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# **Meta-analysis of Reading Abilities Factors**

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**Abstract:** Reading activity is an active process that requires a continuous process of understanding, evaluation, and interpretation of a message. This process involves a combination of several skills such as linguistic skills, cognitive skills and meta-cognitive skills that help the process of understanding and evaluation can be done continuously. Reading ability, on the other hand, involves the level of competence, skill, or ability of students. This level of reading ability depends on the competency of the student to understand or respond to the reading material. Nevertheless, it is undeniable that there are many factors that influence a student's reading ability. Therefore, this paper will perform a meta-analysis by using literature review to collect information related to students' reading ability factors. The literature review involved reading and collecting relevant materials or resources in written form such as journals and past studies by scholars from many countries. Therefore, only 44 articles from 2016-2021 with relevant and significant information related to reading ability factors were selected. The results obtained can help researchers mastering the factors of reading ability in more depth. After an in-depth analysis, there are four factors of reading ability that have been identified which is family factor, teacher factor, school factor and students' factor.

Keywords: Reading, Reading Literacy, Reading Ability, Factors of Reading Ability

#### 1. Introduction

Literacy is a common issue in education today. Literacy considered as a driver to sustainable development that will open greater opportunities in the labor market, improve family health levels, reduce poverty rates, and increase opportunities in life. (UNESCO, 2019). Literacy also known as letter recognition which places emphasis on students' ability to master important skills such as reading, writing, listening and speaking skills as well as understanding speech or writing (Mohd Asnorhisham Adam & Abdul Rahim Hamdan, 2017). Fong (2015) agreed that literacy is the main foundation in the learning process from the lower to higher levels. Literacy is very important in developing the full potential of an individual to become a better human resource.

Students are expected to lead a better, beneficial life and contribute to their community. Literacy involving continuous learning will help students achieve their goals, develop knowledge and potential, and be able to fully engage in society (Jupri Bacotang, 2019). Literacy skills also can help students master the 21st century skills needed to meet the challenges ahead (Mohd Asnorhisham Adam & Abdul Rahim Hamdan, 2017). Due to the importance of the role of literacy, that skill become the main agenda of almost every country in the world. These important skills have been given due emphasis so that all students have been able to master since they were in primary school. That is very important because it is almost impossible for a student to be able to perform well in education and subsequently put themselves in society without mastering literacy skill.

#### 2. Problem Statement

In Malaysia, there are 5041631 students attending school and it is a huge number of population (KPM, 2021). Although it has been the intention of Ministry of Education (MOE) to provide the best education to all students in Malaysia, but it is undeniable that this dream is still not fulfilled yet. The findings obtained from the 2017 Annual Report of the Malaysian Education Development Plan (PPPM) 2013-2025 have proven that there is still a significant gap between the achievements of urban and rural students in the Primary School Assessment Test (UPSR) and the Malaysian Certificate of Education (SPM) (KPM, 2018b). The current discussion on Symposium on Operationalizing the 2030 Agenda for Sustainable Development entitled EDUCATION 2030: Challenges and Implementation had also shown that MOE's

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intention to ensure that a 100% literacy rate in Malaysia is still not happened yet. MOE is currently targeting that by 2030, all teenagers, both male, and female in Malaysia will be able to master 100% literacy and numeracy (KPM, 2016).

The issue of reading literacy is also not an issue that occurs in Malaysia alone, but is a global issue that requires serious attention from all parties (Nawas, 2019) The existence of the Progress in International Reading Literacy Study (PIRLS) and the Program for International Student Assessment (PISA), an international assessment to identify the level of reading literacy of countries in the world prove that this problem also occurring in other countries. Data obtained from 2018 PISA reading literacy that has been administered to Form 3 students in Malaysia is also still unsatisfactory. Malaysia scored only 415 for reading literacy and ranked 57th out of 77 countries participating in the assessment. The score also still did not reach the OECD average score standard of 487 (KPM, 2018a). This result shown that there are still many students who are unable to master reading literacy well.

