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The Impact of Classroom-Based Assessment (CBA) Implementation on the Performance of B40 Pre-School and Primary School Students

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Abstract. Classroom-based assessment (CBA) is applied in the education system in Malaysia. It substitutes the public examination system at primary school level and holistically gives prominence to summative and formative assessment. This case study examined the intended objectives of CBA in relation to its actual impact on bottom 40 (B40) income group pre-school and primary school students, identifying the effectiveness and challenges of CBA implementation and highlighting the barriers that hinder its success in achieving educational goals. In-depth interviews were conducted with 13 participants selected from a quota sample to gather data. The interview findings were analyzed to form themes and were confirmed by experts through a Cohen Kappa index of 0.803. The findings regarding the effectiveness of CBA showed that CBA is a holistic assessment for B40 students, especially students who are weak in learning, as it encompasses a comprehensive learning and continuous assessment. CBA is also beneficial for B40 students as they are given the opportunity to achieve the desired mastery level; thus, the gap between B40 students and non-B40 students can be minimized. In addition, this study also highlighted the achievement of B40 students through their mastery of subjects at school. Challenges in the implementation of CBA for B40 pre-school and primary school students encompass three aspects, namely challenges in knowledge, achievement, and implementation. This study explored critical discussion and understanding to improve the learning system and further realized the benefits of implementing CBA, especially for B40 pre-school and primary school students.

Keywords: B40 students; challenges; classroom-based assessment (CBA); effectiveness

1. Introduction

Classroom-based assessment (CBA) has been implemented in education systems worldwide, including in Malaysia, for centuries. It was introduced by the Ministry of Education in 2011 as part of the Malaysian Education Blueprint. The primary reason for introducing this in Malaysia was to shift the focus from exam-oriented education to a more comprehensive evaluation of students' abilities. This initiative aimed to enhance the assessment of students' understanding and skills in a more holistic and continuous manner, moving away from the traditional focus on final exams. This assessment employs diverse forms, methods, and aspects to evaluate students holistically (Arumugham, 2020). Scriven (1967) implemented CBA in 1967 so the educational community could conduct formative and summative assessments. CBA has gone through many stages and phases of modification in its implementation worldwide. Changes in the implementation of CBA are driven by consideration of the policy, principles, and goals of the education system (Lewkowicz & Leung, 2021).

The history of assessment in Malaysia is also very extensive. Prior to the CBA implementation, several types of assessment were developed to suit the needs and development of current students (Nawawi & Mohd Yasin, 2023). Notable among these were standardized tests, which primarily focused on rote memorization and quantitative evaluation. Following these were the common tests, designed to standardize assessments across different schools to provide a more uniform measurement of student performance nationally.

In principle, CBA can be implemented efficiently and provide many benefits to students (Brandmo et al., 2020). CBA enhances learning by providing continuous feedback, reducing exam stress, and encouraging active student participation. It supports personalized learning, allowing adjustments in teaching strategies to cater to diverse student needs and skills. Additionally, CBA facilitates the development of critical thinking and holistic skills assessment, making education more responsive and effective.

Various efforts and frameworks have been established to ensure effective and ideal CBA implementation for students (Brandmo et al., 2020). In certain countries, including Malaysia, the implementation of CBA is adapted to the country's policy requirements, which is the core of student assessment at the school level. To substitute the primary school achievement test (UPSR) and form three assessment (PT3), a school-based assessment (PBS) has been conceived. Since the elimination of UPSR and PT3, CBA has been empowered through several components, namely CBA, psychometric assessment (PPsi) and physical, sports, and co-curricular assessment (Curriculum Development Division, 2019). Brandmo et al. (2020) explained that the CBA system can offer an opportunity for learners to improve achievement through self-regulated learning. It does not differentiate between the mastery level and background of the individual, and it provides a wider space for exploration to obtain excellence in learning.

This study aimed to explore the inherent opportunities for implementing CBA in the context of education in Malaysia, especially for bottom 40 (B40) income group

students. Previous studies regarding the B40 group have been conducted, but they only focused on students of higher education institutions, and no assessment was examined. For example, Devisakti et al. (2023) examined the level of technology use, and Mohamed Nafuri et al. (2022) suggested the economic cluster of students of higher education institutions in Malaysia. This study pioneers critical discussions and enhances understanding of the effectiveness of CBA implementation for B40 pre-school and primary school students in Malaysia. By exploring these aspects, the study aimed to improve the learning system and maximize the benefits of CBA implementation for these student groups. Moreover, these findings suggest that CBA can help reduce the achievement gap between B40 and non-B40 students, highlighting its potential as a tool for educational equity.

