

A Comparative Study of Parents' Educational Expectations in Kuala Lumpur and Sarawak primary Schools in the Era of Digital Transformation

Wenxi Xiang^{1*}

¹Faculty of Education and Liberal Arts, INTI International University, Negeri Sembilan, Malaysia

Abstract. The digitalisation of education in Malaysia has had an all-encompassing impact on the parents' expectations for education. This study uses semi-structured interviews and has selected one parent from grade 1 to grade 5 of Sunway International School in Kuala Lumpur (a total of 5) and one parent from grade 1 to grade 5 of Borneo International School in East Malaysia (a total of 5) as the research subjects; around five dimensions have been interviewed in depth: digital facilities, curriculum content, teachers' digital skills, educational equity and basic security, and parents' digital cognition and participation. The results show that Kuala Lumpur parents generally expect schools to have advanced digital equipment and introduce programming and artificial intelligence education, while the main demands of Sarawak parents focus on basic network access and equalising teaching resources. The different structural differences in parents' expectations at the two locations show that Malaysia's digital education policy is not being implemented consistently across the country, and this provides important first-hand evidence for policymakers to improve the regional distribution of digital education.

1 Introduction

From 2021 to 2026, the Malaysian Ministry of Education has been promoting a national digital education plan that will bring computers and information technology into classrooms nationwide [1]. The implementation background of the policy is that the overall digital ability of Malaysian students needs to be improved; according to the National Digital Literacy Score Report in 2023, the average scores for rural students and urban students are only 3.24 (out of a maximum of 5) and 3.34, respectively, with a national average of 3.31 [2]. Although the general policy system is the same everywhere, different families have different economic conditions and living environments; therefore, the actual implementation of this policy in the regions and the hopes parents have for their children's education also vary considerably. Educational expectations have evolved in recent years, and with this change, the understanding and aspirations of parents have also shifted. Therefore, this paper will examine

* Corresponding author: evelynxwxx@gmail.com

the structural differences in parents' educational expectations for their children in the digital age between East Malaysia and West Malaysia.

Kuala Lumpur has a relatively complete 5G network coverage and a digital infrastructure centre in Malaysia. Sarawak is a state on Borneo Island, and the construction of digital infrastructure in this region is hampered by difficult-to-access areas and uneven development of urban and rural areas [3]. The regional digital divide has thus drawn widespread attention from scholars at home and abroad to how to better equip students in the Malaysian education system with 21st-century skills [4].

This study focuses on the primary school parents of Sunway International School in Kuala Lumpur and Borneo International School in Sarawak. Through in-depth interviews, it preliminarily compares the differences in parents' expectations of their children's education in the digital era between the two places, and explores the factors that may affect these differences.

2 Research methods and materials

2.1 Theoretical basis

Van Dijk's four-dimensional theory of the digital divide (motivation, physical access, skills and use) was used as the analysis system, and in combination with Bronfenbrenner's ecological systems theory, the interaction among the macro policy environment and micro family education expectations was investigated [5,6].

2.2 Research methods

The four-dimensional digital divide theory helps to identify the basic reasons for differences in digital access and use among various groups of parents systematically, and Bronfenbrenner's ecological systems theory provides theoretical support for understanding the formation mechanism of parents' expectations; that is to say, it is the multi-level interaction among individuals, families, schools, and communities. Combine the two theoretical systems to explore why parents have different hopes for their children's education at both the level of the system and the individual.

Based on the above framework, this study will employ a semi-structured interview method for research. To explore the subjective cognition, emotional experience, and value judgment of the respondents in more depth, parents' attitudes towards education policies and digital technology need to be investigated through interviews [7].

The five main contents of the interview outline are as follows: Digital Facilities and Resource Allocation; Course Content and Expectation of Innovation; Teachers' Digital Competency; Education Equity and Basic Guarantee; Parents' Digital Cognition and Participation. The above levels will affect the parents' current level of educational cognition and thus change their educational expectations.

Ten parents of primary school students were interviewed in this study, including one parent from grade 1 to grade 5 of Sunway International School in Kuala Lumpur (a total of 5, numbered KL1-KL5), and one parent from grade 1 to grade 5 of Borneo International School in East Malaysia (a total of 5, numbered BN1-BN5). The interview will be conducted in the form of a face-to-face or video call from March to April 2025. Each interview will last about 45 to 60 minutes, and will be recorded and transcribed verbatim with the informed consent of the respondents.