Reading is one of the most important skills for human life (Pitoyo, 2020). Reading is an active process that requires continuous understanding, evaluation and interpretation of messages to enable students understand the reading materials (Metsäpelto et al., 2017). This process involves a combination of several skills such as linguistic skills, cognitive skills and meta-cognitive skills that can help the process of understanding and evaluation. The level of reading abilities also depends on the competence or ability of the student themselves to understand or respond to the reading materials. Reading skills are also an important skill (Musfiroh & Listyorini, 2016) that will be used throughout life and will affect a person's career. Schaar, Lapasau and Fang (2013) also agreed that "a person who reads regularly has almost unlimited opportunities for career and personal growth in today's information technology world" (p. 115). Students who mastering reading skills will also indirectly be able to master other important skills such as writing skills (St Clair-Thompson et al., 2018), listening and speaking skills (Kennedy et al., 2012) as well as excelling in science and mathematics (Imam, 2016). They will also indirectly demonstrate good achievements in academic (Hanemann, 2015) and have better critical thinking skills (Palani, 2012).

There were many researchers who tried to dismantle the real problem of reading abilities of students either theoretically or empirically. However, many studies focused on internals' factor such as cognitive elements. There is no denying that cognitive elements also influence the student's reading ability factors, but external factors still contribute to this problem. Jaeger (2017) in his study pointed out that internal factors especially cognitive aspects are not able to provide the necessary overview in dismantling reading abilities. This is because, external factors such as parental involvement at home (Dawkins, 2017), the influence of schools such as lack of infrastructure (Sukasni & Efendy, 2017) and the student factor itself (Chen et al., 2019) also presided over the reading ability factors. Past studies have tried to identify the association between reading and student motivation (Baki, 2018) teacher quality (Rosser, 2018), and gender as an indicator that influences reading abilities (Molla et al., 2020). There are also studies that try to associate students' reading abilities with family factors such as family socioeconomic levels (Nawas, 2019) the level of parents' education (Aditomo & Hasugian, 2018) and early literacy activities such as reading storybook to children before they go to bed. This study was conducted to identify the factors that influence students' reading abilities in greater depth.

### 3. Methodology

A meta-analysis used to gather all of information based on the factors of students' reading abilities. The method of extinction involves reading and gathering relevant materials or resources in written form such as journals and past studies by scholars. Researchers have also selected significant and relevant articles related to past studies by many scholars for more detailed analysis. Appropriate articles are also carefully selected using only articles published in 2016-2021 to ensure that the data obtained remains relevant. Therefore, only articles published in the last five years are used for analysis in this study.

44 articles were used in this study. The article was obtained from several countries such as Indonesia, China, United State of America, and many more. The selection of articles from overseas scholars is to ensure that the data obtained is more extensive and detailed. The findings proven that this issue is a global issue and does not only occur in Malaysia. Table 1 below shows the article based on the countries involved.

Table 1 - Articles related to reading ability factors based on the country involved.

Country	Total	Researcher
USA	5	(Dawkins, 2017; Meng et al., 2017; Resilla, 2018; Shin et al., 2017; Springer et al., 2017)
China	5	(Chen & Hu, 2018; Cheung et al., 2016; 2019; Lam et al., 2016; Meng et al., 2017)
Estonia	1	(Kikas et al., 2018)
Ethiopia	1	(Molla et al., 2020)
Philippines	1	(Imam, 2016)
Finland	1	(Metsäpelto et al., 2017)
Hong Kong	1	(Li et al., 2016)

Indonesia	8	(Aditomo & Hasugian, 2018; Dafit et al., 2020; Musfiroh & Listyorini, 2016; Nawas, 2019; Nugrahanto & Zuchdi, 2018; Pitoyo, 2020; Sufriadi, 2016)	
Italy	1	(Giambona & Porcu, 2018)	
Germany	1	(Noor Zuhidayah Muhd Zulkifli & Siti Saniah Abu Bakar, 2016)	
Korea	1	(Shin et al., 2017)	
Malaysia	14	(Che Nidzam Che Ahmad et al., 2016; Juwairiah Osman et al., 2018; Layang Ugek & Jamaludin Badusah, 2018; Mahzan Arshad & Sook Ching, 2017; Melissa Edora Sanu & Rathakrishnan, 2018; Mohamad Isa Azis et al., 2019; Mohd Asnorhisham Adam & Abdul Rahim Hamdan, 2017; Muhammad Wafi Ramli et al., 2019; Nancy Anak Gumbang & Zamri Mahamod, 2017; Nor Junainah Mohd Isa et al., 2019; Nurulhusna Abdul Malek, 2017; Rohayati Junaidi et al., 2018; Wan Nurzuliana Wan Ahmad, 2019)	
Singapore	1	(Dong & Hu, 2019)	
Taiwan	1	(Cheng & Kaplowitz, 2016)	
Thailand	1	(Kusom Yamirudeng & Zulkifli Osman, 2019)	
Turkey	1	(Baki, 2018)	

