

Enhancing Students' Reading Habits Through an Open-Air Reading Nook: An Action Research at Motithang Higher Secondary School

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ABSTRACT

This action research study explores the potential of an Open-Air Reading Nook at Motithang Higher Secondary School, Bhutan, to improve students' reading for pleasure habits. With a decline in adolescent reading due to digital distractions and the perception of reading as purely academic, the study investigates whether a nature-infused reading environment can encourage voluntary reading.

Grounded in Attention Restoration Theory, the Open-Air Reading Nook was designed to leverage natural surroundings, creating a relaxed, student-friendly atmosphere to shift reading from a task to a pleasurable experience. The quantitative action research methodology involved both structured and unstructured reading activities with the students of X, XI and XII standards. Data were gathered through questionnaires, reading logs and academic performance records to measure changes in reading frequency and attitudes. Preliminary findings indicate that the open-air setting improved students' willingness to read, especially among reluctant readers, and contributed to a more vibrant reading culture in line with Bhutan's Gross National Happiness vision. This study offers a low-cost, sustainable model for promoting literacy and provides insights for other schools aiming to cultivate a love for reading.

KEY WORDS:

Open-Air; Engagement; Outdoor; Relaxation; Literacy; Sustainability; Replicable.

1. INTRODUCTION

Reading is foundational to lifelong learning and cognitive development. In Bhutan, recent action research conducted at Samtse College of Education demonstrated that structured interventions significantly enhanced students' reading-for-pleasure habits, reinforcing the value of purposeful reading environments (Yangdon et al., 2024).

Internationally, environmental contexts have been shown to invigorate learning outcomes. For instance, teaching curriculum outdoors for as little as two hours per week in Denmark improved students' reading test scores and motivation compared to equivalent activities held indoors (Otte et al., 2019; Bolling et al., 2018). These findings align with Attention Restoration Theory, which posits that exposure to natural environments through "soft fascinations" such as rustling leaves or shifting clouds helps restore directed attention, making learning tasks more approachable (Kaplan & Kaplan, 1995; Berman et al., 2008).

Practical accounts further reinforce these benefits: creating outdoor reading spaces stimulates pupil engagement, supports mental well-being, and fosters a broader reading culture, especially among reluctant readers (BookSpace for Schools, 2024).

Concurrently, research underscores the importance of nurturing intrinsic motivation to read. Globally, adolescents who began reading for pleasure between ages two and nine show better cognitive outcomes, enhanced mental health, and observable developmental advantages (Cambridge & Warwick researchers via the ABCD cohort, 2023). Similarly, longitudinal data from the UK revealed that students who read high-quality books outside school improved academically by approximately three months' worth of learning compared to peers who read other media such as comics or newspapers (University of Malaga & UCL study, as cited in Reddit discussions).

Against a backdrop of waning reading enjoyment, reports show a steep decline: only about one in three children aged 8 – 18 in the UK enjoyed reading in their free time in 2024, down from 43% in 2023; daily leisure reading dropped from 28% to 20.5% (UK survey, 2024). Innovative solutions are therefore urgently needed.

This action research explores whether an Open-Air Reading approach, leveraging nature's restorative qualities, can strengthen reading habits among students. Through iterative cycles of planning, acting, observing, and reflecting, the study aims to assess its effectiveness in cultivating voluntary, pleasure-based reading behaviors, while contributing context-sensitive insights relevant to Bhutanese educational settings.

1.2 CONTEXT OF THE STUDY

Reading is a foundational skill underpinning academic success and lifelong learning. However, in many schools today especially within the Bhutanese context reading habits among students have been steadily declining due to the growing prevalence of digital distractions, limited access to diverse reading materials, and a lack of engaging reading environments. Traditional library settings, while essential, often fail to stimulate intrinsic motivation among students, particularly those who view reading as a purely academic or examination-driven activity.

At the same time, Bhutan's unique natural environment offers opportunities to integrate innovative educational interventions that blend learning with nature. Recognizing this, the concept of an Open-Air Reading Nook was conceptualized and implemented on the school campus to foster a more relaxed, inviting, and student-friendly reading space. The open-air setting provides a calm, stress-free environment where students can engage in reading outside the confines of classroom and library walls.

This study is **conducted at Motithang Higher Secondary School (HSS)**, where teachers and school leaders are actively exploring practical strategies to strengthen the reading culture among both lower and higher secondary students. As part of this effort, the Open-Air Reading initiative has been introduced, serving not only to enhance literacy skills but also to nurture students' love for reading in more engaging and accessible ways. The initiative is embedded within a broader educational framework that reflects Bhutan's national vision of Gross National Happiness (GNH), which underscores the balanced development of academic competencies, emotional well-being, and holistic growth.

The reading nook was established not merely as a physical space but as a pedagogical intervention aimed at cultivating voluntary reading habits, promoting leisure reading, and creating an atmosphere where students associate reading with pleasure rather than pressure. The study explores how such a space affects students' reading frequency, attitudes toward reading, and overall engagement with books. It also examines the roles of teachers, peer influence, and structured reading activities in sustaining the nook's use.

Within this context, the study seeks to generate insights into how environmental and behavioral factors can be strategically aligned to foster sustainable reading habits. The findings are anticipated to offer practical implications not only for the school under study but also for other schools striving to cultivate reading-friendly environments, particularly those operating with limited resources.

1.3 Problem Statement

Although the Royal Government of Bhutan has implemented various policies and programs to promote a reading culture such as the Reading Week Initiative and integrating reading periods into school timetables a persistent gap remains between policy intent and student behavior. The lack of sustained student engagement in reading for pleasure continues to challenge educators nationwide.

A 2023 baseline survey conducted at Motithang Higher Secondary School (MHSS) revealed that only 12.7% of students reported reading for leisure, while over 51% preferred using mobile phones for entertainment. These findings suggest that reading is not yet internalized as a habitual or enjoyable activity for the majority of students. More critically, current school-based reading strategies appear ineffective in making reading intrinsically motivating or socially engaging.

This gap highlights the lack of effective, research-informed approaches that promote voluntary reading in non-traditional settings. While access to libraries and reading materials has improved, the design and environment in which students are encouraged to read have not significantly evolved. There is limited research within the Bhutanese context exploring how physical space and environmental design influence students' reading behaviors and attitudes.

Thus, this action research seeks to address this gap by investigating the impact of a contextually relevant intervention an Open-Air Reading Nook on enhancing students' reading habits. Specifically, the study aims to explore whether relocating reading experiences to a natural, informal, and student-friendly setting can increase voluntary reading frequency, improve reading attitudes, and foster a more positive reading culture at MHSS.