3 Research results

3.1 Dimension I: digital facilities and resource allocation

The requirements of parents for digital facilities and resource distribution in the two areas are not the same. Parents in Kuala Lumpur generally expect the school to regularly update its digital hardware facilities and build a high-speed, stable networked environment. Parents in Sarawak pay more attention to the accessibility and stability of the basic network, and only need to ensure that the basic network can be used normally, address fundamental problems such as network interruptions and signal instability, and have low demand for repeated upgrades to digital hardware.

KL5 (parents of fifth-grade students) also mentioned: "If high-speed Internet cannot be provided in schools, how will the children learn digital skills for daily use? They have limited access to good online courses. I believe the government should make the investment in digital infrastructure for education a top priority, and international schools can serve as a model for others."

On the other hand, the main reason for Sarawak parents choosing it is to address a lack of basic network facilities.

BN1 (Parents of first-grade students) indicated that: "I just hope the network will be more stable, not keep disconnecting all the time, and let the children keep up with their studies. The first kind of stability cannot be realized. What is Digital Education?"

The above interview data are in agreement with the research results of Fang et al. on the digital access of indigenous people in East Malaysia. The study pointed out that there are various shortcomings at all levels of the Van Dijk four-dimensional digital divide model in the rural communities of Sarawak. Parents' first demand is to narrow the infrastructure gap, rather than to develop high-end digital innovation skills [3, 5]. It can be seen that the two areas have different levels of infrastructure construction, and thus parents' understandings of digital education and their hopes for their children's learning have also varied accordingly.

3.2 Dimension 2: course content and innovation expectation

At the level of curriculum content, parents in Kuala Lumpur generally hope that their children will learn cutting-edge digital skills in school, such as programming education, artificial intelligence literacy, and data analysis, through the formal curriculum system.

KL2 (parents of second grade students) clearly stated: "I hope that the school will begin teaching programming in the primary school years. It should not be too hard. Scratch is a graphical programming tool; therefore, we should also help children learn to think logically by breaking down large-scale problems into small parts. I believe that learning by heart and doing exercises are no longer sufficient either. Now that the world is changing so rapidly, what children need is the ability to solve problems rather than rote learning."

Sarawak parents place a higher demand on the foundation and accessibility of the course content.

BN2 (parents of second-grade students) said: "What I wish most is that the child can first learn basic computer operation skills, be able to type and write homework in Word, and use a search engine to find information. The above will help them more easily find jobs and continue their studies in the future."

This result is in line with the aim of "digital fluency" in Malaysia's "digital education policy" - Kuala Lumpur's parents' expectations have exceeded the target set by the policy, while Sarawak's parents' expectations have not reached the baseline of the goal; thus, there is a significant regional disparity in the implementation of the policy [1].

3.3 Dimension 3: Teachers' digital ability

At the level of teachers' digital skills, parents in both areas have expressed their demands for solid digital teaching capabilities by teachers, but the focus of these demands differs significantly.

KL1 (parents of first-grade students) showed a significantly higher demand for teachers' digital literacy and stated: "I believe that teachers should be able to use computers to teach and present slides, but also actively guide children in learning to use digital tools for creation and problem-solving."

Sarawak parents' hopes for teachers' digital skills are more practical.

BN2 added: "It is not easy for our teachers. They lack teachers and have to learn new technologies themselves. Teachers need to be able to use new technologies, and more importantly, they must also be patient. "

National data show that by 2024, only 58% of Malaysian teachers have blended teaching skills, and there is a considerable gap between urban and rural areas [2]. The interview data from this study also show the above macro-level statistics at the individual level. The two places will have different resource logics for teacher training due to the aforementioned expectations.

3.4 Dimension 4: education equity and basic guarantee

The most frequent subjects in the interviews with parents in Sarawak are education equity and basic living security.

BN3 also pointed out that educational resources were not evenly distributed. "I have heard that the schools in Kuala Lumpur have introduced smart blackboards, tablet computers, high-speed networks, and so on. However, the projector in our school has been broken for a long time, and despite multiple applications for repair, no one has carried out the repairs. Only chalk can be used to write on the blackboard for teaching digital lessons; thus, it is inappropriate. I am now very anxious about this. I am afraid that my children will be outdone by others in the future."

Parents in Kuala Lumpur are also aware of the problem of educational inequality, but their focus has been more on the standard of international competition.

KL4 said, "I do not believe that the problem of fairness is only at home. I hope the government will increase investment to address the educational disparities in rural and urban areas, improve the quality of good schools in cities, and help our children be more competitive in the global digital economy. Not all people need to be treated equally; rather, they all deserve a chance to live fully."