# 4. Findings

After a detailed analysis is carried out, there are no denying that there are many factors that affect the ability to read students. Among them, there are studies that link the family factor, teacher factor, school factor and student factor. Figure 1 below shows a meta-analysis of students' reading abilities factors

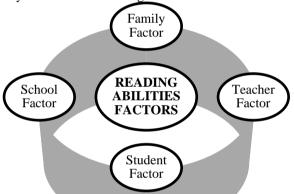


Fig. 1 - Findings of meta-analysis reading abilities factors.

# 4.1 Family Factor

The results of the analysis found that family is an important element that required in development of children especially in education related to reading literacy directly or indirectly (Dong & Hu, 2019; Molla et al., 2020; Nawas, 2019). Nurulhusna Abdul Malek (2017) founded that there is a significant relationship between parental involvement in the aspect of language in reading skills with language development, communication, and early literacy. This study supported findings from Nafiseh Zarei & Joseph (2019) which found that parents also play an important role in educating their children with good values such as reading habits. As parents, they should provide a conducive learning environment and always strive to provide quality, interesting and tailored reading materials to suit their children's interests. The practice of reading storybook to children before bedtime is one of a good habit to implement in everyday life.

Molla et al. (2020) have described the association between the socio-economic level of families, family size and education levels as well as parents' involvement in children's literacy achievements. Based on that study, it was found that large family sizes have negative impact on children's learning achievement because parents are unable to provide a better learning environment for their children. Socio-economic level of the family also used as a benchmark for achievement and reading abilities of students as it can predict the ability of parents to provide learning resources to their children (Cheng & Kaplowitz, 2016). This study shown that parents with a high socio-economic level and well educated always support and engage in their children's learning so that their children are able to achieve excellent success. Nawas (2019) shown that students from poor and moderate families incapable to perform better in reading literacy. His study shown that children from a highly educated parent had a higher score compared to students from parents who are poorly educated and do not finish primary school.

Students from parents who are illiterate or have low levels of education also receive less educational support from their families. Poorly educated parents do not provide encouragement to improve attainment, do not help in completing homework, lack of school-related questions and do not attend school events as a sign of support for their children. This

is because, the poor cannot adequately enjoy the basic necessities and cannot meet the needs of places, health, food, and lessons thus affecting the lives of their children (Melissa Edora Sanu & Rathakrishnan, 2018). Rural poverty is also often associated with fishermen and farmers as their income is only half of the poverty line income (Muhammad Wafi Ramli et al., 2019) This is different from high-income families who always do reading activities together at home and provide the necessary reading resources. They also took the time to train their children and pay attention to early literacy activities so that their children could master literacy well (Molla et al., 2020).

The Table 2 below shown indicators tested by previous researchers regarding family factors.

Table 2 - Meta-analysis of indicators related to family factor.

Number	Indicator	Reseacher
1	Socio-Economic	(Dong & Hu, 2019; Melissa Edora Sanu & Rathakrishnan, 2018; Molla et al., 2020;
	Level of The	Muhammad Wafi Ramli et al., 2019; Nawas, 2019; Nugrahanto & Zuchdi, 2018;
	Family	Resilla, 2018; Wan Nurzuliana Wan Ahmad, 2019)
2	Parents' Level of	(Kikas et al., 2018; Molla et al., 2020; Muhammad Wafi Ramli et al., 2019; Nawas,
	Education	2019; Nugrahanto & Zuchdi, 2018; Nurulhusna Abdul Malek, 2017; Sufriadi, 2016)
3	Parental	(Cheng & Kaplowitz, 2016; Cheung et al., 2016; Dawkins, 2017; Dong & Hu, 2019;
	Involvement	Lam et al., 2016; Layang Ugek & Jamaludin Badusah, 2018; Molla et al., 2020;
		Muhammad Wafi Ramli et al., 2019; Nafiseh Zarei & Joseph, 2019; Sufriadi, 2016)
4	Family Size	(Molla et al., 2020)
5	Learning	(Aditomo & Hasugian, 2018; Cheng & Kaplowitz, 2016; Cheung et al., 2016; Dong
	Environment	& Hu, 2019; Lam et al., 2016; Nafiseh Zarei & Joseph, 2019; Rohayati Junaidi et al.,
		2018)
6	Focus on Early	(Aditomo & Hasugian, 2018; Dong & Hu, 2019; Lam et al., 2016; Layang Ugek &
	Literacy	Jamaludin Badusah, 2018; Metsäpelto et al., 2017; Rohayati Junaidi et al., 2018)