2. Literature Review

CBA improves students' self-achievement through more comprehensive exploration in the classroom in various aspects. Students may be engaged according to their needs, interests, and abilities in learning (Lewkowicz & Leung, 2021). Through CBA, students engage in self-regulated learning by adapting to class activities and planned assignments to achieve success and meet learning objectives. Several factors, such as attitude, belief in learning, and educators' self-efficacy, lead to the success of CBA (Brandmo et al., 2020). Since CBA is able to improve students' self-achievement, it can also develop teacher assessment practices. This can be seen through the implementation of various assessment methods by educators continuously and repeatedly to develop students' knowledge and skills (Brandmo et al., 2020). Teachers determine the assessment purpose, process, fairness, and measurement theory in CBA implementation (Christoforidou & Kyriakides, 2021).

By implementing CBA, students can improve and rectify their mistakes when learning any subject. Teachers will often use spontaneous assessment opportunities, including question-and-answer sessions and observations. Closed questions are mainly used to obtain factual information or simple understanding from an individual or entire class (Christoforidou & Kyriakides, 2021). This type of questioning practice allows teachers to modify their teaching if necessary. Teachers will use oral questions to guide students to rectify their mistakes (Yan et al., 2021). Students' learning process will also become more meaningful and teachers can develop students' potential widely through their teaching. Therefore, CBA is a benchmark for evaluating teachers' teaching productivity and adapting lesson plans (Vlachou, 2018). In addition, the implementation of CBA on students can assist teachers in achieving the targeted learning objectives. This system improves teachers' pedagogical practices so that they employ different teaching methods and practices (Vlachou, 2018).

Christoforidou and Kyriakides (2021) delineated three groups of teachers who implement CBA, namely novice teachers who implement it according to a standard approach, intermediate teachers who use a fair approach, and experienced teachers who use various approaches in CBA. Teachers' pedagogical approach has a great impact on how they integrate assessment with teaching

practice (Christoforidou & Kyriakides, 2021). In addition, CBA learning is holistic regarding constructive exploration and different methodological applications to ensure that the learning objectives and vision can be ideally achieved (Brandmo et al., 2020). The implementation of CBA also motivates students. Based on summative assessment, low-achieving students can be motivated to improve their performance based on their previous achievement (Yan et al., 2021). Reward elements may be used to motivate students to achieve good results.

CBA can enhance student achievement by enabling teachers to effectively manage learning sessions and help students understand the targeted learning goals. Subsequently, they will identify gaps among students so that everyone can understand the learning session (Vlachou, 2018). This situation promotes increased student achievement in school and further reduces the gap among excellent, average, and low-achieving students (Vlachou, 2018). According to Puad and Ashton (2021), student behavior and attitudes can be improved by emphasizing resilience and seriousness through implementing CBA. It creates an expectation of increased student achievement in learning sessions.

Although CBA has various impacts, there are also some underlying challenges. The main challenge facing the implementation of CBA is the limited knowledge among teachers, which causes imperfect CBA implementation. Challenges include a lack of parental awareness about CBA, insufficient subject mastery among students, and the logistical difficulties of individualized assessments due to large class sizes and inconsistent student attendance. Hock et al. (2022) found that most education systems do not provide specific knowledge about CBA to pre-service teachers. Yan et al. (2021) also found that some teachers are not provided with assessment literacy training to implement CBA. These situations render teachers unclear about the implementation of CBA, thwarting students' meaningful learning goals (Lewkowicz & Leung, 2021). In addition to knowledge, skills among teachers also make it difficult to implement CBA effectively. Some teachers still rely on the formal assessment of students rather than assessment through oral reading assignments and textbook exercises (Yan et al., 2021). Hock et al. (2018) revealed that teachers are mostly perplexed when they are more dominant in implementing CBA, while the active role of students in the assessment process should be prioritized. Meanwhile, Climie and Henley (2016) advocated for the integration of strengths-based assessments in schools, noting that while traditional evaluations often focus on student deficiencies, they typically overlook the students' capabilities.

The implementation of CBA should go through several phases, namely before, during, and after a learning session (Campbell, 2013). Nevertheless, Hock et al. (2018) claimed that some teachers do not overcome students' weaknesses so that the quality of student achievement can be amplified. CBA fosters competition among students to achieve excellent results; however, contrary to its intention, weaker students struggle to enhance their achievements (Yan et al., 2021). This stems from the nature of responsibility in implementing CBA. Responsibility is seen as students' effort in demonstrating the execution of their assignments. However, there are issues of responsibility during the implementation of CBA,

making it strenuous to improve student achievement (Puad & Ashton, 2021). Factors of facilities and infrastructure are also part of the challenges preventing the perfect implementation of CBA. Most schools have an average class size of over 40 students. This large number of students prevents teachers from implementing diverse activities and approaches due to difficulties in monitoring and assessment sessions (Yan et al., 2021). It also restricts the provision of detailed feedback and prevents teachers from consistently making individual observations when involving a large number of students.

