Abstract
Reading is one of the crucial aspects of the learning process. The learning efficiency depends on the motivation and involvement of students. The paper aims to determine whether the developed online course enhances student motivation and engagement in contemporary American literature. For this purpose, questionnaires were used. The sample consisted of 126 students enrolled in Yulin Gaoxin Secondary School, who had English proficiency at a high enough level to read English literature in the original language. Before and after the course, the Reading Motivation Questionnaires test was administered, with its scores validated using Student’s t-test for dependent samples. Significant progress is observed in the internal and social components of motivation (23–25%), as well as in the Engagement category (31%). The course also positively affected learning effectiveness. None of the participants scored less than half of the possible points for the course assignments. Most children obtained high (95–119 points) and very high scores (120–140 points). This finding demonstrates the suitability of the tools used (videoconferencing, learning management systems, discussion forums, and interactive exercises) in online learning when studying modern literature. The research findings are of interest, first of all, to instructors who adopt technological innovations in their lessons or want to motivate students to read. Second, school administrators and education sector officials can draw information from the findings for corrective action. Third, software developers may be inspired by the data and create new technology solutions.

Keywords Extrinsic motivation · Intrinsic motivation · Reading engagement · Self-esteem · Social factors
1 Introduction

Reading is central to human development because it underpins the individual’s development in modern society. Therefore, it is one of the top priorities of the learning process (De Naeghel & Van Keer, 2013; Leonard et al., 2021). In addition to its contribution to the development of speech, the value system and socio-cultural knowledge, reading sets the context for the development of a more subtle understanding of the nature of human relations and interactions (Tovli, 2014). The reading’s impact on the child begins at a very early age when he or she starts to read fairy tales, poems and stories that lay the foundation for the child’s future behaviour, based on traditional and universal values. Even the most severe reality, passed through the magic of a fairy tale, is no longer so terrible.

Written language is much richer than spoken language. Colloquially, children and adults often miss parts of sentences, whereas the full and correct form is used in writing (Volkova et al., 2021). Books develop the child’s cognitive and linguistic abilities (Cabell et al., 2019; Strouse et al., 2018; Sun et al., 2020).

The socio-economic status of the family has a significant impact on the child’s proficiency in written language. Parents with low incomes have limited means to provide their children with the necessary printed books, so these children have a lower level of literacy at school entry than children provided with books (Fagan, 2022). E-books can be part of the solution for such families, but the support provided by parents as reading partners and interlocutors is also important (Furenes et al., 2021; Kyaw & Tin, 2020).

Reading motivation primarily influences the frequency and comprehension of reading (De Naeghel & Van Keer, 2013). Reading motivation relates to “interest in reading”, and it becomes prominent when the reader prefers reading to all other activities, reads often and loves this activity (Tovli, 2014). However, researchers unanimously point out the problem of reduced motivation to read among students (Alhabshi & Abdelaziz, 2022; Miyamoto et al., 2020; Tegmark et al., 2022). The higher the motivation, the higher the students’ favorability of the course content and learning resources (Xu et al., 2020). Therefore, it is crucial to use all kinds of motivation approaches in learning that would contribute to more effective work with texts and improve academic achievements. Therefore, instructors must set up an engaging and dynamic learning environment to enhance students’ desire for reading (Dörnyei & Ushioda, 2013).

2 Literature review

Contemporary education faces the challenge of educating book-loving individuals with large vocabularies and rich verbal/written language who can analyze, summarize and synthesize whatever they have just read (Tovli, 2014). The reading motivation consists of individual components. Normally, reading motivation is classified as intrinsic and extrinsic motivations. Intrinsic motivation is driven by internal rewards such as enjoyment. An intrinsically motivated child likes the process because it is fun and does not expect any external reward. Extrinsic motivation takes place when
the child earns a reward for reading or escapes punishment (Hebbecker et al., 2019; Kanonire et al., 2022; Miyamoto et al., 2020; Troyer et al., 2019). It is not uncommon that extrinsic and intrinsic motivations coincide (Park, 2011); in this case, business is combined with pleasure. Self-esteem and personality factors are reported to significantly impact internal reading motivation (Medford & McGeown, 2012).