### 4.2 Teacher Factor

The competency and quality of teachers have also been used as indicators to measure students' reading abilities. According to Wan Nurzuliana Wan Ahmad (2019), the process of teaching and learning in 21st century is in dire need of teachers who are always ready and willing to go through all the changes or transformations in education. Teachers should be able to provide students with all the necessary teaching content to ensure all of them enable to mastery reading literacy. A quality teacher should have abilities in teaching and learning process, have a high level of trust in what is taught to their students and have adequate knowledge of the contents. Teachers should always be aware and believe that each student has different learning styles according to their interests and abilities (Juwairiah Osman et al., 2018). This is because, good teachers are not only necessary to have academic qualifications but also qualify with other elements such as experience and variety of teaching methods.

The way teachers implement the process of teaching and learning in the classroom will also determinant the students' reading abilities and achievements. The heterogeneous diversity of students' ability required different approaches and diverse strategies (Mohd Asnorhisham Adam & Abdul Rahim Hamdan, 2017). Therefore, teachers need to choose suitable strategies and methods to help their students achieve better in proficiency especially in language learning (Noor Zuhidayah Muhd Zulkifli & Siti Saniah Abu Bakar, 2016). The suitability of approaches and methods need to be aligned and suitable for the students, the environment and needs. If a teacher uses only one teaching method, the student may become bored and not enjoy attending teaching and learning sessions. As we know, the teaching and learning process is very closely related to the wisdom of a teacher to determine the objectives and contents of the teaching (Layang Ugek & Jamaludin Badusah, 2018). So, teachers suggested to differentiate teaching methods, deepen the contents of teaching and provide interesting teaching aids (Wan Nurzuliana Wan Ahmad, 2019).

Teacher also play an important role in providing significant and effective learning experiences to their students because teachers are one of the factors that determine the success and failure of students' learning (Che Nidzam Che Ahmad et al., 2016). So, teachers need to be more creative and innovative in learning and teaching and try to use variety of suitable teaching aids. Studies proven that teachers who use teaching materials can improve students' language skills especially in reading skills, writing skills, oral skills and vocabulary mastery (Kusom Yamirudeng & Zulkifli Osman, 2019). The study of Mahzan Arshad and Sook Ching (2017) founded that students enjoy less during the teaching and learning process of reading due to weaknesses in teachers' teaching and learning session. Teachers should be aware that early reading learning for children should use fun methods that can stimulate their various senses.

In addition, the relationship between the teacher and the student also an indicator measured to identify the reading abilities of the student. Meng et al. (2017) shown that morality need to obtain information that teachers provide to their students while in the classroom and outside the classroom. Good observability between teachers and students will also indirectly establish positive relationships in the classroom. Good teachers should be able to assess the changes

that have occurred to their students as well as know the needs of the students (Che Nidzam Che Ahmad et al., 2016). Students need teachers who are always concerned about them, friendly, have high confidence and enduring in helping and giving guidance to their students. Teacher's sensitivity concerning their students will get a great impact on the teacher and the students themselves. Teachers should provide a conducive and quality teaching and learning environment to support their students' learning. They need to form a comfortable classroom environment and consequently improve the ability of students to learn which indirectly affects the effective learning transfer process. A conducive classroom environment will also happen when there is effective cooperation and interaction between teachers and students. When the learning situation becomes interesting, then the student's interest in learning can be improved.

The table below shown indicators tested by previous researchers regarding teacher factors.

