〈原著論文〉

The decline of Japanese Education and rise of Indian Education in Japan

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Abstract

Japan's Programme for International Study Assessment math and science test scores decreased in 2003 and 2006 (OEDC, 2012). The problem was due to 'PISA shock,' caused Japanese parents in 2007 in the Kanto (Tokyo) prefecture enrolled their children into the six Indian international schools in Japan (Fackler, 2008a). The purpose of this research paper examined why Japanese parents enrolled their children into Indian international schools in the Tokyo area. The researcher chose a content analysis methodology because various texts, including articles and articles, concerning PISA tests, Japanese education, and Indian education were analyzed. The Research Questions revolved around the Japanese parents' perspectives about enrolling their children into Indian international schools and if their children's math and science skills had improved. Although parents enrolled their children to improve these skills, students also learned English, IT, and programming skills. Therefore, students could use these skills to be competitive in the international market.

Key words: Japan PISA and math and science scores decreased, Japan 'PISA shock', Indian education, Indian international schools in Tokyo, Indian math and science skills

Chapter 1: Introduction

Japan's score on the Organization for Economic Co-operation and Development (OECD) Programme for International Study Assessment (PISA) survey decreased in 2000, 2003, and 2006. In 2000, Japan placed 1st on the math test scoring 557, and 2nd on the science test scoring 548. In 2003, Japan placed 4th on the math test scoring 545, and 2nd on the science test scoring 548. However, in 2006, Japan further dropped to 10th place on the math test scoring 523, and 6th

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place on the science test scoring 531 (Oden, 2020; Organisation for Economic Development, 2013). The result of these test scores prompted Japanese parents and MEXT administrators to debate education reform in Japan, known as 'PISA shock' (Breakspear, 2012; Oden, 2020). Due to 'PISA shock,' Japanese parents in 2007 in the Kanto (Tokyo) prefecture enrolled their children into the six Indian international schools in Japan. Japanese parents sent their children to these schools so that their children could study Indian mathematics and science (Fackler, 2008a).

In Japan, students need to pass their university entrance examinations, so they can enter colleges and universities. These examinations are designed to test students' mathematics and science skills (Breakspear, 2012). Due to 'PISA shock,' Japanese parents saw India as the next education superpower in Asia, because of India's advancements in science, math, and information technology (IT) (Breakspear, 2012; Fackler, 2008a). Many Japanese parents believed the math and science skills taught in India were superior to those skills taught in Japan. They believed by enrolling their children into Indian international schools that their children's math and science skills would surpass that of other Japanese children, who are in the same grade levels. In addition, learning math and science skills at Indian international schools would help children pass their university entrance examinations in the future (Fackler, 2008a).

Before the Japan PISA tests in 2006, many Japanese educators and Japanese parents thought of Japan as being the most advanced Asian country (regarding education), but Japanese parents and the MEXT administration then viewed Indian educators as having something to offer Japanese children (Woo, 2012). After the 'PISA shock,' Japanese educators felt insecure about competing with India and China. Although Japan has viewed these countries' government officials as being backward and poor, China's economy has grown at the rate of 10% per year since 1982 and it has been the largest exporter of high-technology products in the world. In 2020, China's growth rate fell to 2.34%, due to the Covid−19 pandemic, and soared again to 8.02% in 2021 (Statista Inc., 2021a). China's exports were associated with a high productivity level that is much higher than a country at its income level. In contrast, India's economy has grown at the rate of 6% per year since 1982. However, due to the Covid−19 pandemic, its GDP decreased to −7.25T in 2020, yet rose to 9.5% in 2021 (Statista Inc., 2021b). India's economic growth was fueled by the expansion of service industries, such as Information Technoolgy (IT), and its exports revolved around business and IT services (Woo, 2012).

The growth of Indian international schools happened due to the growing Indian population in Japan, who worked in the IT sector (Fackler, 2008b). These Indian parents thought about educating their children and thus enrolled them to Indian international schools. Since the

decrease on the PISA tests in 2006, the six Indian international schools (in the Tokyo area) have received a surge in applications from Japanese parents. Professor Yoshinori Murai of Asian cultures at Sophia University in Tokyo stated Japan [Japanese educators and parents] lost confidence with the Japanese school system; therefore, their attitude towards other Asian countries changed. Moreover, they wanted to learn from policies established by India's educators (Fackler, 2008b). This could be one of the reasons that Japanese parents sent their children to these schools.

