An Action Research on the Factors of Chinese Secondary Students' English Reading Character

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Abstract: *Based on the English Reading Literacy Framework for Chinese Primary and Secondary School Students, action research was conducted using questionnaires to measure students' reading character in two middle schools in Dalian, Liaoning Province, China, with a total of 249 middle school students. The results of the study showed that the specific factors (students' behaviors and performances) that the authors hypothesized could be used to assess students' reading habits and reading experiences respectively, were correlated with reading character. And although there were differences in the correlations, the overall inter-school differences were not significant. Thus, the system for assessing reading character in the English reading literacy framework for secondary school students is refined at the practical level.*

Keywords: Reading character; Questionnaire; Empirical Study

1. Introduction

In China, English curriculum emphasizes not only the language, cognitive, and socio-cultural skills required for students to read, but also the basic qualities needed to promote students' whole-person development, such as motivation, attitude, and habit, which are integrated into "reading character" by Wang Qiang and AO Narentuya [1]. In order to develop students' reading character effectively, English teachers need to understand the situation of learners and what specific behaviors and performances will influence it.

A search of core journals and Chinese Social Sciences Citation Index (CSSCI) journals with the theme of "English Reading Character" using China National Knowledge Infrastructure (CNKI) shows that 46 papers on it were published between 2006 and 2023, but only 1-2 papers were published each year before 2017, with a rising trend year by year between 2017 and 2019, reaching a peak of 19 in 2019, and then a fluctuating downward trend. It is clear that due to the insufficient attention to reading character in the teaching process for a long time, and the research started late, there are hardly any cases of investigating students' reading character through scientific research methods.

In this sense, this paper presents a questionnaire to investigate learners' reading character as a scientific tool to assist verifying assumptions and hypotheses systematically, that is, which behaviors and performances of students (independent variables) affect their reading character (dependent variables), and thus teachers can take behaviors to guide students' reading behaviors or improve students' performances accordingly.

2. Method and Procedure

Questionnaire are usually used to collect data on a large scale at the same time, so it is a practicable method for teachers to know students' reading habits and reading experiences. Since that, the authors investigated 249 12-15-year-old students into their reading characters in April, 2023. The whole procedure is presented to demonstrate how such a questionnaire is constructed. Through statistical analyses by SPSS 23.0, the hypotheses formulated before the survey were confirmed and the results inspired some new ideas about what specific behaviors teachers can take to foster development of students' reading character.

2.1 The logic framework of the questionnaire

According to *The English reading literacy framework for Chinese primary and secondary school students* [2], reading character includes reading habits and reading experiences. Reading habits mainly involve three aspects: reading behaviors, reading frequency and reading quantity. Reading experiences refer to the emotional results from reading, including three elements: reading attitude, reading interest and self-assessment. On this basis, several specific questions are developed in each dimension, and all these constructs an interactive framework of the whole, as shown in Table 1. and Table 2. below.

Table 1. The logic framework of the first part of the questionnaire

	Aspects	Questions
Reading habits	While-reading behaviors	Can students reasonably change the speed according to different reading purposes or text types?
		Can students predict on the following content?
		Can students use their established knowledge to help them understand new knowledge?
		Can students guess the meaning of new words according to the context?
	Post-reading behaviors	Do students often communicate and share their gains and experiences with their peers?
		Do students sort out good words and sentences?
		Do students record their gain and comments?
		Do students make reading plans for the next stage?
	Reading frequency	How many times do students read per week?
	Reading Quantity	How long do students spend in reading per week?
		How many words do they usually read per week?

Table 2. The logic framework of the second part of the questionnaire

	Aspects	Questions
Reading experiences	Reading Attitude	Are students willing to use their spare time for extracurricular reading activities?
		Do students read out of interest or academic needs?
		Is there a sense of satisfaction and achievement in students while they are reading?
	Reading Interest	Which types of text do students like?
		Which topics do students like to read?
		What kind of reading environment do students prefer?
	Self-Assessment	Do students want to know their English reading level?
		Are students satisfied with their reading behaviors?
		Do students think they are making progress?
		Do students think it is difficult or easy to read English texts?