Table 3 - Meta-analysis of indicator	rs related to	teacher factor.
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Number	Indicator	Reseacher
1	Teacher Competency and	(Che Nidzam Che Ahmad et al., 2016; Dawkins, 2017; Dong & Hu,
	Quality	2019; Kikas et al., 2018; Layang Ugek & Jamaludin Badusah, 2018;
		Li et al., 2016; Mahzan Arshad & Sook Ching, 2017; Meng et al.,
		2017; Mohamad Isa Azis et al., 2019; Molla et al., 2020; Nancy Anak
		Gumbang & Zamri Mahamod, 2017; Shin et al., 2017)
2	Reading Learning in	(Baki, 2018; Chen & Hu, 2018; Imam, 2016; Juwairiah Osman et al.,
	Classroom	2018; Kusom Yamirudeng & Zulkifli Osman, 2019; Lam et al., 2016;
		Li et al., 2016; Metsäpelto et al., 2017; Mohd Asnorhisham Adam &
		Abdul Rahim Hamdan, 2017; Musfiroh & Listyorini, 2016; Noor
		Zuhidayah Muhd Zulkifli & Siti Saniah Abu Bakar, 2016; Nugrahanto
		& Zuchdi, 2018; Pitoyo, 2020; Springer et al., 2017)
3	Teacher's Relationship with	(Kikas et al., 2018; Lam et al., 2016; Li et al., 2016; Meng et al., 2017;
	Student	Rohayati Junaidi et al., 2018; Shin et al., 2017; Wan Nurzuliana Wan
		Ahmad, 2019)

### 4.3 School Factor

Generally, the researchers elaborated reading factors using indicators such as school type, school size, school economic status, school leadership, teacher involvement and technology facilities in schools (Shin et al., 2017). School type and size are considered to be one of the indicators that influence students' reading abilities as there are studies that have found that smaller schools can produce more excellent students than large-sized schools (Giambona & Porcu, 2018). The location of the school also influenced the achievement of students in reading literacy (Molla et al., 2020). That study founded that rural school students performed poorly in reading literacy due to the culture of literacy-related society and lack of resources for reading learning. Urban school students are also more fortunate than rural students because they have better resources and infrastructure. Shin et al. (2017) founded that school locations were correlated with students' reading test scores. Those in the city are also seen as more successful in education and have higher incomes as well as getting a better education.

A peaceful and comfortable climate or syntax in school is also a very important element to students and teachers as they spend almost half of their time at school. Therefore, schools and classrooms should always be kept in a conducive state and able to support effective teaching and learning processes. The physical design of classrooms and rooms available in schools especially libraries indirectly affect the achievement of students' reading literacy. The physical perspective of the room can be seen in terms of size and shape, space, interior light, colors, themes, noise' level, furniture and seating arrangement options as well as modern technological facilities provided (Che Nidzam Che Ahmad et al., 2016). Therefore, the learning environment should fulfill the needs of teachers, students and suitable for learning activities. It can help students to stimulate learning better, encourage active involvement of students and thus facilitate teacher affairs. The discomfort inherent in the classroom will affect the motivation of the student to study eventually affects the achievement of the student. In addition, the safety aspect of the school should also be emphasized to ensure that students can learn comfortably and feel safe when in school. Unhealthy behavior such as bullying (Nor Junainah Mohd Isa et al., 2019) should be eradicated to avoid rampant consequences as there is a lot of harm to the school community especially students. The application of good values and high discipline should be a priority for the school so that it can be absorbed well by all of school citizens.

Therefore, schools need to provide a good learning' environment both physically and psychosocially to their students. Students today look forward to classrooms equipped with modern technological equipment such as adequate computers and fast internet access to meet their learning needs. Information technology facilities are one of the important needs of the educational field nowadays and should be developed according to current technological developments. These technological equipment's need to be improved and upgraded from time to time to meet the needs of students in learning.

Technology is one of the effective and potential sources of pedagogy in helping teachers and students during teaching and learning. Therefore, the learning environment provided in schools should be in line with the development of technology to help students achieve optimal victory especially in language literacy.

Mohamad Isa Azis et al. (2019) in his study also emphasized on the infrastructure aspect. According to the study, the infrastructure aspect needed to ensure that the language teaching and learning' process can be implemented effectively. The problem of infrastructure facilities in schools especially in rural area is often an issue raised. This is due to the fact that schools in rural areas are constantly faced with the problem of imperfect school infrastructure (Mohammadpour & Shekarchizadeh, 2013; Muhammad Faizal A. Ghani et al., 2014). That study also founded that most classrooms do not provide a comfortable environment to meet the needs of teachers and students. Lack of infrastructure and learning facilities, uncomfortable and safe learning' environment and conducive especially in rural areas are among the factors that influence low academic achievement among students.