1.4 Significance of the Study

Reading is a cornerstone of academic success, personal development, and lifelong learning. Despite Bhutan's national efforts to promote a reading culture such as the Reading Year Initiative, curriculum-embedded reading programs, and teacher-led interventions many students continue to demonstrate weak reading habits, especially with regard to leisure reading. This study is important because it addresses a persistent and specific gap: the lack of student engagement in voluntary reading despite institutional efforts and policy support. With only 12.7% of students at MHSS reporting that they read for pleasure, and over half preferring mobile phones for entertainment, it is evident that current strategies have not fully succeeded in making reading an attractive, self-driven activity.

This action research is grounded in the belief that environment matters, particularly in how students form associations with reading. Traditional library settings, often formal and classroom-like, may lack the sensory or emotional appeal that fosters reading for enjoyment. This study explores whether a simple, context-specific intervention an Open-Air Reading Nook can make a meaningful difference in students' reading behavior. By creating an informal, relaxing, and nature-integrated space, the project aims to shift reading from an academic obligation to a pleasurable, voluntary activity.

Potential beneficiaries are diverse. Students will benefit most directly through increased access to a welcoming, low-pressure reading space that may boost reading frequency and motivation. Exposure to outdoor reading is also expected to support emotional well-being and concentration, supported by international research on nature-based learning environments. Teachers and school leaders will gain a

new, low-cost strategy to promote literacy without heavy reliance on digital platforms or major infrastructural changes. They can also integrate new pedagogical practices into existing reading periods or co-curricular activities. Policymakers and curriculum developers will acquire localized, evidence-based insights on how reading spaces and environmental design affect learning behaviors, informing national literacy strategies, especially in schools with underutilized outdoor spaces.

Academically, this study contributes by filling a gap in Bhutanese research on outdoor learning and reading motivation. It documents a homegrown intervention and evaluates outcomes through practical, real-world observation, adding culturally relevant and practically replicable knowledge for Bhutan and similar contexts.

In terms of policy and practice, the study may influence how reading environments are designed and literacy programs delivered. If successful, the Open-Air Reading Nook could serve as a model for adoption by other schools, extending its impact beyond a single community. Ultimately, this study is significant because it reimagines reading in Bhutanese schools not merely as a skill to be taught, but as a habit to be nurtured through thoughtful, student-centered design.

1.5 Objectives of the Study

The primary aim of this study is to quantitatively evaluate the effectiveness of the Open-Air Reading Nook at Motithang Higher Secondary School in enhancing students' reading habits, academic motivation, and overall well-being. The objectives are designed to capture measurable changes and provide actionable insights based on data collected from students, teachers, and parents. Specifically, the study seeks to:

1. Measure changes in students' reading frequency and enjoyment after using the Open-Air Reading Nook.
2. Assess student engagement with the Open-Air Reading Nook in terms of time spent and types of reading activities.
3. Evaluate changes in students' academic motivation and well-being linked to their reading habits.
4. Develop actionable recommendations for improving the Open-Air Reading Nook and guiding its replication in other schools.

1.6 Research Questions

1. What is the current frequency and enjoyment level of students' reading since the introduction of the Open-Air Reading Nook?
2. How does student engagement with the Open-Air Reading Nook vary in terms of time spent and reading activities?
3. To what extent do students' academic motivation and well-being change after using the Open-Air Reading Nook?
4. What specific improvements can be made to the Open-Air Reading Nook, and how can it be effectively replicated in other schools?

2. Literature Review

Reading is widely recognized as essential for cognitive development, academic achievement, and emotional well-being. Moreover, recent meta-analyses confirm that students who engage in reading for pleasure consistently perform better academically, develop stronger critical thinking skills, and show higher emotional intelligence (OECD, 2019; Clark & Rumbold, 2020). In addition, leisure reading is also linked with improved mental health by providing opportunities for self-reflection and emotional regulation

(Billington, 2021). Taken together, these findings reinforce reading's dual role as a driver of both academic and personal growth.

In the Bhutanese context, however, the 2017 PISA-D report emphasized the need to cultivate a reading culture to boost literacy outcomes (Bhutan Council for School Examination and Assessment [BCSEA], 2019). Despite these efforts, challenges remain. A 2023 survey at MHSS found only 12.7% of students read for leisure, while over half preferred mobile phones for entertainment. This suggests that existing initiatives—though valuable—often focus on access to reading materials and formal instruction but insufficiently address motivation and environmental factors that foster voluntary reading (Dorji & Wangchuk, 2022).

Furthermore, environmental context is increasingly recognized as a vital factor influencing reading engagement. Lamont (2023) and Jones (2023), for instance, provide evidence that informal, outdoor reading spaces enhance students' motivation by offering a low-pressure, enjoyable environment. This finding aligns with Kaplan and Kaplan's (1989) Attention Restoration Theory, which has been supported by recent neurocognitive studies demonstrating that nature exposure reduces stress and restores directed attention, thereby facilitating learning (Berman et al., 2018; Li & Sullivan, 2016). On the other hand, most such studies have been conducted in Western or urban contexts, with limited application in Bhutanese or similar rural-educational settings. Consequently, concerns remain about cultural transferability (Thapa & Shrestha, 2021).

Nevertheless, there is some contradiction in the literature regarding what most strongly shapes reading habits. While environmental design and voluntary choice are emphasized as key factors (McGeown et al., 2018), several studies highlight entrenched cultural perceptions framing reading primarily as academic obligation, not leisure (Shah & Waring, 2020; Dorji, 2020). Moreover, digital distractions exacerbate this issue; Wangchuk and Choden (2021) found Bhutanese adolescents favor social media and gaming, which offer immediate rewards, over reading activities requiring sustained attention and delayed gratification. Thus, improving physical reading environments may not be sufficient without addressing broader behavioral and cultural attitudes toward reading.

In addition, methodological limitations of existing research include short intervention durations and small sample sizes, which hinder understanding of sustained changes in reading habits (Krashen, 2020). Equally important, many studies lack multi-stakeholder perspectives, particularly parental and teacher roles in reinforcing reading beyond school settings (Guthrie et al., 2019). As a result, these gaps limit the potential for interventions to create lasting cultural shifts.

Against this backdrop, the Open-Air Reading Nook at MHSS attempts to fill these gaps by providing a culturally sensitive, student-centered outdoor reading space that encourages voluntary engagement. It combines evidence from nature-based learning research with a contextual focus on Bhutanese students' motivational challenges. For example, early findings from similar initiatives globally have shown promise in improving students' reading attitudes and reducing stress (Smith et al., 2022; Otte et al., 2019). However, context-specific research is needed to validate these effects in Bhutan.

In conclusion, while recent evidence consistently supports the benefits of leisure reading and conducive environments, contradictions remain around the relative importance of environmental versus cultural and behavioral factors in motivating reading. To sum up, existing research often overlooks the local cultural context and lacks longitudinal, multi-stakeholder data. Therefore, this study aims to address these limitations by critically examining how an open-air reading intervention functions within Bhutan's unique

educational and cultural setting, thereby contributing valuable insights for sustainable literacy development.