The aim of implementing CBA in Malaysian schools is to enhance educational outcomes. However, its effectiveness among B40 pre-school and primary students remains uncertain due to various implementation challenges, necessitating a comprehensive study to evaluate its impact and identify barriers to its success within this demographic. By identifying and addressing implementation challenges, the research seeks to improve educational practices and contribute significantly to the academic success of underserved communities.

3. Research Objectives and Questions

This case study aimed to evaluate the effectiveness and identify the challenges of implementing CBA in the Malaysian education system, specifically focusing on its impact on B40 pre-school and primary school students.

3.1 Research Objectives

The following were the detailed research objectives:

1. To identify the effectiveness of CBA implementation on the development of B40 pre-school and primary school students.
2. To identify the challenges in CBA implementation for the development of B40 pre-school and primary school students.

3.2 Research Questions

This study aimed to answer the following questions:

1. What is the effect of CBA implementation on the development of B40 pre-school and primary school students?
2. What are the challenges in implementing CBA on the development of B40 pre-school and primary school students?

4. Research Methodology

This study was qualitative, employing a narrative research design through a case study. Kim et al. (2017) affirmed that using narratives in case studies can explicitly describe the issue or situation to be studied and the findings can be justified comprehensively. Therefore, this study used a structured interview as a research instrument, focusing on the research questions. A total of 13 participants were selected from quota sampling from several groups with several criteria, namely pre-school teachers and B40 pre-school and primary school students from all over Malaysia. Of the 13 teachers selected, five were CBA state head trainers (JUN), four were CBA school coordinators, and the remaining four were teachers actively implementing CBA in their classrooms.

Semi-structured interviews are advantageous because they allow for detailed, flexible discussions that structured surveys might miss. This method enhances data richness by enabling interviewers to explore deeper insights. Interviewee anonymity was maintained by using codes instead of names, encouraging openness and protecting privacy. This approach was chosen for its ability to capture complex personal experiences and adapt to varied responses, vital for discussing educational practices and individual perspectives. This study was approved by the relevant institutional review board, ensuring that ethical standards such as informed consent and confidentiality were upheld, protecting participant welfare and rights.

The methodology for this study was carefully chosen to explore the implementation of CBA among B40 students deeply. We opted for a qualitative narrative approach, which is ideal for capturing detailed insights into educational practices. Interviews, lasting about an hour each, were spread over several days for convenience and to gather reflective responses. Each session was recorded and transcribed verbatim to preserve the information shared accurately. Thematic analysis was then applied to develop and refine themes from the data systematically. The credibility of these themes was enhanced through validation by experienced educators and CBA trainers, who assessed consistency using the Cohen Kappa scale. This rigorous approach ensured that this study's findings were both reliable and insightful, offering a comprehensive understanding of CBA's impact in educational settings.

The findings obtained from the interviews were analyzed and screened to establish three themes (3) and six sub-themes (6). The themes were then validated by experts, consisting of lecturers from higher education institutes who were also national head trainers of CBA, based on the Cohen Kappa scale. Table 1 presents the findings of the expert evaluation. The Cohen Kappa scale was used to measure inter-rater reliability among expert reviewers, including lecturers and national head trainers of CBA. This statistical tool helped quantify the level of agreement on the identified themes and sub-themes from interviews, ensuring the analysis's objectivity and reliability. By applying the Cohen Kappa scale, we quantitatively verified the consistency of expert evaluations, thus validating the thematic structure of the data.

Table 1 illustrates the agreement rates among reviewers, highlighting the robustness of the themes in reflecting the effectiveness of CBA implementation.

Table 1: Findings of expert evaluation

Research objective	No. of consent		Overall item
	Expert 1	Expert 2	
Objective 1: Effectiveness	60	59	65
Objective 2: Challenges	60	57	66
Fa	120	116	131
Fc (131/2 = 65.5)	65.5	65.5	65.5 N = 131
Cohen Kappa: fa-fc / N-fc	54.8 / 65.5	50.5 / 65.5	
Average consensus among experts	0.836	0.770	Expert consensus value
Formula: fa is the consensus unit fc is 50% of the expected total consensus N is the number of theme units to be evaluated			0.836 + 0.770 / 2 **= 0.803 (Good)**

The expert consensus value was 0.803, indicating a good scale. This proved that the experts agreed with the findings of this study.