The school's literacy-conscious culture is also a contributor to students' success in reading literacy. The school's initiative to create a reading corner (Dafit et al., 2020) and diversifying interesting reading materials (Aditomo & Hasugian, 2018) will indirectly attract students and encourage them to visit the library. School should always strive to ensure that the library is always conducive, clean and comfortable for the students as well as supporting teaching and learning process in schools (Pitoyo, 2020). Today's sources of knowledge are no longer solely subject to teacher teaching. Students should be given the opportunity to gain knowledge from diverse sources. Hence, to create a conducive, student-centered learning environment as well as satisfying the satisfaction of teachers and students, it is appropriate that the classroom environment be reassessed and improved especially in the aspect of technological facilities to further enhance the effectiveness of learning in the classroom.

In addition, studies shown that schools with high leadership qualities are easier to create school success and improve students' achievement in reading literacy (Dong & Hu, 2019). The administrators must give full trust to the teachers to implement the teaching and learning that are appropriate to the level and abilities of their students. Opportunities and freedom to make decisions (Shin et al., 2017) that administrators given to the teachers will be able to help them find more effective solutions. Administrators should also always guide teachers in a better direction, provide constructive motivation, establish positive relationships with teachers and provide opportunities for teachers to improve their professional development. This coincides with the leadership indicators of administrators listed by Li et al. (2016) in his study about several indicators measured on the leadership of the administrators such as school capacity, communication, trust, excellence of student support, school focus on student achievement and professional development of teachers.

The table 4 below shown indicators tested by previous researchers regarding school factors.

Number **Indicator** Researcher School Types and Sizes (Dong & Hu, 2019; Giambona & Porcu, 2018; Imam, 2016) 2 School Location (Che Nidzam Che Ahmad et al., 2016; Melissa Edora Sanu & Rathakrishnan, 2018; Molla et al., 2020; Nancy Anak Gumbang & Zamri Mahamod, 2017; 3 (Aditomo & Hasugian, 2018; Baki, 2018; Dafit et al., 2020; Lam et al., 2016; Source related to Literacy Mahzan Arshad & Sook Ching, 2017; Mohamad Isa Azis et al., 2019; Molla et al., 2020; Pitoyo, 2020; Shin et al., 2017; Springer et al., 2017) 4 School Leadership (Dong & Hu, 2019; Li et al., 2016; Shin et al., 2017) 5 Teacher Involvement (Dong & Hu, 2019; Li et al., 2016; Shin et al., 2017) School Infrastructure and (Aditomo & Hasugian, 2018; Baki, 2018; Che Nidzam Che Ahmad et al., 6 **Facilities** 2016; Dafit et al., 2020; Dong & Hu, 2019; Li et al., 2016; Mohamad Isa Azis et al., 2019; Molla et al., 2020; Pitoyo, 2020; Springer et al., 2017) (Aditomo & Hasugian, 2018; Baki, 2018; Dafit et al., 2020; Lam et al., 2016; 7 Culture of Literacy in Manaf, 2018; Nugrahanto & Zuchdi, 2018; Pitoyo, 2020; Springer et al., Schools School and Classroom (Che Nidzam Che Ahmad et al., 2016; Kikas et al., 2018; Manaf, 2018; 8 Climate Mohamad Isa Azis et al., 2019; Mohd Asnorhisham Adam & Abdul Rahim Hamdan, 2017; Shin et al., 2017) 9 School Safety and (Che Nidzam Che Ahmad et al., 2016; Lam et al., 2016; Nor Junainah Mohd Isa et al., 2019; Shin et al., 2017) Discipline

Table 4 - Meta-analysis of indicators related to school factor.

## 4.4 Student Factor

The findings from the study verified that the students themselves also contribute to the ability of to master reading literacy. Previous researchers (Dong & Hu, 2019; Molla et al., 2020; Resilla, 2018) tried to elaborate about relationship between

gender and reading ability. The findings shown that female students performed better in reading literacy than male students (Baki, 2018; Resilla, 2018). However, the finding differed from Molla et al., (2020) who founded that was no significant relationship between gender and student reading abilities. Besides that, racial and ethnic factors are also associated with the student' ability to read. Abroad with no ethnic and racial diversity, immigrants or non-citizens are used as indicators to identify reading abilities. Studies have shown that non-speakers have difficulty understanding and mastering a language than native speakers (Dong & Hu, 2019). In Malaysia, Chinese, Indian and ethnic students from Sabah and Sarawak also have difficulty in mastering the Malay language (Layang Ugek & Jamaludin Badusah, 2018; Nancy Anak Gumbang & Zamri Mahamod, 2017).

