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Exploring the Impact on Student Reading Preferences in Gamified Reading Portfolio

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Abstract: Extensive reading enhances horizons, deepens understanding, and nurtures critical thinking. This study aims to gamify reading goals, turning teacher-recommended books into engaging game levels. Books are categorized and distributed by genre and depth. And we will design achievement medals, allowing students to earn medals upon meeting specific criteria. The goal is to boost reading interest, fostering a passion for learning through accomplishments. This research addresses selective reading, encouraging exploration of varied genres while nurturing a genuine love for reading.

Keywords: Gamification, Achievement Goals, Reading Interest, Extensive Reading

1. Introduction

Reading initiatives like the "morning reading program" and "reading courses" are well-established in Taiwan. Since 2009, our team has researched Modeled Sustained Silent Reading (MSSR) and introduced the "morning reading campaign" to schools. Promoting MSSR actively nurtures a reading habit and enjoyment. However, as students mature, a challenge arises: they develop "reading preferences", sticking to specific genres and avoiding diverse books. Some also resist advancing to complex levels, staying in their "comfort zone" and limiting knowledge expansion through reading.

Therefore, the "Gamified Reading Performance System" designed by this institute incorporates a list of books recommended by several language teachers for grades 1 to 6 into 100 levels in order to help students read different types and depths of books by completing different levels, so that students can choose the level that suits their reading according to their own interests or abilities, and then record the books using the system after finishing the reading. After reading the books, use the system to record the books. After reading the books and completing the levels, students can receive corresponding rewards to keep them motivated to continue the challenge.

This study investigates how the system can help teachers and students in schools to make reading activities more attractive and interesting. Through the design of this system, reading is no longer just "reading a book", but can become an activity that can interact with others and express oneself, thus increasing the interest and motivation of reading, which is the goal of this study.

2. Literature Review

2.1 Gamification

Gamification involves integrating game elements into non-game contexts to enhance engagement and motivation. By employing techniques like points, badges, and leaderboards, it aims to make tasks more enjoyable. (Deterding et al., 2011). In education, gamification keeps learners immersed and time-conscious, impacting their flow experience (Mak, Wang & Chu, 2019). Effective design involves tasks aligned with learners' interests and autonomous goal-setting (Deci & Ryan, 2000).

2.2 Goal Setting

The theory of goal setting, originating from Locke and Latham's seminal work (2002), underscores the potency of establishing distinct and demanding objectives to amplify motivation, concentration, and competence. The lucidity and challenge of goals significantly influence their accomplishment. Well-defined targets contribute to positive sentiments, contentment, and self-efficacy. A clear self-assessment process further bolsters self-efficacy. Proficient goal setting, characterized by quantifiable milestones and time-sensitive benchmarks, not only bolsters productivity but also fosters personal development and triumph across diverse facets of life (Locke et al., 1981).

3. System Design

Our research team introduced a reading system to schools in Taiwan in tandem with reading programs. This system enables students to record their reading progress, motivations for book choices, and recommendations. Notably, many students display reading habits but lack long-term goals. Thus, we aim to employ Goal Setting and Gamified Learning theories, integrating an "Achievement Medal Mechanism" and "Data Visualization." This aids students in pursuing personalized reading interests, guided by level coordination. A "Reading Dashboard" (Figure 1) monitors indicators like level progress and book categories. The main display features 100 levels, each containing varying books. Passing a level requires reading a set number of books, marked by changing button color and "rockets" earned, encouraging challenge and sustained reading motivation.

Figure 1. *Reading Dashboard*

Figure 2. *Level content page*

Upon entering a level (Figure 2, you can access basic information about the books, including titles, categories, and depth. Three book categories (story fiction, humanities and society, science and technology) with four sub-categories each (e.g., warm and inspirational, adventure and reasoning) are featured. Book depth is rated by stars: 1 star for picture books, 2 stars for bridge books, 3 stars for beginner texts, 4 stars for intermediate texts, and 5 stars for advanced texts. Each level's top displays the total "stars" earned by "read books." A checkmark symbolizes completed books, while an unread lock indicates locked books. By equitably distributing various book types and depths, students are exposed to a broader reading spectrum, fostering a balanced reading habit and preventing preferences.

The achievement medal collection (Figure 3 presents medals based on book types and depths, categorized as bronze, silver, and gold. These medals can be sorted by type, and a click on "Your Achievements" reveals all earned medals. By earning these, students enhance self-confidence, fostering diverse reading preferences and expanding reading horizons.

Finally, Figure 4 resents the "Reading Leaderboard" showcasing top students in each index, encouraging competition and improvement. "My Reading Performance" displays weekly detailed reading status, aiding students in self-review, comparison, and refining reading plans.

Figure 3 Achievement Badge List

Figure 4 weekly record section

4. Result

This study involves 30 students from a primary school in Taiwan, specifically the second and third grades. They engage in daily Modeled Sustained Silent Reading (MSSR) activities during an eight-week experiment. The system was developed in alignment with the school's reading program after understanding the requirements from teachers and students. Using the Design-Based Research (DBR) approach, bi-weekly interviews were conducted after implementing the system to collect feedback and make gradual adjustments. Log files were also gathered for user behavior analysis.

Two interview rounds focused on students' system usage, feedback, and its impact on reading behavior. Initial findings indicate that about 40% of participants explore unfamiliar book genres through the level arrangement, while around 30% intend to read more diverse books to complete additional levels. These preliminary interviews highlighted persisting "reading preferences" among students. Therefore, we plan to enhance the system further. For example, we aim to introduce personalized prompts on the dashboard, offering individualized adjustments and suggestions based on reading progress. Future research will include alternative methods to assess comprehension. Beyond setting reading quantity goals, we contemplate integrating activities like recording impressive content, sharing thoughts through videos after completing a book, and recommending good books to peers. These could serve as level completion criteria or achievement objectives, enhancing reading motivation. The incorporation of diverse activities to amplify enjoyment and challenges in reading could provide insights into their motivational impact on students.

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