Problem Statement

In 2000, Japan placed 1st on the math section of the test scoring 557, and 2nd on the science test scoring 548. In 2003, Japan placed 4th on the math test scoring 545, and 2nd on the science test scoring 548. In 2006, however, Japan dropped to 10th place on the math test scoring 523, and 6th place on the science test scoring 531 (Oden, 2020; Organisation for Economic Development, 2013). Due to 'PISA shock,' Japanese parents were insecure about the education their children received at Japanese schools and instead have enrolled their children into Indian international schools since 2007 (in the Tokyo area). The reason being was so that their children can prepare for Japanese university entrance examinations by improving their children's math and science skills (Breakspear, 2012; Fackler, 2008a). The problem investigated why Japanese parents enrolled their children into Indian international schools in Japan from 2006 to 2020.

Purpose Statement

To examine why Japanese parents enrolled their children into Indian international schools in the Tokyo area, the researcher conducted a content analysis on texts regarding PISA tests, Japanese education, and Indian education published from 2000 to 2020. PISA test scores were gathered from the OECD PISA website to compare Japan's math and science test scores in 2000, 2003, 2006, and 2009. The researcher chose a content analysis methodology because she analyzed various texts, including articles and articles, concerning PISA tests, Japanese education, and Indian education.

Research Questions

RQ1. Why did Japanese parents enroll their children in Indian international schools, after Japan's PISA math and science test score decreased in 2006 ?

RQ2. Did Japanese students' math and science skills (learned at these Indian international

schools in the Tokyo area) improve ?

Chapter 2: Literature Review

Japanese PISA Shock

By using a content analysis methodology, the researcher conducted research to gather analysis on texts regarding PISA tests, Japanese education, and Indian education published from 2000 to 2020. Japan's PISA test scores decreased in 2003 and 2006 and the researcher sought to understand why these decreases led Japanese parents to enroll their children into the six international schools in the Tokyo area. 'PISA shock' has exposed some shortcomings that the Japanese government officials needed to tackle to improve education in Japan. Keitaro Kamata, a senior researcher at the Benesse Educational Research and Development Center (BERD), stated "It's not correct to say that Japanese academic capabilities have deteriorated. Rather [that] Japan may have been overtaken by other countries," shown in Table 2 and Table 3 (OECD test rank, 2007; Oden, 2020).

After the PISA was administered in 2003, Kamata visited the PISA headquarters in Paris and asked officials what student capabilities they aimed to examine. The OECD's officials stated that they tested the students' capability to investigate and resolve questions by themselves. Kamata stated (to himself) that "Japanese education, which prioritizes rote (memorizing) knowledge can never fare well" when Japanese students are studying for and taking the PISA tests (Benesse Educational Research, 2014). Japanese educators prioritized rote knowledge instead of using critical thinking skills.

When Kamata visited the OECD headquarters in Paris in 2003, he discovered the 2006 PISA test questions tested how well students could find answers by using their own acquired knowledge in circumstances they may face in the future as working people. These types of questions were not presented on the 2000 PISA test questions (OECD test rank, 2007). So, one can assume that Japanese students would not test as well as other students on the PISA tests who were taught the same critical thinking skills.

Indian Education Surge after Japanese PISA Shock

In 2007, there was a surge in the fad of Indian-style education in the Tokyo area of Japan (Fackler, 2008). In many book stores, books like 'Extreme Indian Arithmetic Drills' and 'The Unknown Secrets of the Indian's. In addition, the six Indian international schools saw a surge in

applications (Fackler, 2008). One solution Japanese parents sought to improve their children's math and science skills were to enroll their children into these schools (Kawagoe, n.d).

Fackler (2008) stated that Japanese educators had a crisis of confidence in competing with China and India regarding education, due to Japanese students' decreased PISA math and science test scores in 2003 and 2006 (Organisation for Economic Development, 2013). Therefore, there was a surge in applications to the Indian international schools in Japan. At Little Angels English Academy & International Kindergarten (in 2007), there was a surge of applications from Japanese parents. At that time, there were 45 children enrolled, but only one student was Indian, while the rest were Japanese students (Kawagoe, n.d). In comparison, at the Global Indian International School (in 2007) only 20 of its (then) 200 students were Japanese. Also, there was a demand from parents, so a second location was also built in Tokyo. Now, there are three locations in Tokyo at the Nishi Kasai Campus, Higashi Kasai Campus, and the Seishincho Campus (Global Indian International School (2022).