Higher self-esteem and confidence in one’s reading skills lead to greater reading motivation. If a child succeeds in reading, they will associate the positive feelings of success with reading and show more eagerness to read. Alternatively, if the child finds it hard to complete the reading tasks, they are likely to be discouraged and reluctant to proceed (Bouffard et al., 2003). Personality traits such as agreeableness, openness to experiences and consciousness also affect curiosity, challenge and involvement and alter children’s intrinsic motivation to read. Compliant children have greater flexibility which can result in greater motivation to read. The openness to experience leads to curiosity, which means that children who are more open will show a greater desire to learn by reading. Children that are more conscientious are better motivated to perform reading tasks and have more self-discipline (Medford & McGeown, 2012). Furthermore, researchers pay attention to social causes and motivational drivers (Liu, 2020), which also requires a separate discussion.

Reading motivation among schoolchildren may be enhanced through technological innovations. A partial list of available tools for a well-coordinated interaction between the instructor and students (Adkins & Brendler, 2015; Patra et al., 2022), both face-to-face and remotely, includes online courses, video tutorials, e-discussions, blogs, issue-related pages on social media, interactive exercises and simulators. The innovation effects can be illusory though. Novelty attracts both instructors and students, but when the initial enthusiasm fades away, the setbacks may replace the progress (Li & Doyle, 2020; Tovli, 2014). Therefore, it is crucial to choose innovative teaching methods, which are more engaging modifications of time-tested teaching methods, while giving preference to long-term benefits instead of short-term ones. Therefore, the authors worked on a course that would encourage students to read books, and give them a rewarding experience of the reading and discussion process, so that students would become addicted to it and love it. Yet, students must focus on reading, with online learning aids playing a secondary role.

The existing literature generally focuses on learning to read, reading comprehension, and reading quality (Jackson, 2022; Kanniainen et al., 2022; Lawrence et al., 2022; Neirouz, 2020; Radia, 2019). Very few researchers focus on instilling in students a love of reading and developing their reading habits (Sénéchal & LeFevre, 2002; Tovli, 2014), which seems to be a very significant gap in the education system this paper tried to fill.

2.1 Problem statement

In this study, 14 works of contemporary American literature were chosen as a springboard for enhancing student motivation and engagement. The selected works are novels well received by critics and translated into multiple languages. Some of them are included in literature curricula across different countries. The intention was to select literary works, which depict universal human values, those that are equally
important for people in the West and people in the East. The content of the selected literary works is dynamic and exciting, so they are expected to motivate students to read.

The paper aims to determine with a quantitative analysis the effect of a novel online learning course in contemporary American literature on student motivation and engagement. The objectives of the study are (1) to evaluate the initial status of participating students, (2) to integrate the novel online learning course to enhance reader motivation and engagement, (3) to assess the ultimate motivation and engagement among students after the online reading course, and (4) to estimate student progress in the acquisition of the course material.

3 Materials and methods

3.1 Experiment

The online course enrolled 126 students from the Yulin Gaoxin Secondary School aged 10–12 years (grades 5–6). Classes were held from February to May 2021 in English. Participants were randomly divided into 6 groups of 21 students. The classes took place asynchronously via Google Class or synchronously as video conferences via Zoom, with the same instructor. Before online learning started, students received a list of literary works. The following novels were selected for inclusion in the online course curriculum:

1. *The Secret Garden*, Frances Hodgson Burnett (1911).
2. *Goodnight Mister Tom*, Michelle Magorian (1981).
3. *Dandelion Wine*, Ray Bradbury (1957).
4. *The Giver*, Lois Lowry (1993).
5. *Because of Mr. Terupt*, Rob Buyea (2010).
6. *American Born Chinese*, Gene Luen Yang (2006).
7. *Fahrenheit 451*, Ray Bradbury (1951)*.
8. *Wolf Hollow*, Lauren Wolk (2016)*.
9. *Return to Sender*, Julia Alvarez (2009).
10. *Bomb*, Steve Sheinkin (2012)*.
11. *Spaced Out*, Stuart Gibb (2016).
12. *Escape from Mr. Lemoncello’s Library*, Chris Grabenstein (2013).
13. *Circus Mirandus*, Cassie Beasley (2015).
14. *Hoot*, Carl Hiaasen (2002).
* - books were read in snatches, with the instructor’s paraphrasing and explanations, as they were designed for an older audience.

The classes consisted of three blocks published in Google Class. The first block was an aperitif for the lesson, intending to drive interest in the lesson’s topic. The instructor searched for content on social media, primarily YouTube, with introductory information about the literary work or the author’s biographical data. If no such information was found, the instructor wrote down the introductory words on his own.