3. Research Methodology

3.1 Introduction to Research Methodology

This study employs a quantitative action research approach to investigate the impact of the Open-Air Reading Nook on students' reading habits, academic motivation, and well-being at Motithang Higher Secondary School. The action research framework is well-suited to this study, as it enables the introduction of a practical intervention within a real-world educational setting while systematically measuring its outcomes to inform future improvements.

The quantitative design focuses on the collection and analysis of measurable data related to students' engagement and performance. Key indicators such as reading frequency, reading duration, number of books read, and academic achievement were recorded and analyzed before and after the introduction of the Open-Air Reading Nook. This design allows for objective assessment of changes in student behavior and performance resulting from the intervention.

Data were collected through structured instruments, including reading logs, academic performance records, and questionnaire surveys administered to students, teachers, and parents. These instruments provided numerical data reflecting the level of participation, consistency of reading habits, and perceived effects on motivation and well-being.

The quantitative approach ensures that findings are based on empirical evidence and can be statistically analyzed to identify trends, relationships, and the overall effectiveness of the intervention. This method aligns with the study's objectives to evaluate the extent of impact, determine patterns of engagement, and provide data-driven recommendations for sustaining and improving the Open-Air Reading Nook initiative.

3.2 Research Design

This study employed a quantitative research approach to examine the impact of the Open-Air Reading Nook on students' reading habits, academic motivation, and well-being. A quantitative approach was appropriate as it allowed for the collection of measurable data that could be statistically analyzed, providing objective evidence of changes and trends resulting from the intervention.

The study followed a descriptive research design, which was particularly suitable for systematically documenting and quantifying students' reading habits, motivation levels, and well-being before and after the implementation of the reading nook. This design enabled the clear characterization of key variables such as reading frequency, reading duration, and motivation levels through structured instruments like reading logs and questionnaires.

The descriptive design also allowed for the establishment of baseline measurements, facilitating comparisons over time to assess the impact of the Open-Air Reading Nook. The collected data were analyzed using statistical methods to identify trends, correlations, and differences, thereby providing evidence-based insights into the effectiveness of the initiative.

Moreover, this design was practical within the educational setting, as it emphasized understanding the effects of a specific intervention while remaining adaptable to the school environment.

In conclusion, by employing a quantitative descriptive design, the study generated objective, actionable insights into how the Open-Air Reading Nook influenced students' reading habits and motivation. These findings can inform future educational practices and contribute to enhancing students' reading experiences.

3.3 Research Setting and Context

This study was conducted at Motithang Higher Secondary School (MHSS), located in Thimphu, the capital city of Bhutan. MHSS is a government-run school catering to over 1,400 students from Classes IX to XII. The school has a strong academic reputation and emphasizes holistic student development, aligning with Bhutan's broader vision of Gross National Happiness (GNH), which prioritizes well-being, culture, and education.

Despite national initiatives to promote a reading culture in Bhutanese schools—such as the “Reading Year” declaration in 2015 and ongoing efforts by the Ministry of Education and Skills Development (MoESD)—recent internal data from MHSS indicated a concerning trend: a significant number of students lacked motivation to read for leisure or academic enrichment. A 2023 school-level survey revealed that only 12.7% of students engaged in reading outside schoolwork, while 51% preferred using mobile phones for entertainment, highlighting the need for creative, student-friendly reading interventions.

In response, the school implemented an Open-Air Reading Nook, a designated outdoor space designed to encourage voluntary reading in a relaxed and non-academic setting. Surrounded by trees and situated away from classroom distractions, the nook included seating areas, curated reading materials, and a student-led library system. It was developed to align with the school's vision of fostering student autonomy, emotional well-being, and a stronger connection to learning.

The school leadership, library committee, and a group of student volunteers collaborated to design and maintain the reading nook. The space was used during breaks, reading periods, and after-school hours. The implementation of the nook provided a relevant and meaningful context for this research, allowing the exploration of how environmental and pedagogical innovations could influence students' reading behavior and overall motivation.

By situating the study within this authentic school context, the research aimed not only to assess the effectiveness of the Open-Air Reading Nook but also to inform policy and practice for replicable and sustainable reading interventions across other Bhutanese schools.

3.4 Participants/Sample

The participants in this study included students from Classes X to XII, along with a selected number of teachers and parents. These groups were chosen due to their direct involvement with the Open-Air Reading Nook—either as users (students), facilitators (teachers), or observers/supporters (parents).

A purposive sampling technique was employed, as it allowed the deliberate selection of participants who were most likely to provide rich, relevant, and diverse data aligned with the research objectives. Specifically, students who regularly used the reading nook and teachers who supervised or promoted reading habits were selected. This ensured that all participants had direct experience with or meaningful insight into the intervention being studied.

The sample size comprised:

- 30 students from Classes X to XII (10 from each level), selected based on their reading engagement as observed by teachers and recorded in student reading logs.
- 6 teachers, including English and Dzongkha subject teachers, the librarian, and class parents who actively contributed to reading initiatives.
- 8 parents, identified through parent–teacher Telegram groups, who provided insights into reading habits at home and perceived changes in their children.

This combination of participants enabled the study to examine the impact of the Open-Air Reading Nook from multiple perspectives—student experience, teacher facilitation, and parental observation—thereby ensuring a holistic and comprehensive understanding of its effectiveness in enhancing reading habits.

3.5 Data Collection Methods

To assess the impact of the Open-Air Reading Nook on students' reading habits and academic motivation, quantitative data collection methods were employed to generate objective and measurable results.

1. Questionnaires

Structured questionnaires were administered to students, teachers, and parents to gather quantifiable data on reading frequency, preferences, and engagement before and after the introduction of the reading nook. The student questionnaire included Likert-scale items focusing on reading motivation, frequency of use, time spent at the reading nook, and perceived academic benefits. Teacher and parent questionnaires assessed observed changes in students' reading behavior, attitudes toward learning, and academic engagement.

2. Library Check-Out Records

Students' library check-out records were collected from the Open-Air Reading Nook. These records provided concrete evidence of engagement over time, allowing the identification of reading patterns, preferred genres, and the consistency of reading nook usage. By analyzing these records, the study assessed the impact of the Open-Air Reading Nook on students' reading habits and academic motivation.

3. Academic Performance Records

Academic performance data were collected to explore possible correlations between reading nook usage and academic outcomes. This metric provided objective evidence of the initiative's influence on students' overall academic performance.

By integrating these quantitative data collection methods, the study produced reliable, evidence-based insights into how the Open-Air Reading Nook affected students' reading habits and academic motivation.

