How a Digitally Enabled Library Affects the Reading Habits and Skills of High School Pupils

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ABSTRACT

The major goal of this study was to determine the impact of four critical school library elements on students' visits to the library, reading habits, and reading comprehension proficiency based on gender and school type. As a sample, the study included 336 pupils from 36 schools in South Sumatra. In this investigation, three instruments were employed. Twelve schools of each kind received a questionnaire regarding the availability of libraries. The pupils were given a reading habit questionnaire and a reading comprehension exam. The results show that the factors of school libraries (total) are significantly correlated with students' library visits (p<0.000) and with reading comprehension achievement (p<0.01); the contributions of which are 43% and 23.1% respectively. When students' reading habit and reading comprehension achievement were compared in terms of gender and types of school, the results show that there is no significant difference in reading comprehension achievement between males and females (p<0.095). However, there is a significant difference in their reading attitude and habit (p<0.000). This difference is strongly shown by those students from type B schools with girls having stronger attitude toward and habit of reading. The value of each finding of the study is discussed in relation to the development plan of both school libraries and literacy of the younger generation in South Sumatra. It is concluded that (1) The availability of key library features, such as the purchase or acquisition of current and relevant library materials, adequate service hours, and the availability of information and communication technology (ICT), has an impact on library use; (2) Senior High Schools (SMA) pupils in South Sumatra still have poor reading attitudes, habits, and achievement; (3) Despite having roughly equal reading achievement, males and females have very different reading attitudes and habits; (4) students from schools with accreditation of A have much higher reading achievement than students from schools with accreditation of B or C.

Keywords: School library; library visits; attitude toward reading; reading habit; reading achievement; gender.

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1. INTRODUCTION

Technology has a great impact on the field of education including in TEFL. The use of Internet/ICT in EFL learning, for example, may help students improve their language skills, especially reading comprehension [1], empower, and motivate them to effectively learn all subjects in the classroom [2]. A library as a collection of books, periodicals, or any other sources of media literacy are accessible for use to support learning activities and not just for display purposes [3]. The studies' various findings have even caused educational communities, including those in Indonesia, to recognize the value of libraries and consistently position libraries as the center of teaching and learning at all levels of education, particularly in relation to reading attitude, interest, and habit, and learning to increase academic achievement of students in all fields of study, including the field of reading itself. According to the 1945 Constitution of the Republic of Indonesia [4], libraries are to be used as tools for lifelong learning in order to help Indonesians develop their minds. This will enable them to become obedient and God-fearing humans, with noble character, good health, learned scientific mastery, capability, creativity, and autonomy, as well as democratic citizens responsible for advancing the implementation of national education.

In line with that, the Indonesian Act No. 43 of the Year 2007 about library [5], among others, also states that the society is also responsible for keeping and maintaining the conservation of library collection and supporting the efforts to provide the facilities for library services in their surroundings. Besides that, the government is also responsible for ensuring (1) sustainability of the establishment and the management of libraries as learning resource centers for the people, (2) availability of the equally distributed services, (3) availability of various kinds of collections, and encouraging the promotion of fondness of reading and use of libraries. Since the Middle Ages up until the present, it has been widely accepted that the existence of libraries, including school libraries, continues to be a strong indicator in improving the position of its parent educational institution so that it can play its role and function well. This is characterized, among other things, by ownership of an accredited status of at least on the national level, if not international one. Numerous studies show that one of the true roles and functions of libraries is to provide access services for a variety of information resources that are pertinent to user needs, including, among others, collections, ownership of information and communication technology, and provision of enough service time. According to Newmann et al. [6] the availability of access services has given positive effects towards the development of students' reading and writing skills which is believed to be the basic capital for learning and acquiring skills in various other fields of studies. Moreover, it is also believed that this availability of access will affect willingness of the school community to visit and use available services. The problem is that, in South Sumatra itself, there have been only 30% of high school libraries which satisfy national standard. The rest are still very lamentable and although there is similarity in terms of budget allocation, which is also far from sufficient, there is still discrepancy in managing and placing priority in having the libraries function in accordance with learning necessities Alwi et al. [7] including in promoting