After watching the video on the first block, students were encouraged to immediately move on to the second block. The second block consisted of children reading
a novel, the link to which was provided. Simultaneously with the reading, children were invited to contribute to a discussion forum, moderated by their instructor and two other interns, with all 126 students participating in the experiment. Students could watch available movie adaptations of those works, as suggested by the instructor. The third block consisted of 2 Zoom video conferences, during which students performed interactive exercises independently and in teams (Fig. 1). Students were also instructed to maintain a reading diary in Google forms (Appendix 1), where they had to specify the book’s title and the author’s name, indicate who the main characters were, what the central message of the novel is, and provide some of their favourite quotes. In addition, they had to indicate the start and end date of the reading and provide recommendations for others. Video conferences were held after the participants finished reading the novel and took two days in a row for 45 min. When retelling the plot, the key fragments (for example, role dialogues) were read and discussed so that the students could live through the story, and the instructor summarized the e-discussions and the tasks performed. The instructor held several video conferences in an unconventional environment: The Secret Garden was discussed in the garden, Dandelion Wine - in the attic, and Escape from Mr. Lemoncello’s Library was discussed in the library. The teams’ presentations were delivered using the interactive whiteboard during video conferences in Zoom Rooms.

The complete list of activities per novel included watching related videos, reading a printed or electronic book, performing personalized interactive exercises, participating in a discussion forum, journaling, and participating in two Zoom video conferences where team assignments were held.

3.2 Methods

The authors evaluated the experimental course’s effectiveness based on the successful completion of tasks. The maximum score that can be scored for each novel is 10 points:

− 2 points for contributing to e-discussions;
− 2 points for each activity in video conferences;
− 3 points for interactive exercises; and.
Therefore, the maximum total score for 14 novels is 140. Besides the natural incentive to get the highest grade, readers strived to achieve a specific title by the end of the course. Students who scored at least half of the possible points demonstrated good performance and were identified as course experts. Those who received more than 95 points were course heroes, and those who scored more than 120 points were called the course superheroes (Fig. 2, b). The reliability and fairness of this assessment lie in the transparency of the online course curriculum and practical assignments. In addition, all participants took part in the study voluntarily.

Student motivation and engagement were assessed using the Motivations for Reading Questionnaire (MRQ) designed for students in grades 3–6 to assess how much they want to read (Wigfield, 1996). The MRQ developers suggest conducting the test at the beginning and the end of the academic year. In this study, students received MRQ before and after the course. Designed for reading in English, the questionnaire has undergone many revisions since its inception. After studying both the source (Wigfield, 1996) and the Chinese version of MRQ (the cultural and social environment also impacts motivation (Lau, 2004)), the authors developed a modified version of the questionnaire (Appendix 2). The Likert scale was used for assessment, where 1 point is “very different from me”; 2 – “a little different from me”; 3 – “a little like me”; 4 – “a lot like me” (Wigfield, 1996). According to previous research (Marzban & Davaji, 2015; Metsala et al., 1996; Sperling et al., 2013; Watkins & Coffey, 2004; Wigfield & Guthrie, 1995), this approach has proven validity and reliability. The preferable value of internal consistency reliability, according to the MRQ developers, is greater than 70; the MRQ was computed several times (Wigfield, 1996).
3.3 Statistical analysis

The statistical analysis and data presentation were performed using SPSS Statistics and Microsoft Excel. Student’s dependent t-test was used to determine whether the students’ motivation for reading and engagement in reading changed upon the completion of the experimental course. The null and alternative hypotheses were put forward. H0: the course affects the levels of reading motivation and engagement among students; H1: the course has no effect on the levels of reading motivation and engagement among students. The estimated value of the t-test was 6.1 with a critical value of 2.06, implying that the H1 hypothesis is valid and the change in reading motivation and student engagement is statistically significant, with 95% probability. Table 1 shows the results of the paired t-test.

3.4 Ethical issues

Participation in the study was voluntary. All participants were enrolled with parental or guardian permission. Their parents (guardians) provided written consent. No personal information was collected. Video conferences were not recorded.