Indian Education in India

Narasimha (2022), the Director of the Natinal Institute of Advances Studies in India, stated math is the universal language and the numeral zero was derived from India. Despite India's huge population and the published books surrounding Indian math skills, India's presence in science and technology was still small. Narasimha (2022) explained how India was described as having one of the largest scientific communities in the world. Yet, there was only a small percentage of graduates of science courses that were conducting research in the science industry (Narasimha, 2020).

Only. 5% of India's total expenditure is spent on research and development and only 2% was spent on science publications (Narasimha, 2020). Nonetheless, there was a problem of Indian educators learning to manage the extraordinarily talented students that were present in India. Regarding Indian math education, 37% of elementary school teachers will retire at the age of 60. When new teachers are hired to replace these 'new' teachers, they will not have the support of experienced teachers. Therefore, new teachers may not be able to develop the skills needed to teach when they encounter problems (in the classroom and while developing their skills as a teacher). So, new teachers will not be able to develop problem-solving skills. Not developing these skills will be problematic because young teachers need a lot of guidance (Narasimha, 2020). So, not only will new teachers have problems becoming effective teachers, but also they may not be able to deliver high-quality math or science skills.

Furthermore, according to the Pratham's Annual Status of Education (ASER) and the Full Report Second Education there are five levels of standard in primary education (Venkatachalam, 2017). Level 1 is the lowest level and Level 5 is the highest level. At Level 1, students cannot recognize the alphabet and are considered a non-reader. At Level 2, students can recognize letters. At Level 3, students can recognize words. At Level 4, students can read paragraphs. At Level 5, students can read simple stories and read long sentences (ASER Centre, 2021).

The 2019 ASER survey was conducted by ASER administrators. The survey involved 37,000 pupils, aged four years old to eight years old, who were in Class 1 in 26 rural districts spread across 24 different states in India. The survey data showed, first, only 16% of these pupils could read at their class level, while 84% could not do so. Second, only 60% could recognize letters, while 40% could not do so. Third, only 41% could recognize 2–digit numbers, while 59% could not do so (Annual Status of Education Report Schools, 2020), shown in Table 5.

Not only did the ASER administrators test students reading and number recognition, through literacy and numeracy tests, skills, but also they tested their cognitive skills. Students' cognitive skills were tested by having them sort images by colors and size, recognizing patterns, and fitting-together patterns tests. When the ASER researchers tested students' cognitive skills they found only some students in public Class 1 could correctly do only one of the tasks requiring cognitive skills, or they could not do any of the tasks. In addition, only 14% of them could not read words (Level 3), while 84% could not do so. Also, only 19% of students could do single-digit mathematical problems, while 81% could not do so. Some students could do all three cognitive tasks, where 52% could read words (Level 3), while 48% could not do so. Also, 63% of students could solve additional problems, while 27% could not do so, as shown in Table 6.

When the ASER administrators tested private school Class 1 students, they found private students read at a higher level than primary school Class 1 students. 41.5% of private school students could read words (Level 3), while 60% could not do so. Regarding public school students, only 19% of them could read words, while 79% could not do so, as shown in Table 7. The administrators also found students in government Class 1 schools had children that were ages four and five. The administrators discovered that younger students struggle to learn in class and had a disadvantage. In private schools, students were mostly enrolled from age six (Annual Status of Education Report Schools, 2020).

To teach students and improve their cognitive skills, the ASER administrators found teachers should not spend long hours teaching reading, writing, and mathematics. Instead, teachers should have focused on cognitive skills and not subject learning (reading, writing, and

mathematics). The administrators felt it was better to improve students' literacy and numeracy abilities (Annual Status of Education Report Schools, 2020). They felt cognitive skills were related to early language and numeracy tasks. Therefore, teachers should not focus on teaching content knowledge and should instead focus on teaching play-based activities, which include memory, reasoning, and problem-solving (Annual Status of Education Report Schools, 2020).