5. Data Analysis

5.1 Effectiveness of CBA Implementation on the Achievement of B40 Pre-School and Primary School Students

Based on interview sessions, CBA was found to be effective for B40 pre-school and primary school students, as shown in Figure 1.

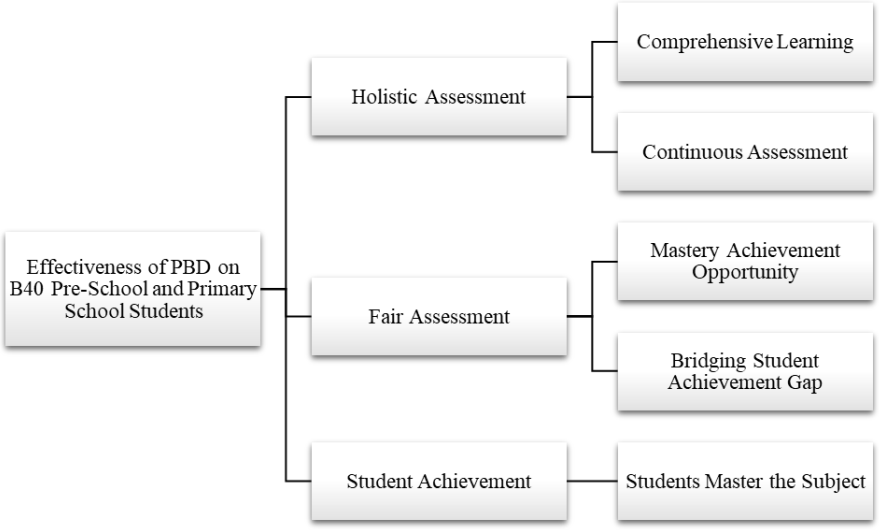

Figure 1: Themes and sub-themes of CBA effectiveness on B40 pre-school and primary school students

5.1.1 *Holistic assessment*

Through the interview sessions, the participants stated that CBA is a comprehensive assessment that includes all aspects that students need to assess. For example, participants 2, 11, and 12 stated that CBA examined students from various aspects:

> *"... erm... very good because we didn't only examine the mind or mentality of students. But in terms of spiritual, physical, emotional, psychological, and all from CBA."* (R2M3B4)

> *"We didn't assess students based on the student work only, we have various professional considerations...we assessed this student holistically, not only their knowledge...but values, communication, and leadership skills holistically."* (R11)

> *"...there were no more exams, only two-year summative [assessments], for me, CBA can assess more...we used to assess writing and comprehension tests, but with CBA, we can assess wider aspects."* (R12M2B6).

This statement is supported by Participant 6, who reported that CBA helped evaluate students comprehensively, including personality aspects:

> *"...the students were evaluated comprehensively. In terms of personality, for example, the student may be weak in studies, but he is diligent. Diligent student. Ha… a good student who obeys the rules. Now we have SSDM, right? Student personality system. Ha... if the student does one good thing, that's where the teacher can give him a mark. Ha... the teacher has to play a role."* (R6M1B17)

Participant 9 also testified that CBA is comprehensive as it can assess students' talents and achievements:

> *"...a very good assessment for schools because it assesses not only aspects of student performance, but in terms of student's personality, values, talents and also overall development. Previously, we assessed academic performance only from UPSR."* (R9M2B3)

In addition, Participant 10 agreed that CBA is comprehensive in assisting B40 students, especially low achievers. They are not solely dependent on UPSR, but they are also evaluated from various aspects, which expands their opportunity to excel:

> *"In fact, CBA is better for evaluating students because we evaluate more aspects in the final exam of the academic session. In the past, we had UPSR. We do not have other assessments, meaning we only assess in terms of knowledge during the test. With CBA, it is great to help weak students, especially from the B40 group."* (R10M4B11)

Participant 11 claimed that CBA is comprehensive as it also evaluates leadership aspects and can indirectly develop the potential of B40 students over non-B40 students:

> *"There were also B40 students who were slow, and some were okay. His leadership in the class. It depends on each individual's abilities and potential... like at my school, B40 and non-B40 students were not much different in achievement. It means CBA is good."* (R11M1B18)

In addition to comprehensive learning, CBA also assists B40 students through its continuous assessment, which does not only assess the final examination. For example, Participant 1 stated that it assists B40 students who are weak in their studies to continue to make progress, even if slowly. It should not hinder their enthusiasm to continue learning:

> *"Able to guide continuously, like me aaa... I made a mini book so I can guide them. I used this for assessment. They were given a chance. They responded. At least, students can make progress slowly. What is your name? Ali…at least he responded even if the sentence was incomplete."* (R1M5B2)

This statement was supported by other participants who reported that their students were able to achieve the achievement level (TP) with continuous assessment implementation.