3.5 Research Limitation

The study has some limitations associated with the voluntary nature of participation. Students that are least likely to read books did not participate in the experiment, and those who agreed to participate may have been already motivated and engaged to some extent. It is expected that if such a course was conducted on a mandatory basis, say to teach contemporary Chinese literature, the levels of motivation and engagement would be lower. Furthermore, only one age group (10–12 years) was considered, so the findings cannot be interpolated to older or younger children. Another limitation is associated with the innovative effect described in the literature (Tovli, 2014). To be more specific, a new method generates enthusiasm among instructors and students, but the interest can fade over time. The authors tried to minimize this factor by using the well-known online learning methods, but the extent of the long-term motivation and reading engagement will manifest itself later. Future research can focus on determining the long-term effect of the course by analyzing the results of a second test conducted after a significant period of time (for example, 2 years after the course). The MRQ can be considered as an approximation to an adequate method for assessing and measuring reading motivation, so the results of the study can be used as a platform for future research and evaluation of the validity and relevance of the MRQ.
4 Results

4.1 Assessing Student Motivation and Engagement

The questionnaire was divided into five blocks: four blocks for motivation – self-esteem, extrinsic motivation, intrinsic motivation, and social reasons; the fifth block

| Table 1 | The results of the paired t-test for means |
|----------------|------------------------------------------|
| Choose one of the following answer options for each statement indicating how well that statement describes you. 1 = Statement does not describe you at all. 2 = Statement describes you very little. 3 = Statement describes you somewhat. 4 = Statement describes you pretty well. |
| 1 Self-esteem | 1.1. Next year I will read a lot | 1 2 3 4 |
| | 1.2. I am reading a lot now | 1 2 3 4 |
| | 1.3. By reading, I can learn more than others | 1 2 3 4 |
| | 1.4. Reading is my favourite school assignment | 1 2 3 4 |
| | 1.5. By reading, I learn a lot of words | 1 2 3 4 |
| | 1.6. I easily understand the meaning of what I read | 1 2 3 4 |
| 2 Intrinsic motivation | 2.1. If something interested me, I would read about it to find out more | 1 2 3 4 |
| | 2.2. I like to search for information independently | 1 2 3 4 |
| | 2.3. I imagine the things I read about | 1 2 3 4 |
| | 2.4. I am interested in different books | 1 2 3 4 |
| | 2.5. Some of the book characters are close to me, and I think they are my friends | 1 2 3 4 |
| 3 Extrinsic motivation | 3.1. I like to receive teacher’s praise | 1 2 3 4 |
| | 3.2. I read to get a good grade | 1 2 3 4 |
| | 3.3. I like when my parents praise me for my grades | 1 2 3 4 |
| | 3.4. I like to know the answers to the instructor’s questions | 1 2 3 4 |
| | 3.5. I like to compete with my classmates in reading books and get ahead of them | 1 2 3 4 |
| | 3.6. I force myself to read books to be as good as/better than others | 1 2 3 4 |
| 4 Engagement | 4.1. When reading an interesting book, I do not notice how time flies | 1 2 3 4 |
| | 4.2. When reading an interesting book, I am completely immersed in the story and do not notice anything around me | 1 2 3 4 |
| | 4.3. I find it hard to tear myself away from reading an interesting book and put it aside for later | 1 2 3 4 |
| | 4.4. I want to receive books as gifts and give them to my friends | 1 2 3 4 |
| | 4.5. I love visiting bookstores and libraries | 1 2 3 4 |
| 5 Social Reasons for Reading | 5.1. I often see parents reading books | 1 2 3 4 |
| | 5.2. My parents and other relatives encouraged me to read books | 1 2 3 4 |
| | 5.3. I like to discuss books with my family | 1 2 3 4 |
| | 5.4. I like to tell my friends something interesting to read in books | 1 2 3 4 |
| | 5.5. I like to exchange books, read what I have been advised and advise myself | 1 2 3 4 |
describes engagement. Table 2 shows the descriptive statistics of the pre-test and post-test. The level of engagement after the course has the highest average gain of 31.19% and the lowest standard deviation of 7.05. This implies that the course helped to awaken students’ enthusiasm for reading. Intrinsic motivation and Self-esteem increased just over 25% each, which is also significant, followed by Social reasons (23.33%) and Extrinsic Motivation (4.93%). The latter might be attributed to the fact that students opened up new opportunities for incentives and extrinsic motivation in the form of praise from others, and grades have ceased to be dominant. This is quite a pleasing finding.

| Motivational Block   | Pre-test | Post-test |
|----------------------|----------|-----------|
| Self-esteem          | 25.40    | 25.63     |
| Intrinsic motivation | 4.93     | 8.19      |
| Extrinsic motivation | 32.74    | 34.22     |
| Social reasons       | 19.64    | 35.91     |

Table 2 Descriptive statistics for the difference between pre-test and post-test

For example, for the item “When reading an interesting book, I do not notice how time flies,” the percentage increase from pre-test to post-test is +16.67%.