reading habit. In fact, this is in harmony with what was revealed by Sangkaeo [8] that there are still many old and young people in our society who have not acquired access for reading activities and reading programs, besides there are people who are able to read but do not read because they have no desire to read. This may explain why reading habit of Indonesian people is very low. For example, Diem et al. [9] revealed that reading skills of Senior High School (*SMA*) students in Palembang was still low. Therefore, this study is intended to see whether or not the attitude of willing to read and the habit of reading which is characterized by library visits is caused by various factors of library facilities which are sub-variables of this study. Obviously, based on both the two previously quoted Indonesian acts and various results of previous studies which can be referred to, this study is basically intended to see the influence of four important features of school libraries, such as: ICT devices, collection size, length of service-time, and acquisition and addition of collection per year on (1) students' visits to the library, (2) reading attitude and habit, and (3) their reading achievement. Another important objective is to find out whether or not there is a significant discrepancy between male and female visitors/users in terms of reading attitude and habit and their reading achievement. The reason for re-studying this aspect in this study is due to the existence of inconsistency in the results of the previous study in relation to certain variables; on the one hand there was a study which found that boys were more superior than girls in mathematics [10], while on the other hand the opposite was true that girls were more superior in using learning strategies [11], and there was still another researcher who found that there was no difference in reading achievement between males and females [12].

2. METHODOLOGY

As a whole the sample of this study consists of 306 users of libraries: 102 students of Senior High Schools (51 girls and 51 boys) from each type of school (namely 36 schools which are accredited A, B, and C) in South Sumatra. Data collection was conducted by means of a questionnaire and a test. To obtain information about the availability of school libraries, four questions related to the purposes of the study are given to 36 school librarians involved. The questionnaire about reading attitude and habit entitled *Questionnaire of Reading Interest and Habit* consists of 14 items with reliability level of .89 and the test of reading comprehension consists of 5 stories adopted from Burns and Roe [13] with level of reading comprehension starting from level 8 up to level 12. Each story is provided with 10 items of varying types of questions, namely *main idea, detail, cause and effect, sequence, inference,* and *vocabulary.*

Both *Questionnaire of Reading Interest and Habit* and *Reading Comprehension Test* are given to 102 randomly and purposively chosen library visitors of each type of school (Type A, Type B, Type C) who have visited the library at least 4 times per semester. These students are then determined as the respondents of this study. The numbers of male and female library visitors who become the respondents representing each type of school are equal. Finally, to see inter-variable relationship, all of the acquired data are analyzed by using correlation

technique of *Pearson Product Moment and Regression* and or *T-test* to see the difference between males and females.

3. RESULTS

3.1 Features of Library and Library Visit

The result of statistical analysis shows that the four features of school libraries as a whole significantly correlate with the students' visit to the library (R = 0.656; F = 8.664; Sig F = 0.000). The contribution of which is 43% (R^2 = 0.430). However, when each of the four features of school libraries is viewed individually, the number of collections does not significantly correlate with the frequency of library visit (p<0.114). The rests, such as ICT devices (p<0.02), service-time (length) (p<0.01), and the acquisition/addition of the relevant and new books per year (p<0.009) are correlated significantly.

3.2 Features of Library and Reading Attitude and Habit

The result of data analysis indicates that there is no significant relationship between the four features of school libraries on reading attitude and habit of the students (R = 0.209; R^2 = 0.044; F-count = 0.528; Sig F = 0.716)

3.3 Features of Library and Reading Achievement

The result of data analysis shows that there is a significant correlation between the availability of the Features of School Library and the Achievement of Reading Comprehension of the students (R = 0.480; R^2 = 0.231; F-count = 3.447; Sig F = 0.015). In other words, element of school library positively contributes to reading achievement as much as 23.1%.