> *"Here's an example of his writing... It was neat, too. But this can be improved through v, right?... I mean, in terms of the overall achievement, I think it was satisfactory for the B40. It can be satisfactory. He can make progress slowly. Meaning that* CBA *is good for the B40."* (R4M2B2)

For B40 students, the continuous implementation of CBA increases the percentage of students attaining the TP, as stated by Participant 9:

> *"In the beginning, it was true* CBA *for TP 1, 2, and 3, which were achieved by many [students]. Only 40% attained TP 4, and TP 5 and 6 did not reach 10%. To help these students, we implemented several measures... if you look at their current performance for low TP... only 9% attained TP 2. With* CBA*, it changes gradually."* (R9M1B9)

Participant 11, a mathematics teacher, stated that CBA implemented for mathematics subjects through continuous guidance sessions assisted students in mastering the content of learning standards:

> *"Mathematics was also quite difficult for B40 students to master, but when we taught by standards, and then we made an assessment, the students understood because we did an exercise session after teaching, so there was no problem. There were students who needed guidance."* (R11M2B8)

With CBA, students can also realize their level of achievement and, concurrently, can increase their efforts to attain better achievements, as stated by Participant 12:

> *"The student can aaa... evaluate himself in terms of strengths and weaknesses and also find out how the student can improve his achievement in certain subjects that he did not master."* (R12M1B11)

5.1.2 *Fair assessment*

The second theme in this study was fair assessment. Participant 4 stated that CBA provides opportunities for B40 students to achieve TP without discrimination:

> "*So, this* CBA*, in terms of TP achievement, can involve all. No discrimination in terms of household income. If you want to ask the estimated number of B40 students in the class immediately, try to teach.*" (R4M2B3)

Participant 6 also affirmed that CBA would ensure that students could achieve a good mastery level, especially the weak students among the B40 group in rural areas:

> "*Ha, it's more on ha… individual guidance. For BM [Malay language], I called students to read with me and rated them like* CBA *TP 1, 4, 5, 6. Ha, if he still struggled in reading, we rated TP 2. Guidance varied. Ha…it's flexible and can vary. At the end of the year, if there is an improvement, we can rate it as four or five. That's individually. It is more of an individual and can be improved according to the stage.*" (R6M4B1)

Participant 9 stated that the opportunity for B40 students to accomplish TP is due to the fairness in the implementation of CBA. It is not dependent on academic assessment alone but also on other aspects which can help students achieve TP. Similarly, it helps B40 students who are weak in their studies to compete in various aspects. This statement was expressed by Participant 1:

> "CBA *is fair. When we evaluate the student fairly, it's not just academic, but we evaluate how the student puts forth their ideas, that is, how they think sometimes.*" (R9M4B6)

> "*The assessment becomes more holistic so... everyone can achieve it, and indeed, we can see the students' progress one by one aaa... from my experience.*" (R1M2B11)

The CBA is fairly implemented to bridge the achievement gap between B40 and non-B40 students. For example, Participant 13 stated that students' achievement was much better during CBA implementation compared to UPSR. The achievement gap between students in rural and urban areas can also be reduced, unlike the implementation of UPSR:

> "*...hmmm... for B40 students, it can reduce the gap with students in rural areas, the majority of B40 students in my school have good achievement. In the past, during UPSR, there were huge gaps. Most children from the non-B40 group are able to provide their children with tuition classes, right? But* CBA *doesn't pursue exams.*" (R13M8B2)

Participant 4 stated that CBA reduces the achievement gap of B40 students as it comprehensively evaluates performance and achievement:

> "*In terms of the Malay language subject,* CBA *can indeed help reduce the achievement gap due to the comprehensive evaluation of the student's performance and achievement during the PdPc activities... the transit*

> *record recorded through group activities also helps the students to be more active compared to the UPSR which emphasizes academics only..."* (R4M9B7)

Participant 12 stated that there was a very significant difference between the implementation of CBA and UPSR for B40 students. Several factors were mentioned. For example, during the UPSR implementation, non-B40 students had many advantages, such as attending tuition classes and various other opportunities:

> "*In the past, the gap was very noticeable. Most M or T attended tuition classes, and there were various opportunities with* CBA *without UPSR, which has bridged the gap between B40 and non-B40 students."* (R12M6B9)

According to Participant 12, implementing CBA bridges the gap as the ability of B40 students is measured and evaluated in group activities, innovation, and so on. In fact, these students complete the assignment in the assessment session:

> "*Based on my observations in this school and other schools as well, because I just gave a* CBA *briefing before, the absence of UPSR has reduced the gap between B40 and non-B40 [students], so it was easy to identify B40. 90% of us can recognize them from their attitude, character, etc. Most of them were very active in class... and they liked to mess with their friends and so on. They have talent. With* CBA*, for example, group activities aaa... innovation... these students played great roles in the group and were also brave. UPSR only evaluated academics. With the existence of* CBA*, it does not focus only on academics. In BM [Malay language subject], there are three skills, namely listening, speaking, writing... and so on. Haa... the gap can be bridged. In my class, when I did group activities, they played great roles."* (R12M6B11)

Similarly, Participant 7 stated that CBA is able to bridge the gap as B40 students are assessed throughout the year, and the opportunity of achieving good results is the same between B40 and non-B40 students:

> "*…um, the gap can be bridged. My reason is that the students are guided until they succeed, and the assessment is done throughout the year. Socio-economic status is not taken into account and students are evaluated according to their own strengths and advantages without comparing with other students. It differs from UPSR, which only evaluates academic aspects."* (R7M6B4)

Participant 9 stated that CBA uses various instruments that are able to reduce the gaps between the two groups' achievements:

> "*...the use of various instruments can indeed reduce the gap between these two groups of students..."* (R9M3B9)

Participant 4 stated that CBA can bridge the gap as it is measured by summative, formative, and student skills:

> "*In UPSR, we were able to see a significant gap... because we only measured formative... but* CBA *is measured as a whole... summative,*

> *formative, and personal skills... so the gap between B40 and non-B40 students was visible because they have different skills, advantages, and disadvantages..."* (R3M4B4)

5.1.3 *Student achievement*

The final theme in this study was student achievement. Through this theme, student achievement can be observed based on their mastery level of subjects. In the interview sessions, some participants stated that student achievement was successfully improved through implementing CBA at school. For example, Participant 5 stated that with CBA, students can improve their mastery and achievement levels of the subject. Participant 5, who formerly taught in the urban area but currently teaches in rural area, perceived that B40 students could master the subjects well:

> *"For achievement, we actually think students in rural areas cannot master their studies. But actually, in the right way, they can. They can compete with students from urban areas. I used to teach in Gombak. So, I want my students in the village to master their studies just like my students in the city."* (R5M2B8)

Participant 11 stated that CBA helps B40 students master their subjects up to TP5 and TP6:

> "*Student achievement in the class is evaluated from the score for the final exam but there is no problem with* CBA *to achieve TP. There were B40 students who could achieve TP5 and TP6."* (R11M3B8)

According to Participant 13, since CBA is not exam-oriented, students are not stressed and really enjoy learning and, thus, they could achieve the target objectives:

> "*Students enjoyed learning and were not stressed. It was fun because* CBA *doesn't even have an exam, right? So they enjoyed learning and could master [the subjects] continuously..."* (R13M2B3)

Participant 4 explained about experiences in teaching the Malay language as a subject. In this subject, students can achieve TP through the transit record system, which is an assessment that is constantly being improved:

> *"I could see from* CBA *for the BM subject, students were able to master the subject, because every BM teacher has a transit record. For example, on the date the student was assessed, the student only got TP3, but the assessment on another date, the TP may change if the student has mastered the skill. For example, reading skills... In BM, there are three skills that are assessed, listening and speaking, reading and writing.* CBA *helps B40 students to excel because the assessment is not done in one day, unlike UPSR. However, continuous assessment allows students to excel and not be stressed, and assessment is also more holistic and not bound to exams."* (R4M3B6)

Participant 1 stated that students will be able to achieve TP if the assessment is performed continuously. Evidently, B40 students improved their TP to at least TP3:

> *"Yes, because as a teacher, the goal is obvious through student TP. For example, recently, I focused on intervention for TP1-TP2 students. I provided a simple reading sheet in a file to take home, specifically for the group only. I gave a sticker when the task was completed. Sometimes, we read together outside of class and I gave homework guidance. Clear instructions were given to parents to help with basic reading skills. The number of TP1 students decreased. The number of students advancing to TP3 increased."* (R1M5B4)

Participant 1 also stated that students were able to improve their speaking skills in English through the implementation of CBA in the classroom:

> *"If you want to focus on B40 students, there was one student with TP2. However, his ability to speak at a simple level, like introducing himself, Yes/No responses to simple questions in BI, and also recognizing the sound of letters (phonemes), has improved over time."* (R1M4B7)

5.2 Challenges in CBA Implementation and Their Effect on the Achievement of B40 Pre-School and Primary School Students

The findings of this study indicated several challenges in the implementation of CBA for B40 pre-school and primary school students, as shown in Figure 2.