Figure 3 provides more detailed results for each motivational block. The diagrams show increased motivation in the Self-esteem block across all items: from +16.67% - “Next year I will read a lot” to +35.91% - “I am reading a lot now.” In the Intrinsic Motivation block, the increments ranged from +13.49% (“I imagine the things I read about”) to +36.11% (“If something caught my interest, I would read about it to find...”)

Fig. 3 Findings by motivational blocks

Note: a – Self-esteem; b – Intrinsic motivation; c – Extrinsic motivation; d – Social reasons for reading
out more”). In the Extrinsic Motivation block, three negative values appear. Interestingly enough, these are the following items: “I like to receive teacher’s praise” (-26.59%), “I like when my parents praise me for my grades” (-14.88%) and “I read to get a good grade” (-10.71%). In other words, praise and grades for reading books no longer serve as the primary motivation. Other answers in this block suggest an upsurge, especially the statement “I force myself to read books to be as good as/better than others”, where the +44.25% improvement was observed. In the Social Reasons block, there is a positive difference between Pre-test and Post-test across all items except for “I often see parents reading books”, where the difference is 1.39%. However, the standard error of this item did not change in the post-test compared to the pre-test. The maximum increase in social motivation is observed for the question “I like to tell my friends something interesting read from books” (+41.07%).

In the Engagement block (Fig. 4), the difference between the Pre-test and Post-test is positive, ranging from +19.64 (“When reading an interesting book, I do not notice how time flies”) to +38.29% (“When reading an interesting book, I am completely immersed in the story and do not notice anything around me”).

### 4.2 Successful completion of the experimental course

Upon completion of the course, all participants received more than 70 points. Overall, 32 individuals (25% of the participants) became course experts; 53 readers (42% of the participants) became course heroes, and 41 students were recognized as course superheroes, with 6% (8 persons) of them having more than 130 points (Fig. 5).

The course was designed, on the one hand, to be effective in terms of reading quality and, on the other hand, to enhance student motivation and engagement and to instil a love for reading. The literary works selected for study met the following three criteria: they were published in the 20th and 21st centuries, they have educational, pedagogical and aesthetic value, and they are among the highest-reviewed works in the online bookstores. Such literary works were expected to spark interest among 10-12-year-olds. The results of the Student’s t-test indicate a significant increase in the levels of student motivation and engagement. The Student’s t-test was used to compare pre-test and post-test MRQ scores. The final course grades suggest that online learners have successfully mastered the course content.
5 Discussion

The findings suggest that the introduced online course in contemporary children’s American literature, on the one hand, improved children’s motivation by 19.40% (average from differences in post-test and pre-test for 4 motivational blocks) and engagement by 31.19% (average of the difference in post-test and pre-test for the Engagement block). On the other hand, the online course had a positive effect on learning. All participants, having completed 14 writings, scored at least half of the possible points. 33% of the participants (41 persons) received the highest course award by becoming superheroes, with 6% (8 persons) of them scoring more than 130 points out of 140 possible. Previous studies draw attention to the need to introduce teaching methods that promote reading motivation and reading efficiency through engaging content, autonomy and collaboration (Miyamoto et al., 2020). This task seems to have been accomplished.

Colleagues suggested that it is vital to create a learning environment that would contribute to small success in reading books, accumulating successful practices and creating satisfaction from reading books (Tovli, 2014). The authors agree with that argument and tried to implement it in the course by offering children tasks that are not difficult but interesting and simple. The course grades are more an assessment of activity, not reading quality.

Research findings suggest that students pursue a strong desire to be diligent readers but are driven primarily by extrinsic motivation. The only exceptions are some...
students in grade 6, the youngest age group (Tegmark et al., 2022). The authors focused solely on this age group - grades 5–6 (10–12 years). Available data suggest that extrinsic motivation (grades, praise from instructors and parents) ceased to dominate among students after taking the online course. Preferences have shifted towards intrinsic motivation, self-esteem, and social factors.