India's PISA tests

2015 was the third time East Asian countries (Singapore, Japan, Thailand, Vietnam, and China) outranked their peers on the PISA math and science tests (Venkatachalam, 2017). Yet, in 2009, the two Indian states of Tamil Nadu and Himachal Pradesh participated on the PISA math and science tests. Unfortunately, these two states ranked 72nd and 74th out of 74 countries/areas that participated on the tests. Since 2009, the Human Research Development (HRD) Ministry in India has chosen not to participate on the PISA tests (Venkatachalam, 2017).

Officials from the HRD Ministry stated there was a socio-cultural disconnection with the questions, so students were not able to test well. Nonetheless, the PISA tests scores helped government administrators to assess the standard of the public schooling system in India (Venkatachalam, 2017). More importantly, the HRD Ministry administrators also stated the well-being of its people is the 'true indicator' of economic development. Yet, in the last three decades the Indian education system, regarding primary education, has not received enough attention regarding 'quality.' For example, this lack of quality in primary education had led to a large majority of university graduates being unemployed and were not able to apply knowledge in 'real-life' situations (Venkatachalam, 2017). If university students graduated to become teachers, but did not have support from older teachers and cannot apply knowledge to 'real life' situations in the classroom: one can assume these new teachers will not be able to deliver high-quality education to students.

Venkatachalam (2017) stated the UNESCO data showed India had one of the lowest public expenditure rates on education per student. For example, China spent $1,800 per student, while India only spent $264 per student. In addition, the World Bank data showed through a survey of public spending on education that Indian officials spent only 11% on education, while China spent 20% (Venkatachalam, 2017). Some Indian officials felt education was one-dimensional and there was an obsessive focus on marks. They felt there was a lack of available and well-trained teachers (from primary to high school). The Indian government spent only 11% on education, and only 80% of that is spent on teachers, which was used to pay salaries and training materials.

The result has been a decrease in quality learning (Venkatachalam, 2017).

Moreover, quality teachers were the missing link and quality teachers and even quality teachers did not meet teaching standards (Venkatachalam, 2017). However, one could argue those teachers were unable to meet Indian teaching standards if there were no older teachers to guide them in their careers, and if only each student only had $264, allocated to them for their education. Since India is seen as a haven for IT experts having excellent math and science skills: quality Indian teachers were exploring teaching in the USA and other countries. So, there will be even less quality teachers available to teach students. The reason was there was a demand for science and math teachers and IT engineers outside of India (Venkatachalam, 2017). Due to India's poor PISA test score results, the Indian education official was experiencing major educational policies failures (due to the lack of expenditure rates on education per student), such as a lack of physical infrastructure, 90% of primary teachers failing education tests, and having flawed recruitment and training policies (Venkatachalam, 2017).

Unlike in Japan (Oden, 2020) wealth was not linked to better education for public school students. When there was a higher per capita income, there was less public money spent on elementary education. The reason was wealthier families enrolled their children in private schools, where learning outcomes were set and achieved by the teachers. If there were fewer public students, then the government could justify spending less because there were fewer students. Yet, one could argue that with fewer students there was a justification to increase the spending 'per student' so all public students' education could have improved.

Chapter 3: Research Method, Context Analysis and Sample

Japan's PISA test scores in 2000, 2003, 2006, and 2009, were collected from the OECD PISA website database. The decrease in the PISA test scores during these years, especially on the math and science tests, caused Japanese parents and MEXT administrators to ponder if the quality of Japan's education was decreasing (Fackler, 2008b; Oden, 2020). To determine why parents have enrolled their children into Indian international schools, the researcher did a context analysis methodology to gather analysis on texts regarding PISA tests, Japanese education, and Indian education published from 2000 to 2022.

Context Analysis and Sample

The researcher did a context analysis methodology to gather analysis on texts regarding

PISA tests, Japanese education, and Indian education published from 2000 to 2022. These texts included journals, websites, books, and newspaper articles. The reason they used these various texts is that the researcher wanted both scholarly and more personal quotations from parents regardings the PISA tests and the educational effects Japanese and Indian officials, parents, and students have had to encounter. Moreover, research has shown that links between the academy and the media were important in public discourse (Yettick, 2009). Therefore, this research paper helped display a wholesome understanding of the research findings.