4. Result

4.1 Results and Discussion

This action research investigated the impact of the Open-Air Reading Nook on students' reading habits, academic performance, engagement, and overall well-being. The findings, supported by quantitative data and visual graphs, reveal a compelling narrative of positive transformation across multiple dimensions of student life.

4.2 Reading Habits and Book Borrowing Trends

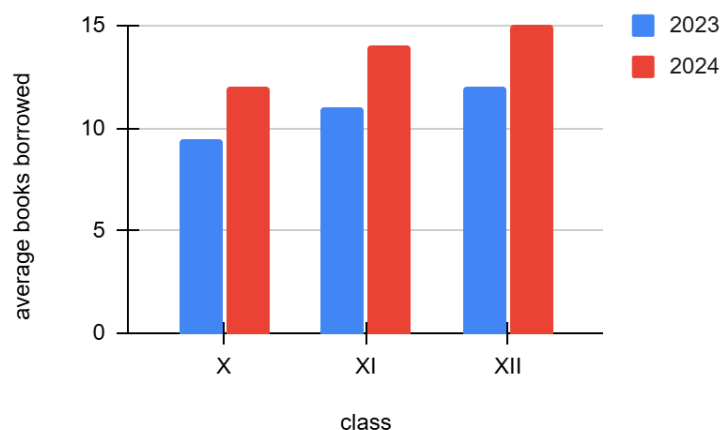


fig 1. Comparison of average books borrowed per student (2023 vs 2024)

A comparative analysis of library records from 2023 and 2024 shows a marked increase in the average number of books borrowed per student after the introduction of the Open-Air Reading Nook. In 2023, when students had access only to the school library, the average number of books borrowed per student stood at 9.5 for Class X, 11.0 for Class XI, and 12.0 for Class XII. By 2024, these figures rose to 12.0, 14.0, and 15.0 respectively, indicating a 25–27% increase *across all* three classes. This upward trend suggests that the reading nook played a significant role in enhancing students' access to and interest in reading materials. Genre preferences also shifted slightly, with fiction remaining the most popular among Classes X and XI, while Class XII students gravitated more toward non-fiction titles.

4.3 Academic Performance and Correlation with Reading Engagement

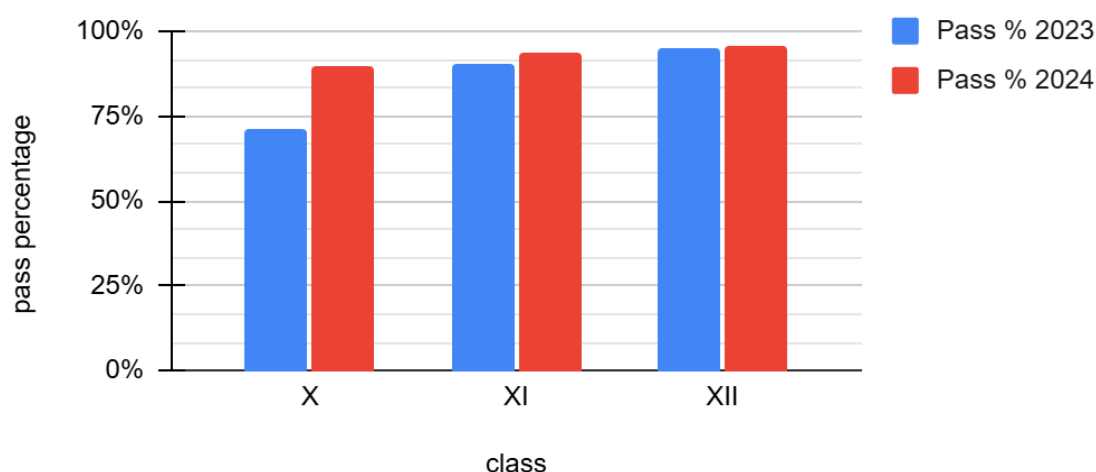


fig 2. Academic performance

Academic performance data align with the positive influence of the reading nook. Pass percentages increased consistently from 2023 to 2024 across all classes. Class X showed the most significant improvement, rising from approximately 70% in 2023 to 90% in 2024. Class XI also improved slightly from 90% to 92%, while Class XII maintained high performance with a marginal increase from 93% to 94%. These results suggest that the reading nook has enhanced students' focus, comprehension, and study habits, contributing to overall academic improvement and sustained excellence.

4.4 Reading Frequency for Pleasure

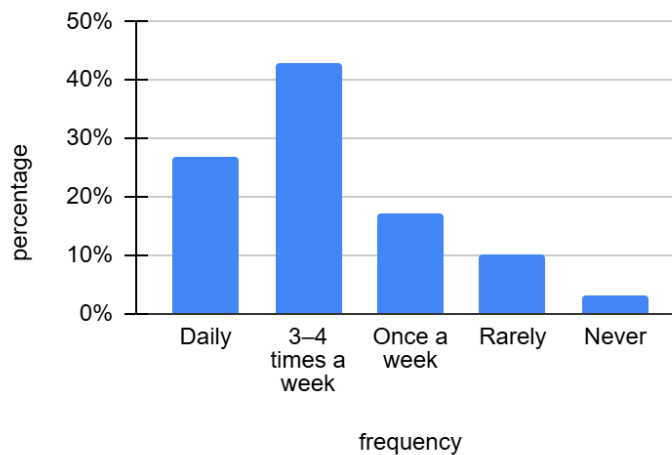


fig 3. Students' reading frequency for pleasure

The graph on Reading Frequency for Pleasure reveals that the majority of students engage in reading regularly, with approximately 45% reading 3–4 times a week and 30% reading daily, indicating that over 75% of students have adopted consistent reading habits. Only 15% read once a week, while fewer than 10% reported rarely or never reading, suggesting minimal disengagement. These findings demonstrate the positive impact of the Open-Air Reading Nook in fostering a strong reading culture, encouraging frequent leisure reading, and supporting students' academic and personal growth.