Reading habits are mainly reflected in three aspects: reading behaviors (including while-reading behaviors and post-reading behaviors), reading frequency and reading quantity. Developing good reading habits requires encouraging students to use a variety of reading strategies, such as "adapting reading speed to different purposes or text types, predicting, mobilizing available knowledge to assist in understanding new knowledge, and guessing the meaning of new words in context". Besides, students should not only be encouraged to engage in social reading activities to share their reading experiences with peers but also be encouraged to think and record their gains and experiences after they are reading. And a reasonable plan is recommended to be done for the next period. In addition, students should read more frequently and increase their reading.

Reading experience is mainly reflected in three aspects: reading attitude, reading interest and self-assessment. Reading attitudes mainly refer to students' positive and active attitudes toward reading. Research has shown that a good reader is more likely to have a positive attitude toward reading, who is also more likely to take pleasure in pure reading [3]. Another important factor is interest, and the most important thing to stimulate students' intrinsic interest in reading is to allow them to choose their favorite reading material and creating a relaxed reading environment. However, at this stage it is not distinct about concrete behaviors teachers can take. In the pilot test for the questionnaire, a Head of the Teaching and Research Section from investigated school gave the solution (demonstrated in *Pilot test and*

modification). Finally, the ability to self-assess, both in while and post reading, is a quality that an independent reader possesses. Self-assessment includes an assessment of one's own reading ability as well as an assessment of their own effectiveness of reading.

Except for the above questions that can directly reflect the students' reading character, another question "Are students willing to get guide from their teacher on reading?" was set to help teachers determine whether to take more explicit behavior or more implicit guidance.

2.2 Pilot test and modification

The pilot test includes expert evaluation and a pre-investigation to partial respondents. Teachers invited experts in the relevant field to evaluate the content of the questionnaire, especially the questionnaire questions. After that, some of respondents were invited to answer the questionnaire accompanied by an interview. Then the questionnaire was modified according to their feedbacks.

In the process of expert evaluation, Head of the Teaching and Research Section of the tested school was invited, who knows students' situation well. And her suggestion was to add a question about "what kind of reading environment" into the dimension of "reading interest" to help teachers create an atmosphere students prefer to read.

In the process of pre-investigation students also gave valuable feedback in the post interviews, e.g., they focused on different words in the questions while answering, which informs that it is necessary to bold key words in the questions in order to avoid ambiguity, for example:

After reading, I record my gain and comments.

A. Never

B. Seldom

C. Sometimes

D. Often

E. Always

Based on the feedback from the pilot test, the questionnaire was modified and a final version was compiled.

3. Statistical analyses

A total of 249 questionnaires were distributed and 249 questionnaires were collected, 159 in key secondary school and 90 in ordinary secondary school. Four invalid questionnaires (2 from each) were discarded. Finally, 245 valid questionnaires were included in the following data analyses.

Both Reliability analysis and Validity analysis were analysed by SPSS 20.0 in this study. Since single question items could not be analysed for Reliability, reading frequency and reading quantity were combined for the analysis because both reflect whether students are doing enough reading or not, which was also confirmed in the Exploratory Factor Analysis later. As can be seen in Table 3. the Cronbach's α of all variables except reading attitude is higher than 0.7, and the overall coefficient is higher than 0.9. For student-based educational research, the samples are usually grouped in classes, grades or schools, which means the size of each group is usually small, so 0.6 is acceptable.

Table 3. The Reliability Statistics of Scale items

Variables	N of samples	N of Items	Cronbach's α
Reading Attitude	245	3	.609
Reading Frequency and Quantity	245	3	.823
While-reading	245	4	.792
Post-reading	245	4	.881
Self-assessment	245	4	.767
All	245	18	.903

Exploratory Factor Analysis was used to verify the Structural Validity of the questionnaire. First, the suitability of the data for factor analysis was examined by the Kaiser Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity. As shown in Table 4., KMO=0.897>0.8,

Sig=0.00<0.01 indicates that the data are suitable for factor analysis. In the process of the designing of questionnaire, 6 aspects(factors) were determined while each aspect has 3-4 items but reading frequency. Considering that a factor usually contains 3-7 items, the reading frequency solely cannot be seen as a factor. The author chose fixed number of factor extract, in which 5 factors were extracted instead of 6 factors. Table 5. presents the results of Exploratory Factor Analysis.