Materials/Instrumentation

To gather research to answer the research questions, the researcher used a combination of Northcentral University Proquest database and the Google search engine. To conduct a context analysis the researcher followed six steps. Step one was to select the context, the medium, the criteria, and the parameters. The medium was the newspapers, websites (such as the OECD and ASER), Proquest, and journals. The criteria for inclusion included: Japan PISA test scores; Indian PISA test scores; Japanese parents enrolled children in Indian international schools; and Japanese parents and PISA test scores, shown in Table 8.

Step two was to define the categories, the unit of meaning, and the set of categories-coding. The units of meaning included: **the number of students at six Indian international schools between 2006 and 2020; characteristics of Japanese parents in Japan; subjects taught in Japan in Indian private schools;** and **phrases Japanese parents used,** as shown in Table 9. The categories (to be coded) were: age of students; socioeconomic status of Japanese parents in Japan; common phrases Japanese parents used regarding PISA, common phrases Japanese parents used regarding subjects taught in Japan (Luo, 2022), shown in Table 10.

Step three was to define the rules for coding, which included words and phrases written in the categories, as shown above. The words and phrases that were not included in the categories will not be included. Step four was to code the text according to the rules. After Step 1 to Step 4 were done, the research entered the information into the MAXQDA software to analyze the collected data. Lastly, Step five was to analyze and draw conclusions (Luo, 2022).

To answer the research questions, the researcher used triangulation by using various sources of information. The credibility and dependability of the materials and instrumentation used to gather data were evaluated. Validity and reliability are important in data collection when researching so that the data were accurate and credible (Heale & Twycross, 2015). Credibility is the confidence or truth of the study, while dependability is the stability of the data (Polit &

Beck, 2014).

Chapter 4: Results and Discussion

This section includes the results of the analysis of the data, according to the context analysis that was conducted. The following research questions were designed to provide an understanding of why Japanese parents enrolled their children into Indian international schools in the Tokyo area since 2006.

RQ1. Why did Japanese parents enroll their children in Indian international schools, after Japan's PISA math and science test score decreased in 2006?

RQ2. Did Japanese students' math and science skills (learned at these Indian international schools in the Tokyo area) improve?

To conduct this research paper, the researcher conducted a context analysis the researching the following phrases: Japanese PISA, India PISA, Indian education in Japan since 2006, and Japanese parents enrolled children into Indian international schools.

Research Question 1. Why did Japanese parents enroll their children in Indian international schools, after Japan's PISA math and science test score decreased in 2006?

The themes discovered were: (theme 1) learning English, math, and IT skills, and (theme 2) competing in the international market, becoming global talent, nurture motivation.

Theme 1. Learning English, math, students thought independently, and IT skills & Indian-style IT was popular along with English. At Little Angels English Academy and International Kindergarten, in Tokyo, the teachers focused on teaching math and science skills to children, at a young age. For example, two-year-olds can count to 20, three-year-olds can operate a computer, and five-year-olds can multiply, solve word math problems, and write one-page essays in English. In contrast, Japanese children are not taught this until they are second graders, at age seven, in public Japanese schools (Fackler, 2008a). Since 2006, the administrators at this school saw a surge in enrollment. The reason was the curriculum, involving language (English), math, and IT skills, was developed in a unique way to stimulate students' minds, encouraged them to learn, and allowed them to gain confidence by doing different types of learning activities (Terada, 2008).

At the Indian international schools, students were taught to think independently. For example, when students were taught new concepts every day, when students asked the question 'What is this? ,' teachers taught them to think independently so teachers could help

foster students to have inquisitive minds. Teachers believed once they started to think independently, students would become good leaders (Terada, 2008). Wantabe (2019) stated that Indian-style IT and English were both popular and these were the reasons parents enrolled their children into Indian international schools. At these Indian international schools, most of the conversations were held in English and some of the textbooks were from India, but students also learned mathematics, computers, dance, and arts and crafts (Terada, 2008).

Theme 2. Competing in the international market, becoming global talent, nurture motivation. In addition to students learning English, parents also wanted them to learn these skills so they would be able to compete on the international market (Watanabe, 2019). Many Japanese students were both enrolled into Chinese and Indian international schools so children would learn to be more competitive (Terada, 2008). After students were enrolled in the Indian international schools, children could showed interest in global issues and were able to make speeches in public (Terada, 2008).