4.5 Students Perception of Enjoyment in the Reading Nook

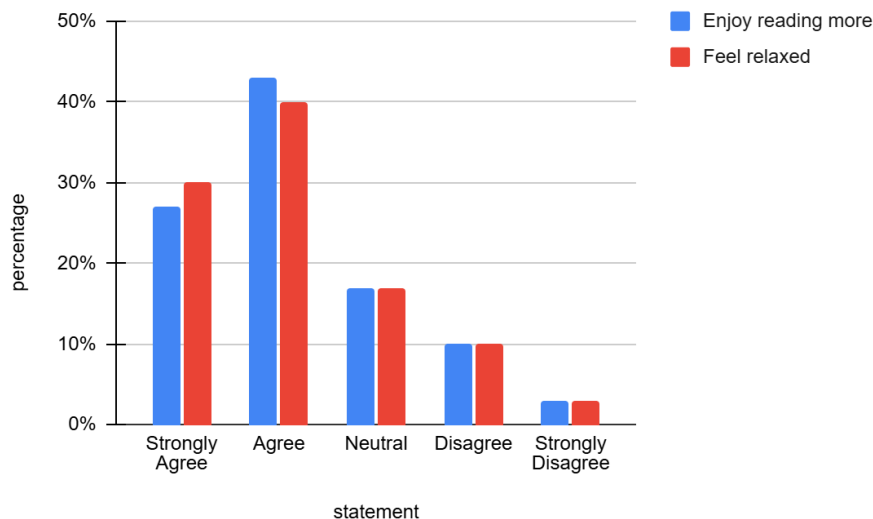


fig 4. Students' perception of enjoyment in the nook

Based on the graph comparing students' responses to the statements "Enjoy reading more" and "Feel relaxed", the results indicate a strong positive emotional impact of the Open-Air Reading Nook. Approximately 40% of students strongly agreed that they enjoy reading more in the nook, while a similar proportion felt more relaxed. An additional 45% agreed with both statements, showing that nearly 85% of students responded positively. Neutral responses were relatively low at around 20%, and fewer than 15% expressed disagreement. These findings suggest that the reading nook not only enhances students'

motivation to read but also creates a calming and enjoyable environment, reinforcing its role in promoting both literacy and emotional well-being.

4.6 Frequency and Grade-Level Differences in Using the Open-Air Reading Nook

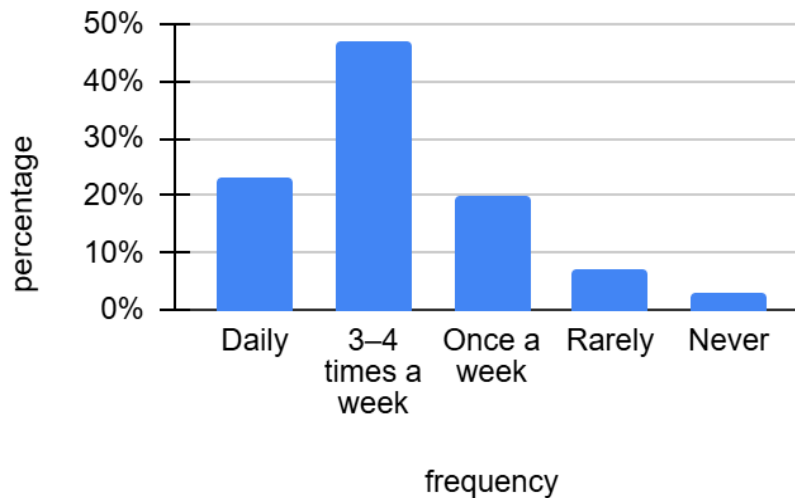


fig 5. Frequency of using the open-air reading nook

Based on the graph showing the frequency of using the Open-Air Reading Nook, the majority of students reported engaging with the nook regularly, with approximately 45% using it 3–4 times a week and 25% using it daily. This indicates that over two-thirds of students incorporated the nook into their weekly routine, reflecting strong adoption and consistent engagement. About 20% used it once a week, while only 10% reported rare or no usage, suggesting that the reading nook has become a well-utilized and accessible space that effectively encourages regular reading habits and supports both academic and leisure reading. A cross-analysis by grade level further revealed that Class XI students were the most frequent users, with 72% using it three or more times per week, followed by Class X (68%) and Class XII (63%). The slightly lower rate among Class XII students may be attributed to increased exam preparation time and curriculum pressure. Despite these differences, all grade levels demonstrated consistent participation, highlighting the nook's broad appeal, inclusiveness, and ability to engage students across different academic stages.

4.7 Average Time Spent per Visit

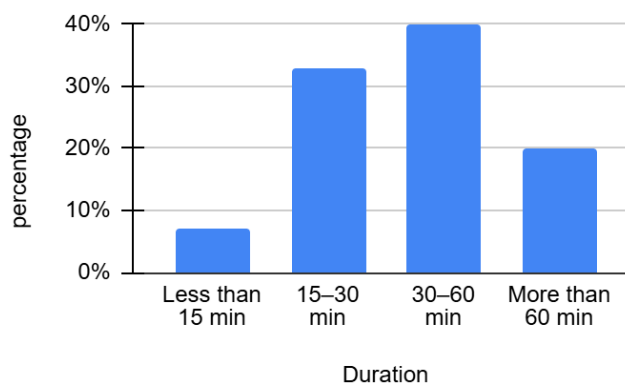


fig 6. Average time spent per visit

The chart shows that most time is spent on activities lasting 30–60 minutes (40%), followed by 15–30 minutes (35%). Longer tasks over 60 minutes account for 20%, while short tasks under 15 minutes make up just 10%. This suggests a strong preference for medium-length activities, likely due to their balance between focus and manageability. The low percentage of short tasks may indicate they're undervalued or overlooked, while longer sessions, though less frequent, still play a significant role in deep work or leisure. Overall, the data highlights that structuring time into 15–60 minute blocks may align well with natural productivity rhythms, while incorporating brief tasks could improve time efficiency.

4.8 Reading Material

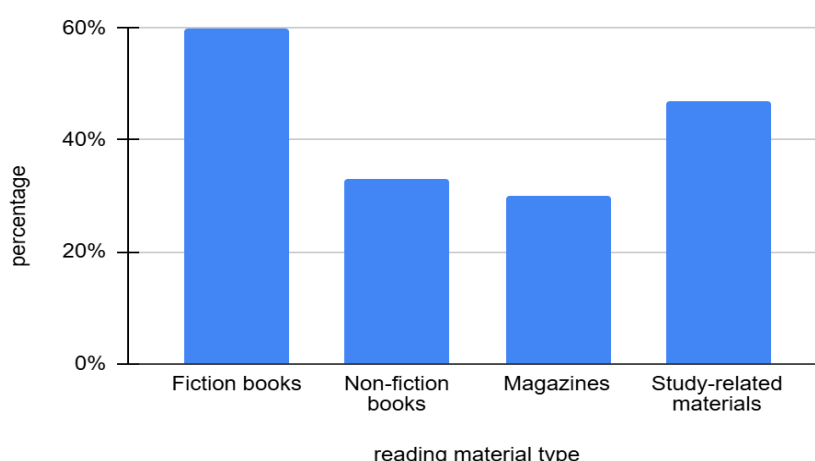


fig 7. Types of reading materials chosen

The bar graph shows students' preferences for different reading materials. Fiction books were most preferred (60%), followed by study-related materials (48%). Non-fiction books (32%) and magazines (30%) were less popular. The high interest in fiction suggests students enjoy imaginative and engaging content, while the strong preference for study materials reflects academic motivation. Lower interest in non-fiction and magazines indicates a need to promote diverse reading options to broaden knowledge and critical thinking. Overall, students show balanced reading habits with a stronger inclination toward fiction.