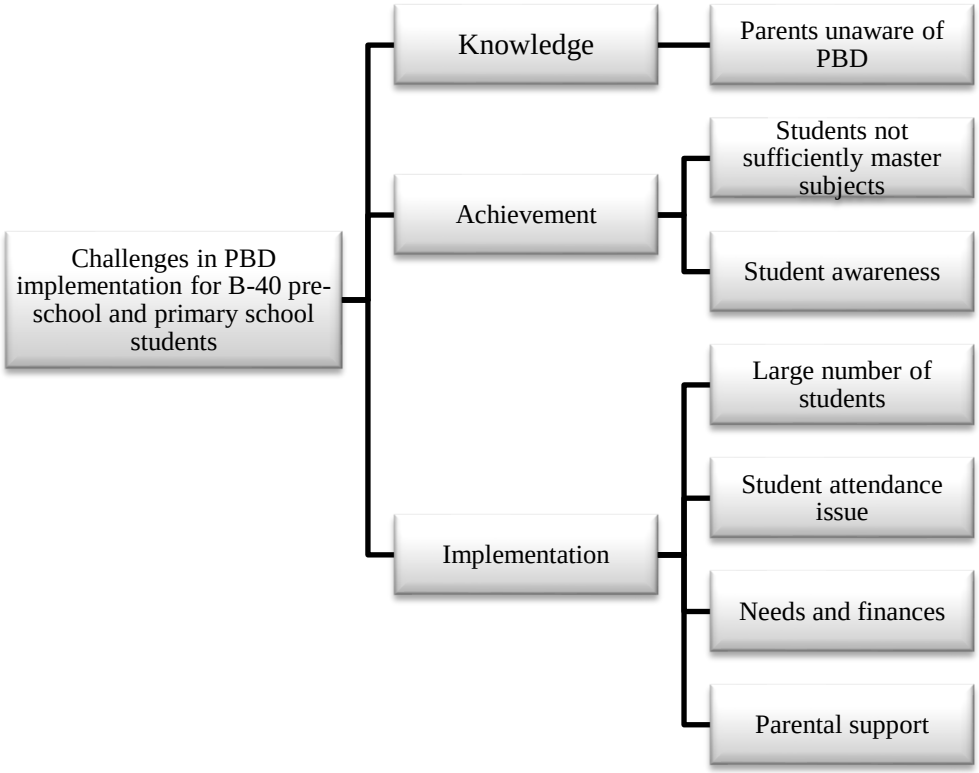

Figure 2: Themes and sub-themes of challenges in CBA implementation for B40 pre-school and primary school students

5.2.1 *Knowledge*

Based on the in-depth interview sessions, the participants stated that knowledge is a major challenge in implementing CBA for B40 pre-school and primary school students. Parents have a lack of knowledge about the implementation of CBA with their children, according to participants 12 and 7.

> *"Parents did not understand the TP setting. Why is it like that? It was hard for parents to understand. Even if we held a parents' meeting to talk about their children's TP, they may nod but it's hard to know whether they understand or not. They may not be clear."* (R12M5B17)

Therefore, support and concern about CBA achievement and mastery are not emphasized by parents:

> *"The parents wanted to explain to their children why it is important to get TP6 or TP5. It was also a bit difficult for the student because of the details. It [TP] is good for those who construct it but not for those who receive it, it has not actually been achieved because many people did not understand, especially students and parents... Explanation did not reach these parents. Even though it was explained through WhatsApp and so on, they still didn't understand."* (R7M2B3)

5.2.2 *Achievement*

The second challenge in the implementation of CBA is achievement among B40 pre-school and primary school students. Based on the findings of this study, some students did not master the subjects when CBA was first introduced. Some B40 students did not attend kindergarten due to several factors, such as family finances and parental awareness. This situation resulted in dropouts in the basic learning of the subject. For example, Participant 13 stated that some of the students did not attend kindergarten, causing them to lag behind other students:

> *"Students who did not attend kindergarten tended to drop out, so they would be lagged behind during* CBA *implementation. Now, it's a zero policy, and we can't refuse their entry."* (R13M5B17)

According to Participant 3, many of the B40 students faced problems in reading. To master a subject, students need to understand the content of the subject by reading, separately from the teacher's guidance. This situation made students lag behind in terms of achievement:

> *"...most of the B40 students underwent remedial [reading] classes. For example, I taught Year Four. So many students couldn't read. They were lagged behind in class and puzzled. When I told him to write in front [of class], he couldn't."* (R3M6B11)

