DBR encourages researchers to consider the broader context in which the innovation will be implemented, taking into account factors such as organizational culture, resource constraints, and sustainability. This holistic approach ensures that the innovations are not only effective but also feasible and sustainable in the long term.

Overall, DBR offers a systematic and flexible approach to innovation that is well-suited to the complex challenges of redesigning library spaces and integrating new technologies to enhance learners' library experience. By combining rigorous research methods with practical application in real-world settings, DBR enables researchers to make meaningful contributions to the improvement of educational environments and practices.

## 4.2 Work breakdown and Task Estimates

### 4.2.1 Planning

Activities	Dates of Implementation
Planning of activities	August 2023
Crafting the project proposal	August 2023
Creation of working committees	September 2023
Tapping of possible stakeholders to finance the project	October 2023
Renovation of gardens, adding more plants	November 2023
Preparation of material (QR-coded Reading Materials )	December 2023

#### 4.2.2 Implementation

Activity	Dates of Implementation
Opening of NOOKS	January 2024

#### 4.1.3 Evaluation

Activities	Date of Implementation
Critiquing/giving of feedback	May 2024
Monitoring of learners accessing the books	

#### 4.3. Project Deliverables

- 4.3.1 Narrative report on entire project implementation.
- 4.3.2 Enhancement Plan/Strategic plan
- 4.3.3 Printed QR codes for accessing the PDFs

### 5. SUSTAINABILITY

To attain the sustainability of the project, the researcher along with the rest of the school should do the following:

- 5.1 Update the collection of PDFs quarterly.
- 5.2 Instruct learners and other nook visitors to properly use the materials.

### 6. MONITORING AND EVALUATION

To ensure the successful implementation of the project the project committee will conduct mid-year and year-end assessment using a Project Monitoring Report Form. The result of the monitoring will be discussed afterwards.

### 7. CONCLUSION

The adoption of QR codes at Don Manuel Rivera Memorial Integrated National High School Library not only reflects the school's dedication to educational excellence but also serves as a beacon for positive change within the broader educational landscape. By prioritizing accessibility, engagement, and innovation, the school exemplifies the transformative potential of technology in enhancing learning experiences and preparing students for success in an increasingly digital world.

## Acknowledgements

RANCAP, FLORENTINA C., District Supervisor, Pila Sub-office, SDO-Laguna  
PUNA, MICHAEL WILLIAM III V., Principal, Don Manuel Rivera Memorial Integrated National High School  
BARAN, MARICAR M., Master Teacher I, Don Manuel Rivera Memorial Integrated National High School

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