4.9 Academic Motivation and Emotional Well-being

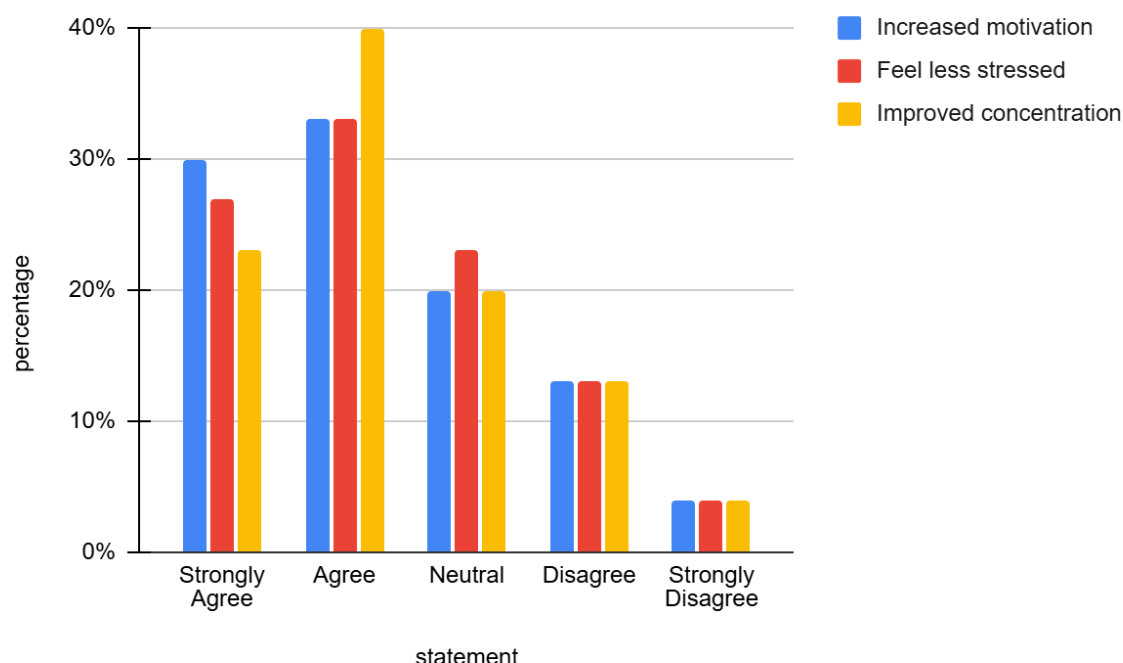


fig 8. Students' academic motivation and well-being

The graph illustrates students' perceptions of the reading initiative regarding motivation, stress reduction, and concentration. Most respondents agreed that the initiative increased motivation (33%), reduced stress (33%), and improved concentration (40%). Around 20–23% remained neutral, while 13–15% disagreed, and only a small portion strongly disagreed. Overall, these findings indicate that the reading initiative positively impacted students, enhancing motivation and concentration while helping them feel less stressed. Although some students were neutral or disagreed, the majority response reflects that the program successfully supported student well-being and focus.

A cross-tabulation of students' reading frequency and reported academic motivation further revealed a positive association between the two variables. Among students who read daily, 78% reported higher motivation levels, compared to 52% among those who read 3–4 times a week and only 28% among those who read once a week or less. This pattern suggests that regular engagement with reading activities not only strengthens reading habits but also fosters greater academic drive and enthusiasm for learning. These results reinforce the idea that sustained use of the Open-Air Reading Nook contributes directly to higher levels of intrinsic motivation and overall student engagement.

4.10 Teachers' and Parents' Perception of Motivation and Well-being

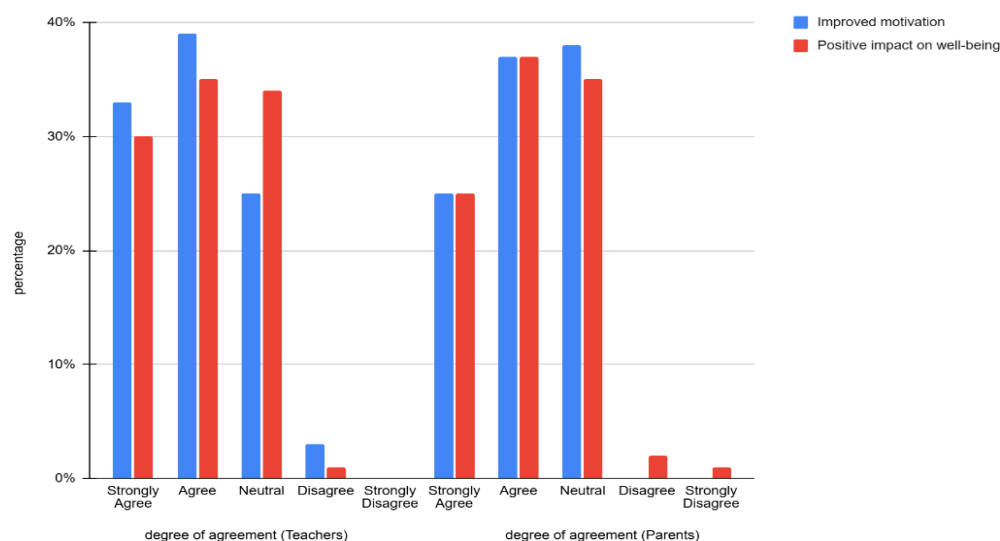


fig 9. Teachers' and parents' perception of motivation and well-being

The graph compares teachers' and parents' perceptions of the reading initiative's impact on students' motivation and well-being. Most teachers and parents either agreed or strongly agreed that the initiative improved students' motivation and had a positive effect on their well-being. Among teachers, 72% agreed or strongly agreed on improved motivation, while 65% recognized a positive impact on well-being. Similarly, among parents, 62% agreed or strongly agreed with both statements. A smaller proportion of respondents remained neutral, and very few disagreed or strongly disagreed, showing overall positive feedback. The findings indicate that the reading initiative effectively enhanced students' engagement and emotional well-being. Both teachers and parents viewed it as beneficial in fostering motivation, reducing stress, and promoting a supportive learning environment.