3.4 Difference of Reading Attitude and Habit Based on Gender

To find out whether or not there is a difference between males and females in relation to reading attitude and habit, an analysis by considering mean difference as a whole is conducted (N=306). It is found that the value of female mean = 72.68 is far over male mean which is only 66.67. This difference is very significant with the value of T- test = -3.814 and the level of significance p<0.000. However, when gender is seen at each type of school, there is no difference of reading attitude and habit of male students and female students who come from the accredited A school (female mean = 72.65; male mean = 68.63 with T-count = -1.425, p<0.160) and also from the schools accredited C (female mean = 69.62; male mean = 65.88; T-count = -1.275, p<0.208). However, it is interesting to be presented here that at the accredited B schools, the value of female mean is 75.88 and the value of male mean is 65.49 with the value of T = -4.230 and the value of probability = p<0.000). Based on the aforementioned description, the question whether or not there is an influence of gender on the variable of *reading attitude and habit*, it can be concluded that there is a significant influence, with R = 0.213, R^2 = 0.045, F-count = 14.476, and Sig F = p<0.000.

3.5 Difference of Students' Reading Achievement Based on Gender

As a whole (N=306) there is no significant difference of reading achievement between female and male students, although it is quite notable that mean of female students' reading achievement (=49.05) is over that of the male students (=46.67) with the value of T = -1.680 and $p < 0.095$.

3.6 The Score of Reading Attitude and Habit and the Score of Reading Achievement Based on Type of School

When the students' reading attitude and habit and the score of their reading achievement are viewed in connection with their respective Type of School, the scores acquired by the students in these two variables are as follows. In Table 1, it can be seen that the reading attitude and habit of the students can only be categorized as *mediocre*. None of them has a *good* or *very good* reading attitude and habit. When viewed from the aspect of reading achievement, the results are still in the interval of low and mediocre categories. And only the students from the schools of type A who belong to mediocre category.

Table 1. Scores of reading attitude and habit and reading achievement

No	School Types	Reading Attitude and Habit	Reading Achievement
1	School Accredited A	70.64	61.16
2	School Accredited B	70.69	39.53
3	School Accredited C	67.77	42.84

Furthermore, the statistical analysis which compare students' achievement at the three types of schools also shows that the achievement of students from the schools of type A is better than that of the students from the schools of type B (T = 11.431, df 101, $p < 0.000$) or from the schools of type C ($p < 0.000$). However, it is interesting to study here, the fact that the achievement of the students from the schools of type C is better than that of those students from the schools of type B (T = 1.972; $p < 0.05$).

4. DISCUSSION

The existence of positive and significant correlation between the availability of the combined four important features of school libraries and the frequency of student visits to the libraries indicates that there are some factors which encourage the students to visit and use their school libraries. The factors which contribute to the increasing frequency of visit and use of the school libraries by the students are the following: acquisition of new and varied collection per year, length of service-time, and the provision of ICT devices by school libraries. This is understandable because the routine addition of relevant and updated collection can be an attraction for those who are really fond of reading. This is also proved by the absence of a significant correlation between mere number of books and students' library visit. The number of books does not guarantee usage of those books by the students, especially if the existing books only consist of package

books and or books which are outdated and irrelevant with the need of the students.

In addition to that, sufficient length of service-time or operational hours which is not limited only during teaching and learning process taking place, but also before and after school hours can encourage children to come to the library and use its collection, at least to be borrowed and taken home.

Moreover, with the provision of ICT devices to access reading materials from virtual world, which now is a must, it is impossible to buy all new books which are relevant with the students' needs. Therefore, with the availability of the internet access, the students can visit any libraries they want to obtain the information they need for their studies.

Low-reading interest and habit of the students may also be caused by lack of relevant and updated collections in the school libraries and or lack of promotion by the school- librarians. This attitude and habit may also contribute to the poor reading achievement of the students being studied.