In contrast, Japanese parents felt dissatisfied with Japanese public schools because parents felt that Japanese public school teachers failed to nurture motivation in students. Angelina, a Japanese mother at one of the Indian international schools, stated, "Those children [were] growing up without ambition in life. If they [had] very limited ambitions, naturally you [would not be able to] see success (Nakamura, 2008)." Therefore, Japanese parents wanted their children to not only learn English, but also be taught to become more competitive. They also wanted their children to experience a multicultural environment, so their children could better cope with global society in the future, Masuda said (Nakamura, 2008).

Research Question 2. Did Japanese students' math and science skills (learned at these Indian international schools in the Tokyo area) improve?

Theme 3. Students learn at earlier ages mathematics (age 2), computer, develop public speaking skills (age 3), express their opinions in front of classmates (age 5), in elementary school students study programming, so they can create their own websites and games. At the Indian international schools, students were taught mathematics, computers and other subjects at an earlier age than their Japanese counterparts. At age two, students began to learn math. At age three, students began to learn computer skills and start to develop public speaking skills in English, by stating simple facts in sentences (Terada, 2008). At age five, students learned presentation skills, such as standing in front of an audience, using body language, and looking at the audience, and then gave speeches in front of their classmates (Terada, 2008). At age six and above, students studied programming and created their own

websites and games (Watanabe, 2019).

Chapter 5: Conclusion

The implications of this research paper's findings were presented and organized in this chapter to answer the research questions. The findings were framed in the context of the literature on PISA test scores implication regarding Japan and how 'PISA' shock led Japanese parents to enroll their children into the Indian international schools in the Tokyo area of Japan.
Research Question 1. Why did Japanese parents enroll their children in Indian international schools, after Japan's PISA math and science test score decreased in 2006?

To answer Question 1, the researcher examined the two themes: ***(theme 1) learning English, math, and IT skills, and (theme 2) competing in the international market, becoming global talent, nurture motivation.*** Since Japan's PISA math and science test scores decreased in 2003 and 2006, Japanese parents enrolled their children into the six Indian international schools in the Tokyo area. Although teachers focused on teaching math and science skills to children at a young age, which parents also admired, students were also taught English and IT skills.

Furthermore, Kayoko, a parent of a five-year-old student at one of the Indian international schools, stated, "I wanted my child to commute to this school as I want him to learn English at an early stage. Also, (Angelina) [a teacher at one of the India international schools] with great attentiveness, explains to children why this happens and how this happened (Terada, 2008)." So, not only did her child learn English at a young age, but his teacher helped him to learn and understand concepts learned in class. Therefore, students' minds were stimulated because first) they were encouraged to learn and second) they gained confidence by complete different learning activities. Angelina further stated that Japanese schools failed to nurture motivation, which she herself had experienced because her son graduated from a Japanese kindergarten. Another parent stated, "Those children [were] growing up without ambition in life. If they have very limited ambitions, naturally you [would not] see success (Terada, 2008)."

Although Fackler (2008a) stated Japanese parents believed math and science skills taught in India were superior of those taught in Japan, it seemed that students enrolled in these Indian international schools also gained confidence and have develop the motivation to succeed in life. Another Japanese mother, of an eight-year old student, stated she and her husband wanted to enroll their child into Aoba-Japan International School because she and her husband wanted him

to improve his English proficiency and also for him to become inspired [by his teachers] to become inspired in various issues (Namakmura, 2008). So, Japanese students learned more skills than just math and science, and now students were motivated to learn, by their teachers, and now had the ambition to become successful in life [after graduating from school].

Furthermore, Watanabe (2019) stated parents wanted their children to improve their English skills to prepare them to compete in the international market. Hirokazu Osako, the principal at Chiyoda International School, said, "growing demand from parents who want to raise their children to be global talent explained the school's growth. Just over 70% of the students were Japanese" (Watanabe, 2019). Moreover, Terada (2008) stated Japnese parents sent their children to both Chinese and Indian international schools so students could become more competitive children. Japanese educators experts stated Japanese parents were eager to enroll their children to learn either Chinese are English, at an early stage, because learning these skills would be a 'big plus' for their future (Terada, 2008).