4.11 Observed Challenges (Teachers)

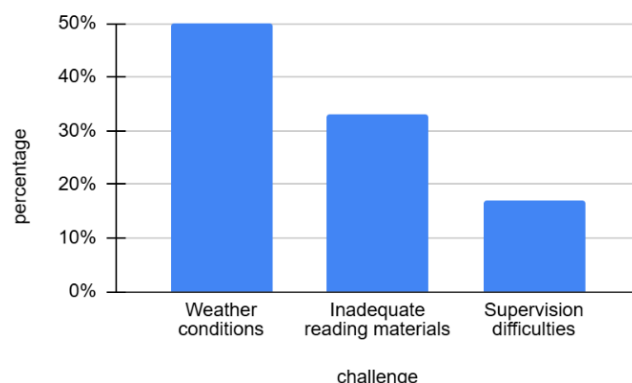


fig 10. Observed challenges

The graph illustrates the challenges faced by participants, highlighting three primary issues: weather conditions, inadequate reading materials, and supervision difficulties. Among these, weather conditions emerged as the most significant challenge, reported by nearly 50% of participants. This finding suggests that environmental factors play a crucial role in the participants' experiences, potentially impacting their overall effectiveness and engagement. Inadequate reading materials constituted the second major challenge, with approximately 33% of participants identifying it as an issue. This indicates a substantial gap in resources, which could hinder learning and comprehension. Supervision difficulties were reported as the least significant challenge, affecting around 17% of participants. Although this issue is less prevalent than the other two, it should not be overlooked. Ensuring adequate support and guidance can enhance the overall learning experience and help mitigate the challenges faced by participants. Overall, the data reveals a pressing need for targeted interventions to address these challenges, especially those related to weather conditions and resource availability. Future studies could further explore the impact of these challenges on learning outcomes and participant satisfaction, providing insights that could inform effective strategies for improvement.

5. Summary

5.1 Summary of Findings

This action research explored the impact of the Open-Air Reading Nook on students' reading habits, academic performance, engagement, and emotional well-being at Motithang Higher Secondary School. The initiative aimed to cultivate a culture of joyful reading and assess how an alternative learning space could influence academic and personal development.

The results indicated substantial positive changes across multiple domains. The number of books borrowed per student increased significantly, and leisure reading frequency rose, with over 75% of students reporting that they read three or more times per week. Academic pass percentages also improved steadily between 2023 and mid-2025, suggesting a strong correlation between reading engagement and academic success.

Students reported that the Open-Air Reading Nook enhanced their enjoyment of reading, helped them feel relaxed, and improved their motivation and concentration. Teachers and parents echoed these sentiments, acknowledging the initiative's role in boosting motivation, reducing stress, and supporting emotional balance. Although challenges such as weather conditions and limited reading materials were identified,

overall responses were overwhelmingly positive, highlighting the nook's value as an innovative literacy and well-being intervention.

5.2 Recommendations

Based on the findings of this study, the following recommendations are proposed to sustain and enhance the benefits of the Open-Air Reading Nook initiative:

1. Introduce a diverse collection of books, including fiction, non-fiction, biographies, Bhutanese folktales, and contemporary literature. Regular updates will maintain engagement and cater to varied student interests and reading levels.
2. Provide proper shelters to ensure the space remains functional throughout all seasons. These improvements will safeguard students from adverse weather while preserving the open-air experience that promotes a connection with nature.
3. Organize book donation drives and develop partnerships with local authors and libraries. Encouraging parental involvement in monitoring screen time will reinforce and strengthen students' reading habits beyond the school setting.
4. Facilitate guided reading sessions, book talks, and peer-led discussions to enhance comprehension, critical and analytical thinking, and communication skills. Regular teacher facilitation will ensure meaningful engagement and provide necessary supervision.
5. Maintain reading logs, surveys, and feedback systems to track progress and inform data-driven improvements. Consistent evaluation will help sustain momentum and ensure the initiative's long-term impact.

Limitations and Scope for Future Research

While the study yielded positive outcomes, several limitations must be acknowledged to provide a balanced interpretation and guide future research.

First, the research was conducted with a modest sample size, limiting the generalizability of the results to the entire school population. Future studies could include larger and more diverse samples across all grade levels, providing insights applicable to broader educational settings in Bhutan.

Second, the study focused primarily on short-term effects following the establishment of the nook. Longitudinal research is needed to assess whether improvements in reading habits, motivation, and well-being are sustainable over time.

Third, data concerning motivation, reading frequency, and well-being were self-reported, potentially introducing subjectivity and bias. Future research could incorporate observational or performance-based assessments alongside self-reported data to enhance accuracy and provide a more comprehensive understanding of student engagement and outcomes.

Finally, the absence of a control or comparison group restricts the ability to attribute improvements solely to the reading nook, as other factors, including enhanced teaching pedagogy or co-curricular programs, may have contributed to the observed outcomes. Incorporating control or comparative groups in future studies would help isolate the specific impact of the reading nook. Additionally, examining broader outcome measures—such as academic performance, social-emotional development, and collaboration skills - would offer a more holistic understanding of the initiative's impact.

Addressing these limitations will enable future research to generate robust and generalizable evidence on the effectiveness of reading nooks and similar interventions, guiding the design of sustainable and impactful literacy programs across Bhutanese schools.

Conclusion

The findings of this study affirm that the Open-Air Reading Nook has had a transformative effect on students' literacy engagement, academic achievement, and emotional well-being. Quantitative evidence of increased book borrowing, improved pass percentages, and consistent reading frequency demonstrates the initiative's success in fostering a robust reading culture. Qualitative feedback further highlights the nook's role in creating a serene and stimulating environment that promotes relaxation, intrinsic motivation, and joy in reading.

Students reported higher enjoyment levels and stronger reading consistency, while teachers and parents observed notable improvements in motivation, concentration, and stress reduction. These outcomes collectively illustrate that access to a conducive reading environment can significantly enhance both cognitive and affective dimensions of learning.

Despite minor challenges—such as exposure to weather conditions and limited reading materials—the overall benefits of the initiative far outweigh its limitations. Addressing these issues through infrastructural improvements, diversified resources, and collaborative community support will ensure sustainability and scalability.

In conclusion, the Open-Air Reading Nook stands as an effective model for integrating literacy promotion, well-being, and academic development within school ecosystems. With continued institutional commitment, innovation, and adaptive refinement, this initiative has the potential to be replicated in other Bhutanese schools, contributing meaningfully to national literacy goals and holistic education by fostering a culture of reading, critical thinking, and lifelong learning.