Furthermore, the attitude and motivation of students also became determinant of the students' success in reading literacy (Ratri, 2015). These attitudes and motivations can be likened to astonishing energy that will help a person to do their best to achieve what they wish. The attitude shown by students such as focusing, completing their assignments and active involvement during teaching and learning sessions will be the determinant of their success (Baki, 2018; Nafiseh Zarei & Joseph, 2019). The focus given by students while attending teaching and learning session in the classroom also affected their reading (Chen & Hu, 2018; Dong & Hu, 2019). The results of previous studies figured out that students who are fully focused during reading learning as well as spending more time reading have shown better achievements.

The interest and reading habits also affect the students' reading abilities. Interest in reading is very closely related to family factors because parents who emphasize early literacy activities on their children from an early age will be able to array an interest in reading in their children. While in school, teachers will inculcate interest in reading students through various reading activities. With the availability of library facilities that can provide a variety of interesting and up-to-date reading materials (Aditomo & Hasugian, 2018) students will be more and more fun to read. According to Nafiseh Zarei & Joseph (2019), students are interested in reading because through reading they can increase vocabulary, improve writing skills as well as improve grammar and sentence structure. Students also enjoy reading if the publications contain interesting stories such as adaptations from true stories that can teach and guide them to live their lives.

The table 5 below shown indicators tested by previous researchers regarding family factors.

Number	Indicator	Researcher
1	Gender	(Aditomo & Hasugian, 2018; Baki, 2018; Che Nidzam Che Ahmad et al.,
		2016; Dong & Hu, 2019; Kikas et al., 2018; Lam et al., 2016; Molla et al.,
		2020)
2	Race and Ethnicity	(Dong & Hu, 2019; Lam et al., 2016; Layang Ugek & Jamaludin Badusah,
		2018; Nancy Anak Gumbang & Zamri Mahamod, 2017; Resilla, 2018)
3	Student Attitude and	(Baki, 2018; Chen & Hu, 2018; Lam et al., 2016; Meng et al., 2017;
	Motivation	Mohamad Isa Azis et al., 2019; Mohd Asnorhisham Adam & Abdul
		Rahim Hamdan, 2017; Molla et al., 2020; Wan Nurzuliana Wan Ahmad,
		2019)
4	Interests and Reading	(Dafit et al., 2020; Dong & Hu, 2019; Kikas et al., 2018; Lam et al., 2016;
	Habits	Metsäpelto et al., 2017; Nafiseh Zarei & Joseph, 2019; Pitoyo, 2020;
		Springer et al., 2017)

Table 5 - Meta-analysis of indicators related to Student factor.

# 5. Discussions

After an in-depth analysis, there are four factors influencing reading abilities that have been recognized which is family factor, teacher factor, school factor and the student factor. There is no denying that family is the closest environment in a child's life. The socioeconomic level of the family and the level of education of parents are also contributing to the success of students' literacy achievement. Parents' emphasis on early literacy activities since their young children will be able to increase interest and motivate students to make reading one of their favorite activities. The assistance and guidance given by parents towards their children is also an indicator that can help improve their children's success. The attitude and motivation of students are also used as a yardstick to assess their achievements. Self-initiative and the passion of wanting success were the main determinants of a person's success. Students should do their best, be highly motivated, fully focused during teacher teaching so that they can achieve outstanding success. Although gender and racial indicators are said to influence the ability of students, the studies did not provide the same findings and depended on the scope of their respective studies.

In addition, schools and teachers are also contributing to the students' learning success. That happened because students spend half of their time in school. Schools should serve as supporters of student learning that can provide the various infrastructure and facilities needed to streamline the knowledge transfer process. Quality and up-to-date educational resources, a continuous culture of knowledge, a conducive and comfortable classroom climate are also contributing to the success of students. Students should feel good when they are at school and are always motivated to

improve their self-sedation for the better. The administrator should play an important role in guiding teachers towards maximizing their competencies and professional qualities so that they are always equipped with the best teaching practices for the students' well-being. The freedom given to teachers to diversify teaching methods that are appropriate to the level and abilities of their students can indirectly increase the teacher's sense of responsibility towards the profession. The safety aspect of schools should also be emphasized so that students feel safe when in school. This can also prevent the appearance of inappropriate behavior and behavior among students. The aspect of discipline emphasized in schools will be able to produce students who also excel in their personality and values.

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#### **Conflict of Interest**

The authors declare no conflicts of interest.

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