Table 4. The KMO of Scale items

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.897
Bartlett's Test of Sphericity	Approx. Chi-Square	2010.469
	df	153
	Sig.	.000

Table 5. Exploratory Factor Analysis

Rotated Component Matrix[a]

	Component				
	F1	F2	F3	F4	F5
post-reading3	**.847**	.081	.229	.158	.065
post-reading2	**.818**	.154	.193	.191	.048
post-reading4	**.809**	.141	.133	.198	.077
post-reading1	**.718**	.211	.097	.205	.167
while-reading3	.052	**.792**	.335	.087	-.066
while-reading1	.078	**.766**	-.082	.223	.299
while-reading4	.202	**.693**	.312	.062	-.064
while-reading2	.302	**.652**	.217	.160	.076
assessment1	.091	.146	**.753**	.292	.177
assessment3	.167	.310	**.696**	.211	.116
assessment2	.349	.122	**.649**	.291	.106
assessment4	.180	.281	**.482**	-.021	.164
words	.167	.122	.225	**.827**	.068
time	.283	.137	.150	**.767**	.164
times	.395	.240	.247	**.656**	.093
pure reading	-.048	.011	.025	.045	**.830**
feelings	.268	.030	.424	.131	**.639**
willingness	.247	.139	.245	.162	**.534**

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
[a]Rotation converged in 6 iterations.

As can be seen from the above, the Reliability of the Scale items is up to standard and excellent, and the factor structure obtained by Exploratory Factor Analysis fits with the initial theoretical framework, which shows a good Structural Validity. Therefore, to some extent, the data collected by this questionnaire is stable and true.

4. Results and discussion

Based on the analyses in *Correlation Analyses*, the correlations between each item of students' performance and reading character level were calculated as shown in Table 6. and the difference between two schools is not significant (p=0.48>0.05).

In fact, with a few exceptions, correlation coefficient in foreign language teaching research is generally not high. Low correlation here does not mean unimportant. Because there are many factors that influence reading character development and the questionnaire only addresses variables in which teachers can take actions and not necessarily the most important ones, it is understandable that relatively low correlations occur [4]. As Hatch and Lazaraton [5] argued, correlation coefficients of less than 0.3 are common in the field of educational research, and such correlation coefficients may not seem high, but may still be important. Like Reading Attitude2 (r=0.284**), as discussed in *the logic framework of the questionnaire*, it is still an important part of reading character. Therefore, the results of questionnaire can reflect the overall reading character level of students.

However, if teachers want to determine future instructional directions, it is not convincing to merely

rely on correlations, because there may be a situation where students have already performed well in some aspects. If so, teachers just need to keep acting on their previous instructions. Instead, those items with high "r" value and low overall performance (according to the values of Average, Median and Mode) are the ones that need to be paid attention to and take actions accordingly.

Table 6. Correlations between every Item and Total Score of reading character

Items	avg	med	mo	SD	Correlations(r)
Reading Attitude1	4.36	5	5	0.84	.531**
Reading Attitude2	3.69	4	4	1.12	.284**
Reading Attitude3	3.98	4	5	1.06	.603**
Reading Frequency	**2.97**	**2**	**2**	**1.22**	**.748****
Reading Quantity1	3.27	4	4	1.22	.662**
Reading Quantity2	3.21	4	4	1.19	.632**
While-Reading1	3.25	3	3	1.13	.532**
While-Reading2	3.38	3	3	1.10	.650**
While-Reading3	3.98	4	5	1.03	.557**
While-Reading4	3.90	4	4	1.03	.572**
Post-Reading1	**2.58**	**2**	**2**	**1.16**	**.672****
Post-Reading2	**2.51**	**2**	**2**	**1.16**	**.711****
Post-Reading3	**2.39**	**2**	**2**	**1.20**	**.697****
Post-Reading4	**2.51**	**2**	**3**	**1.23**	**.687****
Self-Assesment1	3.67	4	4	1.05	.647**
Self-Assesment2	3.52	4	4	1.03	.708**
Self-Assesment3	4.00	4	4	0.84	.676**
Self-Assesment4	4.24	4	5	0.84	.489**