Research Question 2. Did Japanese students' math and science skills (learned at these Indian international schools in the Tokyo area) improve?

To answer research question 2, the researcher looked at (***theme 3) students learn at earlier ages mathematics (age 2), computer, develop public speaking skills (age 3), express their opinions in front of classmates (age 5), in elementary school students study programming, so they can create their own websites and games***. The Global Indian International School opened in 2006. Because the Indian-style information technology education was popular, along with English, the student enrollment number increased. Therefore, 50 students were enrolled, but that number reach to 700 in 2019. In fact, a second campus was built in 2017 to accommodate the increased student numbers (Watanabe, 2019).

At the Indian international schools, students were taught math, IT, and computer skills at a younger age than their Japanese counterparts (Terada, 2008). Students studied programming while they were in elementary school and they could create their own websites and games (Watanabe, 2019). In contrast, Japanese students were taught the same skills when they become second graders. Therefore, it seemed that (in addition) to learning math and science skills, students also learned English skills, IT, and computer skills.

Regardings presentation skills, at age three, children started to develop English public speaking skills by stating simple facts in sentences. At age five, they learned to express their opinions in front of their classmates (the audience). In total, students were taught how to stand, use their body language, and how to look at people (Terada, 2008). So, not only did students

learn English speaking skills, but also how to use these skills in the form of a presentation, in front of other students.

Summary

This research paper explored why Japanese parents enrolled their children into Indian international schools in the Tokyo area. The researcher conducted a content analysis on texts regarding PISA tests, Japanese education, and Indian education published from 2000 to 2020. PISA test scores were gathered from the OECD PISA website to compare Japan's math and science test scores in 2000, 2003, 2006, and 2009. The researcher chose a content analysis methodology because various texts were analyzed, including articles and articles, concerning PISA tests, Japanese education, and Indian education.

When Japan's PISA math and science test scores decreased in 2003 and 2006, Japanese parents experience 'PISA shock' and enrolled their children in the six international Indian schools in the Tokyo area in Japan. Japanese parents wanted their children to learn math and science skills, as they (parents) thought these skills were taught at a higher level than in Japan (Fackler, 2008b). Although students learned math and science skills, they also learned a lot of other helpful skills. Students learned English, math, and IT skills. Therefore, students were able to use English skills to speak and gave English presentations in front of their classmates (Watanabe, 2019). Also, students learned math, IT, and programming skills at a younger age, so they could create websites and their own games (Terada, 2008).

Lastly, Japanese parents were also impressed because their children were motivated to learn and to think independently from their teachers (Terada, 2008). This independence helped students to develop motivation to learn for themselves in class. In turn, this motivation also helped students to have ambition, gain confidence, and also to think about their futures (Terada, 2008). Parents were excited their children thought about their futures. Moreover, parents also felt when students learned English, math, IT, and English presentation skills they would be more competitive to compete on the international market (Watanabe, 2019). In conclusion, it seemed that students learned new skills besides math and science, such as English, IT, and programming skills when were enrolled in these Indian international schools. Therefore, students could use all of these skills to be competitive in the international market.

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Appendices

Table 1　Japan PISA Math, Science, and Reading Test Scores

Year	Math Score	Math Ranking	Science Score	Science Ranking
2000	557	1st	548	2nd
2003	545	4th	548	2nd
2006	523	10th	531	6th
2009	536	10th	547	4th

Note. Data for Japan's PISA Math and Science Test Scores from 2000 to 2009 are from Organisation for Economic Co-operation and Development (2013).

Table 2　2009 PISA Math Tests

China (Shanghai)	1st	600
Singapore	2nd	562
Hong Kong	3rd	555
South Korea	4th	546
China (Taipei)	5th	543
Finland	6th	541
Liechtenstein	7th	536
Switzerland	8th	534
Japan	9th	529

Note. Data for Japan's PISA Math and Science Test Scores in 2009 are from Organisation for Economic Co-operation and Development (2013).

Table 3　2009 PISA Science Tests

China (Shanghai)	1st	575
Finland	2nd	554
Hong Kong (China)	3rd	549
Singapore	4th	542
Japan	5th	539

Note. Data for Japan's PISA Math and Science Test Scores in 2009 are from Organisation for Economic Co-operation and Development (2013).