The existence of significant correlation and contribution from three features of school libraries with students' reading achievement shows that length of service-time, the availability of internet access (ICT), and routine acquisition of new and relevant books have contributed to the high-reading achievement of the students, although the achievement has not been satisfactory.

PEW Research Center [14] reported that the use of internet had arisen and grown among teenagers of 13 to 17 years old during 2014-15 and in 2022 they even found that nearly all teens had access to a smartphone. The massive use of social media in this era provides potential for anyone to study or to do business independently due to internet technology which has facilitated and motivated them to access materials to read and learn both inside and outside classroom [15].

When this achievement is associated with school accreditation, it is understandable if the school which is accredited A produces students whose reading comprehension grades are higher than those of the students from the schools of type B or C, because to get the status of accredited A, a school must satisfy some requirements which, among others, is possessing sufficient library collection and professional librarians who are able to have routine acquisition of books and are able to provide good library services. This finding is in accordance with the finding of Rodney et al. [16] that the students with the highest achievement are those from the schools whose library quality is good which is measured from the ownership aspects of variety of information sources, employing professional staff, and their relevance with the curriculum. Furthermore, the existence of a significant difference between reading attitude and habit of the students based on gender as a whole (N = 306) and after being viewed in each type of school (N = 102), the significance seems to exist at the schools accredited B. Both as a whole and at the school of type B, female

students excel male students. This may be explained by the fact that in many aspects females are more superior than males. For example, the study by Ihsan and Diem [11] also found that female university students excelled male university students in their learning styles and in using learning strategies (learning strategies: compensation).

On the other hand, the absence of a significant difference between reading achievement of female students and that of male students shows that although female students excel male students in reading attitude and habit, it is found that the capacity of these two sexes to absorb lessons is the same. This finding may give us a warning that there is a possibility in the future female students will far excel male students if they get more opportunities and more time to study than male students. Why so? This is so probably because the burden of female children in South Sumatra seems to be heavier than that of male children. Almost every student who, became a respondent in this study, especially those who came from upcountry, when asked what their activities after school were, most of them answered "helping parents" doing such work as cooking and or babysitting their younger siblings. Although statistically there is no evidence that female students are more superior in reading achievement than male students, at a glance it can be observed that the mean score obtained by female students seems to indicate that female students are more superior than male students in reading achievement, and this occurs at all types of schools. This finding enhances the finding of the study by Sapienza [10] who studied children in 40 countries whose result states that there is a globalized pattern that male children excel in mathematics, while female children are far more superior in the field of reading. This finding surely needs further study to be able to ensure us. It needs an empirical verification.

5. CONCLUSIONS AND SUGGESTIONS

5.1 Conclusions

Based on the result and the aforementioned description, it can be concluded that: (1) the use of libraries is influenced by the existence of important features of libraries such as acquisition or procurement of library materials which are relevant and updated, sufficient length of service-time, and the provision of information and communication technology (ICT); (2) reading attitude, reading habit, and reading achievement of the students of Senior High Schools (*SMA*) in South Sumatra is still low; (3) there is a significant difference between males and females in regard to reading attitude and habit, although both have more or less the same achievement in reading; (4) the students from the schools accredited A, have far better achievement in reading compared to the students who come from the schools accredited B or C.

5.2 Suggestions

Based on the conclusions above, there are some suggestions which can be proposed to the Government of South Sumatra Province through the Provincial

Office of Education, among others are as follows: (1) to supervise the quality of school library services, especially the currency and variety of library collection, including the facilities for information searching, such as the internet access with all its facilities; (2) to encourage the formation of attitude of fond of visiting libraries and reading by establishing a collaboration between teachers and librarians who link classroom activities with the activities of information searching and reading in the libraries; (3) to make it compulsory for the school teachers to continue using variety of teaching materials, sufficient exercises, and various learning techniques which are interesting in accordance with students' needs both for male and female students; (4) to encourage school administrators to compete in order to achieve the best status so that it triggers their students to study hard to get better achievement in reading and at the same time to make it as a capital for improving the achievement in various other subjects.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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