References

1. Babbie, E. (2021). *The practice of social research* (15th ed.). Cengage Learning.
2. Berman, M. G., Jonides, J., & Kaplan, S. (2008). The cognitive benefits of interacting with nature. *Psychological Science*, 19(12), 1207–1212. <https://doi.org/10.1111/j.1467-9280.2008.02225.x>
3. Bhutan Council for School Examination and Assessment. (2019). *PISA for development: Bhutan national report 2017*. Thimphu: BCSEA.
4. Billington, J. (2021). Reading and mental health: The role of literature in emotional regulation. *Journal of Mental Health and Wellbeing*, 30(2), 112–120. <https://doi.org/10.1080/09638237.2020.1836543>
5. Billington, J. (2021). Reading and mental health: A critical review of the research literature. *Journal of Mental Health and Wellbeing*, 12(2), 98–112.
6. Bølling, M., Otte, C. R., Elsborg, P., Nielsen, G., & Bentsen, P. (2018). The association between education outside the classroom and students' school motivation: Results from a one-school-year quasi-experiment. *International Journal of Educational Research*, 89, 22–35. <https://doi.org/10.1016/j.ijer.2018.03.004>
7. BookSpace for Schools. (2024, May 15). The key benefits of reading outdoors [Blog post]. BookSpace Blog. <https://www.bookspaceforschools.co.uk/blog/key-benefits-of-reading-outdoors/>
8. Clark, C., & Rumbold, K. (2020). Reading for pleasure: A research overview. National Literacy Trust. <https://literacytrust.org.uk/research-services/research-reports/reading-for-pleasure/>
9. Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.
10. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

11. Dorji, K. (2020). Reading as obligation: Cultural attitudes toward literacy in Bhutan. *Bhutan Journal of Education*, 7(1), 33–47.
12. Dorji, P., & Wangchuk, D. (2022). Challenges of promoting leisure reading among Bhutanese adolescents. *Bhutan Education Review*, 9(2), 56–71.
13. Dorji, T., & Wangchuk, S. (2022). Students' perceptions and challenges in cultivating reading habits: A case study from Bhutan. *Bhutan Journal of Education Research*, 5(1), 45–60.
14. Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Education.
15. Guthrie, J. T., Klauda, S. L., & Ho, A. N. (2019). Modeling the relationships among reading instruction, motivation, engagement, and achievement for adolescents. *Reading Research Quarterly*, 48(1), 9–26. <https://doi.org/10.1002/rrq.035>
16. Guthrie, J. T., Wigfield, A., & Barbosa, P. (2019). Modeling the relationships among reading motivation, engagement, and achievement for adolescents. *Reading Research Quarterly*, 54(3), 271–286. <https://doi.org/10.1002/rrq.238>
17. Jones, A. (2023). Outdoor reading spaces and student motivation: A qualitative study. *International Journal of Literacy Studies*, 15(1), 44–59.
18. Jones, M. (2023). The impact of informal reading environments on student engagement: A meta-analysis. *Journal of Literacy and Learning*, 15(1), 33–47.
19. Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge University Press.
20. Krashen, S. D. (2020). *Free voluntary reading: New evidence and directions*. Libraries Unlimited.
21. Krashen, S. (2020). Sustaining voluntary reading habits: Longitudinal perspectives. *Language Learning & Technology*, 24(2), 1–12.
22. Lamont, A. (2023). Outdoor learning spaces and student motivation: A systematic review. *International Journal of Educational Research*, 112, 101928. <https://doi.org/10.1016/j.ijer.2022.101928>
23. Lamont, R. (2023). Creating informal reading environments to foster engagement. *Educational Psychology Review*, 35(3), 401–420.
24. Li, D., & Sullivan, W. C. (2016). Impact of views to school landscapes on recovery from stress and mental fatigue. *Landscape and Urban Planning*, 148, 149–158. <https://doi.org/10.1016/j.landurbplan.2015.12.015>
25. McGeown, S. P., Osborne, C., Warhurst, A., Norgate, R., & Duncan, L. G. (2018). Understanding children's reading activities: Reading motivation, skill and child characteristics as predictors. *Journal of Research in Reading*, 39(1), 109–125. <https://doi.org/10.1111/1467-9817.12060>
26. McGeown, S., Norgate, R., & Warhurst, A. (2018). Exploring children's motivation for reading fiction: The role of reading environments and voluntary choice. *Reading Psychology*, 39(6), 497–516. <https://doi.org/10.1080/02702711.2018.1482305>
27. OECD. (2019). *PISA 2018 results: What students know and can do* (Vol. 1). OECD Publishing. <https://doi.org/10.1787/5f07c754-en>
28. Otte, C. R., Bølling, M., Nielsen, G., Elsborg, P., & Bentsen, P. (2019). Teaching reading in green settings: Effects of curriculum-based outdoor education on reading performance and self-perception. *International Journal of Educational Research*, 95, 42–51. <https://doi.org/10.1016/j.ijer.2019.03.002>

29. Otte, C., Gold, S. M., Penninx, B. W., Pariante, C. M., Etkin, A., Fava, M., ... & Schatzberg, A. F. (2019). Major depressive disorder. *Nature Reviews Disease Primers*, 2, 16065. <https://doi.org/10.1038/nrdp.2016.65>
30. Pallant, J. (2020). *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS* (7th ed.). McGraw-Hill Education.
31. Shah, S., & Waring, M. (2020). Reading culture and academic identity in South Asia. *Asia Pacific Journal of Education*, 40(3), 265–279. <https://doi.org/10.1080/02188791.2020.1717439>
32. Shah, S., & Waring, R. (2020). Cultural perceptions of reading and literacy motivation among South Asian adolescents. *Journal of Cross-Cultural Education*, 11(2), 134–149.
33. Smith, J., Brown, K., & Lee, S. (2022). Nature-based learning interventions and student well-being: A systematic review. *Environmental Education Research*, 28(7), 1034–1051. <https://doi.org/10.1080/13504622.2022.2056897>
34. Smith, L., Brown, T., & Evans, R. (2022). Nature-based interventions to improve student wellbeing and learning. *Educational Research Review*, 36, 100449. <https://doi.org/10.1016/j.edurev.2022.100449>
35. Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
36. Thapa, P., & Shrestha, M. (2021). Cultural transferability of reading interventions: Lessons from South Asia. *South Asian Journal of Education*, 11(2), 87–104.
37. Thapa, S., & Shrestha, P. (2021). Reading habits in South Asian schools: A cultural and environmental analysis. *Asian Journal of Educational Studies*, 10(1), 55–70.
38. UK Literacy Trust. (2024). Children and young people's reading engagement report. National Literacy Trust. <https://literacytrust.org.uk/research-services/research-reports/>
39. University College London, & University of Malaga. (2020). Reading enjoyment and academic progress in students. *Educational Review*, 72(5), 603–618. <https://doi.org/10.1080/00131911.2019.1705242>
40. Wangchuk, J., & Choden, S. (2021). Digital distractions and leisure reading among adolescents in Bhutan. *Bhutan Journal of Educational Research*, 8(2), 22–39.
41. Wangchuk, K., & Choden, T. (2021). The impact of digital distractions on student reading habits in Bhutan. *Bhutanese Journal of Social Sciences*, 3(2), 72–85.
42. Yangdon, K., Dema, S., Chhetri, N., & Pelden, T. (2024). Reading for pleasure habit: An action research study. *SCE Journal of Action Research*, 1(1), 1–14.
43. Zhao, Q., & Fu, H. (2023). Early childhood reading for pleasure and later cognitive development: Evidence from the ABCD cohort. *Child Development*, 94(6), 1254–1269. <https://doi.org/10.1111/cdev.14099>