Table 4　ASER Centre 5 Level Reading Ability

Level	Student Capabilities
Standard 1	Cannot read alphabeta/is a non-reader
Standard 2	Can recognize letters
Standard 3	Can read words
Standard 4	Can read paragraphs
Standard 5	Can read simple stories and long sentences

Note. Data for ASER Centre 5 Level Reading Ability are from Annual Status of Education (2021).

Table 5　2019 Annual Status of Education Report Survey

Percentage	Level	What can do	Percentage	Level	What can not do
16%	5	Can read at their level	84%	1–2	Cannot read at their level
60%	2	Can recognize letters	40%	1	Cannot recognize letters

Note. Data for Annual Status of Education Report Survey are from Annual Status of Education (ASER) (2021).

Table 6　2019 Annual Status of Education Report Survey of Cognitive Tasks Skills Results in India

Percentage	Level	What can do	Percentage	Level	What can not do
14%	3	Can read words	86%	1–2	Cannot read words
19%	N/A	Can do single digit math	81%	N/A	Cannot do single digit math
Students could do all 3 Cognitive Tasks					
Percentage	Level	What can do	Percentage	Level	What can not do
52%	3	Can read words	48%	1–2	Cannot reads words
63%	N/A	Solve additional problems	27%	N/A	Cannot solve additional problems

Note. Data for Annual Status of Cognitive Tasks Skills Results are from Annual Status of Education Report Schools (2020).

Table 7　2019 Annual Status of Education Report Survey of Public School Students vs. Private School Students in India

Type of School	Percentage	Level	What can do	Percentage	Level	What can not do
Private school	41.5%	3	Can read words	60%	1–2	Cannot read words
Public school	19%	3	Can read words	79%	1–2	Cannot read words

Note. Data for Annual Status of of Education Report Survey of Public School Students vs. Private School Students are from Annual Status of Education Report Schools (2020).

Table 8　Criteria for inclusion and exclusion for Context Analysis

Japan PISA test scores
Indian PISA test scores
Japanese parents enroll children in Indian international school
Japanese parents and PISA test scores

Note. Data for Criteria for inclusion and exclusion for Context Analysis are various websites, newspapers, Proquest, and Google searches.

Table 9　Units of Meaning for Context Analysis

the number of students at six Indian international schools from 2006 and 2020
characteristics of Japanese parents in Japan
subjects taught in Japan in Indian private schools
phrases Japanese parents used

Note. Data for Units of Meaning for Context Analysis are various websites, newspapers, Proquest, and Google searches.

Table 10　Categories for Context Analysis

age of students
socioeconomic status of Japanese parents in Japan
common phrases Japanese parents used regarding PISA
common phrases Japanese parents used regarding subjects taught in Japan

Note. Data for Categories for Context Analysis are various websites, newspapers, Proquest, and Google searches.

日本における日本の教育の衰退とインドの教育の台頭

オーデン・シャンパーニュ・マリー

抄　録

日本の国際研究評価プログラムの数学と科学のテストのスコアは 2003 年と 2006 年に減少し（OEDC，2012 年），それが日本に衝撃を与えた。問題は，「PISA ショック」のために，2007 年に関東（東京）県の日本人の親が子供たちを日本の 6 つのインドのインターナショナルスクールに入学させたことである（Fackler，2008a）。この研究論文は，日本人の親がなぜ子供たちを東京地域のインドのインターナショナルスクールに入学させたのかを調べた。研究者は，PISA テスト，日本の教育，インドの教育に関する記事や記事を含むさまざまなテキストを分析し，内容分析の方法論を選択した。調査の質問は，子供をインドのインターナショナルスクールに入学させることについての日本の親の意見と，子供たちの数学と科学のスキルが向上したかどうかを中心に展開された。両親はこれらのスキルを向上させるために子供を登録したが，子供は英語，IT，プログラミングのスキルも学んだ。子供はこれらのスキルを使用して国際市場で競争力を発揮することができる。

キーワード：日本 PISA の数学と科学のスコアの減少，Japan「PISA ショック」，インドの教育，東京にあるインドのインターナショナルスクール，インドの数学と科学のスキル