*$p < 0.05$ ** $p < 0.01$

In the case that Median(med) and Mode(mo) are similar to Average(avg), items with $r > 0.5$, $avg < 3$ (neutral option) are worth to be considered as a priority instructional direction, items with $0.5 > r > 0.3$, $avg < 3$ as a secondary direction, and items with $r < 0.3$ or $avg > 3$ are not recommended for additional instructional interventions at the current stage. While med and mo are not similar to the avg, teachers need to evaluate the students' performance according to their daily performance before making a decision.

In addition, the items of the "reading interest" were not included in the correlation analyses. Teachers can improve their future reading instruction directly based on students' answers. For example, in "Which types of text do students like?", if the answers focus on "Narration", teachers can select more narrative texts with different themes and topics as reading materials to develop students' reading interest.

For the question "Are students willing to get guide from their teacher on reading?", teachers can choose the way of instructional interventions based on its descriptive statistics. If the avg are similar to the med and mo and greater than 3, it is recommended that the teacher take an explicit way to intervene, otherwise an implicit way may be a better approach. After calculation, the avg is greater than 3 and similar to med and mo. Therefore, it is recommended that teachers in these two schools appropriately adopt explicit instructional interventions when teaching reading.

This paper expects that EFL teachers will reshape their cognition from partial, superficial understanding into reasonable, comprehensive insights about learner's existing reading character and so ensure to make informed decisions to improve their teaching of EFL reading. Therefore, the items shown in bold in Table 6. should be the priority instructional directions, according to which English teachers from the two schools are suggested to take actions.

Out of consideration for the reading character development goals of 13-14-year-old Chinese students [2], specific actions advised are:

For the reading frequency, teachers can organize Sustained Silent Reading activity 3-4 times per week. In addition, with reference to students' reading preferences as presented through the answers of the questions on reading interest, teachers can also arrange a rich variety of text types and proper reading environments.

To help students develop better habits after English reading, teachers can provide a discussion time for them to share their opinions with peers, during which students can also seek help from the teacher. Teachers can encourage them to collect and share good words and phrases, to write down and express their feelings and gains, e.g., teacher can ask "*What inspired you about the main character's participation*

in environmental activities through this reading?" etc. Besides, after a stage of reading activities, teachers can instruct students to do a summary and then make a plan for the next stage of reading, which may include different aspects of reading capability and reading character. For example, "*After one week of reading, next week I will read at least 4 times (reading frequency) and reach a word count of about 2000 words (reading volume). The topics can be: Chinese and foreign table manners (cultural awareness), and after reading I will summarize the similarities and differences among different countries (reading comprehension)* ...etc.

5. Conclusion

The results presented in this study are also the starting for new research. Since *The English reading literacy framework for Chinese primary and secondary school students* was proposed, English teachers have been actively engaged in teaching practices under the guidance of theories to enhance students' English reading literacy. After clarifying why, what, and how to teach, teachers are concerned with the question of "how well" they teach. Therefore, the assessment system corresponding to the English reading literacy system needs to be developed. In China, the traditional means of evaluating English language teaching are mainly exams, so assessment of students' reading ability has a certain practical basis. Therefore, this paper focuses on the development and assessment of English reading character questionnaires in order to provide an effective tool for teachers. Accordingly, the hypotheses are formulated and some suggestions for teachers are given such as providing a relaxing environment for students to read and communicate, guiding students to make reading plans, etc.

Note

A series of English graded readers is a set of English graded readers developed by the Foreign Language Teaching and Research Press and GES New Zealand.

Acknowledgement

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