In their research on the digital divide of the B40 group in higher education in Malaysia, Devisakti and others found that the digital participation of economically disadvantaged groups is limited by a lack of material resources. Educational aspirations were not absent, but were limited by material conditions and thus had to remain at a basic level [4]. The two different structures of resource distribution have driven the parents' expectations for fairness at home and at school in separate ways.

3.5 Dimension 5: parents' digital cognition and participation

At the level of parents' digital cognition and participation, parents in the two places show different participation modes and ability levels. Kuala Lumpur parents generally have strong digital literacy and can actively participate in the school digital process.

KL3 also added: "We have a group of parents who often share all kinds of digital education resources. I think this kind of cooperation between parents is very valuable. In

digital education, homeschool cooperation is very critical, and we can not rely on the efforts of the school alone. If parents are willing to learn and share, their children's learning environment will be better and better."

Sarawak parents admitted that they faced more challenges in digital participation.

BN5 also points out: "Most of our parents here work in agriculture or traditional industries, and many people can't even use email. If schools want to promote digital education, they should also consider how to bring parents in. If parents don't understand and participate at all, their children learn at school, and there is no cooperation or supervision at home, the learning effect will be greatly reduced."

The systematic literature review of Mohamad et al. also pointed out that parents' cognition and support ability for online learning are important factors affecting students' digital learning effectiveness, and rural parents generally face structural barriers to digital participation [8]. The interview data of this study verify this view from the empirical level. This ability gap directly widens the home-school synergy gap of children's digital learning in the two places.

4 Discussion

The interview data in the five above-mentioned dimensions jointly show serious structural problems in the governance of digital education in Malaysia. The first reason why parents in Kuala Lumpur and Sarawak have different expectations is that the distribution of educational resources is far more uneven in the two areas. The difference between the high expectations parents have for their children in Kuala Lumpur and the basic needs of parents in Sarawak is also a result of the implementation problems at the regional level for the national digital education policy [9].

In terms of policy implementation, the Delima platform, the Jendela broadband project and the computer distribution program for teachers introduced by the Ministry of Education have met some of the basic needs of Sarawak's parents, but systematic problems such as lagging infrastructure, insufficient teacher training, and low participation from parents and the community are still prominent [2,10]. The research logic for the digital divide of the B40 group in Malaysia's higher education also applies to this research situation: rural parents do not lack the desire for digital education, but their expectations are limited by a structural lack of materials and are forced to remain at a basic level [4].

The interview data in this study also support the explanatory framework of Bronfenbrenner's ecological systems theory; that is to say, parents' educational expectations are not independent but are embedded in a particular macro-environment of family, school, community and policy. Kuala Lumpur parents have high expectations for their children, which are supported by a micro system (digital home environment) and a macro system (perfect urban digital infrastructure); at the same time, the micro and macro systems in Sarawak restrict the extent and limits of these expectations.

It is worth noting that parents in both places expressed their expectations for home-school digital cooperation in the interview, but the focus of this cooperation differs: Kuala Lumpur parents hope the school will provide a high-end digital innovation platform to meet their family's investment in digital education; Sarawak parents wish for the school to offer digital literacy training for parents so they can compensate for the lack of family digital participation skills. Based on the above results, it can be seen that policy makers should pay more attention to enhancing the digital participation capacity of rural parents in the implementation of digital education to promote school-family collaboration.

5 Conclusion

Based on the following in-depth interviews with ten parents of primary school students from Sunway International School in Kuala Lumpur and Borneo International School in East Malaysia, this study has systemically compared the different levels of parental educational expectations in the digital age across five aspects: digital facilities, curriculum content, teachers' digital literacy, educational equity and parental involvement.

Based on the above data, parents' expectations in Kuala Lumpur and Sarawak exhibit significant structural differences: parents in Kuala Lumpur wish for continuous upgrades to digital hardware, the introduction of programming and artificial intelligence courses, and aspire to have teachers with innovative and leading abilities as digital educators; parents in Sarawak, on the other hand, are primarily concerned with stable access to basic network facilities, teachers' offline coping mechanisms, and how to connect the resource gap between urban and rural areas. The difference is not due to an underlying conflict in educational ideas but is rather a result of the structural disparities in material conditions, geographical environments and policy coverage of the two places. Parents' educational aspirations are not independent; they are also shaped by their family life and the will of regional policy.

Therefore, it is recommended to continue supporting the development of high-level digital innovation education in urban areas and, at the same time, focus on building basic access conditions and teacher capacity in rural areas. At the same time, enhance the digital literacy of rural parents in the policy objectives to better foster cooperation between schools and families.

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