Available literature has already discussed that the successful use of technological methods in e-learning requires a certain level of instructors’ and students’ computer literacy (Patra et al., 2022). Therefore, it would be a good idea for the instructor to get an insight into online tools and the avenues for their use by students before starting blended or online learning. In the case of the mentioned online course, the instructor has already worked with these children online last semester, so their interaction has already passed the adaptation phase and was well-coordinated.

Colleagues suggest that the Internet creates a sense of privacy (Yusri et al., 2021). Online learning is very suitable for shy students. For example, by contributing to an online forum, they can feel free to express their views without fear (Afify, 2019). This was believed to be important for achieving the purpose of this paper, so significant attention was paid to e-discussions.

Much has already been written about the fact that the online format allows students to work at a convenient time and in a convenient place, and opens up new opportunities for gaining knowledge. The variety of methods opens up avenues for the instructors’ creativity. Online courses also provide children in low-income families or remote rural areas with the opportunity to get additional knowledge that would not be available in a face-to-face format (Patra et al., 2022).

Various studies report that adopting digital tools (such as Google Classroom and Zoom) in e-learning can motivate students to read. This is what 82.9% of students surveyed by Anggraeni & Pentury (2020) believe. However, many research papers point to poor reading motivation in the classroom enhanced with technological innovations. Bakla (2020) describes students’ experience using blogs to share their impressions of the book they read. It turned out that the students were not ready for such a demanding job. The author emphasizes that specific tools, such as webcams, require a personalized approach and cannot be effective when used intensively.

An interesting Indonesian case study (Amin & Sundari, 2020) compares the experience of implementing video conferencing (WebEx Meeting), learning management systems (Google Classroom) and mobile apps (WhatsApp) for language learning. Their findings suggest that video conferences have high authenticity and meaningful focus while learning management systems and mobile apps are very convenient, intuitive and applied solutions when learning a language. Yet, the respondents questioned whether they should be used in the future, more specifically in face-to-face learning, and did not give high scores for their positive impact on the learning process. The respondents did not compare the effectiveness of various tools. In the few years after the beginning of the coronavirus pandemic, this younger generation has become accustomed to the online and blended format so much that they perceive it as a completely organic part of the learning process, without which learning cannot be imagined.
6 Conclusion

Research findings suggest that the online course in contemporary American literature designed to improve reader motivation and engagement is effective when implemented in years 5–6. The motivation was assessed according to four criteria: self-esteem, intrinsic motivation, extrinsic motivation, and social reasons. The post-test results demonstrate improvements in self-esteem and intrinsic motivation (by 25%), social motivation (by 23%) and extrinsic motivation (by 4.9%). Student engagement became higher by more than 31%. After completing the reading of 14 modern American novels and related activities, the children demonstrated robust academic achievements, gaining at least half of the possible scores. The best-performing students received the title “Course Superheroes” (41 individuals). Those who were a little behind the leaders, but worked successfully, became the “Course Heroes” (53 persons). Individuals who achieved the average level were designated as “Course Experts” (32 persons). The author’s research expertise may be of interest to instructors, learning platform designers, and educational administrators. These three categories have a significant impact on the motivation and engagement of schoolchildren in reading books. Further research can focus on courses facilitating long-term reading motivation. It can also be a logical continuation of this paper a few years after the respondents complete the course. Furthermore, the research did not cover the issues of motivation and engagement among different age groups, the relationship between the type of school, socio-economic factors within the family and reading motivation among children. These topics were left for further discussion. The role of parental support in reading motivation and engagement among younger children or children with disabilities also seems an interesting topic for further research.

Appendix 1. Reading diary.

| Student’s first and last name | Group number |
|------------------------------|--------------|
| Student’s first and last name | Writing |
| 1.                            | Author |
| 2.                            | Main characters |
| 3.                            | Book Summary |
| 4.                            | Favourite quotes |
| 5.                            | I recommend this book (yes/no) |
| 6.                            | Start Date |
| 7.                            | End Date |

Appendix 2. Reading Motivation Questionnaires

Data Availability Data will be available on request.

Declarations

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Competing Interests This research has no conflict of interests.

Ethics approval The author declares that the work is written with due consideration of ethical standards. The study was conducted in accordance with the ethical principles approved by the Human Experiments Ethics Committee of Yulin University (Protocol No 2 of 12.12.2021).

Informed consent The parents of all the participants gave their written informed consent.

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