This statement is supported by Participant 4, a teacher of the Malay language subject. The participant revealed the same issue regarding B40 students who could not speak Malay well; as a result, they could not master and achieve the appropriate TP for this subject:

> *"...it was true that they had difficulty speaking the Malay language. A high score or TP cannot be given to them as they have poor basic speaking skills. Not to mention writing, listening, and grammar skills. In the Malay language, there are language arts, such as poems. Due to their poor Malay*

> *language speaking skills it will indirectly affect the assessment score."* (R4M6B10)

The issue of mastery in this subject was also emphasized by Participant 13. According to him, after several months of teaching, students did not recall the lessons that were delivered as they were not formally assessed through special tests:

> "CBA *was not beneficial for B40 students due to a lack of formal assessment of students. Students gained knowledge at that point, but after a few months, when revising the topic, they tended to forget as the assessment was conducted by sub-topics only."* (R13M7B19)

Since CBA is assessed in stages, its implementation must be governed by the involvement of all students. However, it is strenuous when the assessment cannot be executed as the majority of B40 students have to attend remedial classes. Mastery of the teaching content is also often delayed:

> *"Most of these B40 students were in remedial classes, so there were only eight students in my math class. All of them were B40 students. So, the gap in* CBA *achievement gap was quite influential."* (R13M2B7)

In addition, a few B40 students did not achieve high results in CBA due to a lack of awareness in their studies. They prioritized financial needs over studies, as stated by Participant 7:

> *"...most of the B40 group focuses on the financial needs of the family. When class is not their goal, it is quite difficult for teachers to help these students achieve TP6. Here, we mostly focus on students to pass TP3, which is not the minimum level for them as this group really focuses on getting money for the family."* (R7M3B3)

Since CBA assessment is not subjected to examinations (e.g., UPSR), some of these B40 students lost their motivation to study, which affected their performance:

> *"I perceived two situations: formerly, when there was UPSR, and currently,* CBA. *The motivation differed. In the past, everyone attended [class] with enthusiasm as they knew there was an exam, but now there was no such enthusiasm."* (R13M4B13)

Another challenge in CBA achievement is students' negligence in CBA implementation. For example, participants 3 and 11 stated that their B40 students did not complete the assignments given:

> *"From my point of view, the marks for the work were given based on the corrections he should have made, but he didn't. Even the book seemed to be... no diligence... For example, as you can see, the B40 student's book was torn thin. They never submit the assignment given. Compared to M40 students, their work was perfect. Mistakes are normal in learning, right? The* CBA *assessment for B40 students was always ignored. Not all, but most of them at my school were like that…"* (R3M2B7)

> *"Some students didn't finish their assignments, sometimes, we sent messages via WhatsApp, but they still didn't do it. That's normal, and not everything is perfect, right? We just informed you in class."* (R11M2B16)

5.2.3 *Implementation*

The next challenge for CBA is its implementation for B40 pre-school and primary school students. The large number of students in a class makes it difficult for teachers to implement CBA and focus on B40 students, as stated by Participant 1:

> *"…aaa too many students in one class. It's okay if the ideal number is twenty, or at least twenty-five..."* (R1M2B18)

> "CBA *did not help directly because the number of students was too many, and it was difficult to help these B40 students..."* (R1M3B3)

The sheer number of students per class significantly hampers the effective application of classroom-based assessment (PBD) strategies, especially for B40 students. This constraint limits the personalized attention teachers can provide, which is crucial for the success of PBD in fostering individual student growth and learning outcomes.

Participant 6 expressed the challenges in carrying out individual assessments due to the large number of students in a class:

> *"Sometimes we wanted to [assess] by individual, right? So, we have to do it on five students a day. The next day, there were also five students. Because we wanted to observe in detail his reading, books, neatness, frequency... but there were so many students... so it took a long time."* (R6M3B16)

In addition, the attendance of B40 pre-school and primary school students in school also contributes to the challenge in the implementation of CBA. This attendance issue was agreed upon by most of the participants of this study. For example, participants 3 and 4 stated that most B40 students did not attend school, making it difficult for CBA assessments to be carried out continuously. Several problems were identified as the cause of their absence, one of which was transportation issues:

> "*However, it was difficult for us to assess because the majority of B40 students had attendance issues. We needed to conduct* CBA *assessments continuously. But they are always absent. Based on the APDM system for attendance, their reasons were transportation problems and waking up late."* (R3M4B17)

> *"...these two students were smart. The only problem was that they were always absent from school. We have calculated the distance and found that there was a transportation problem. Their parents have problems at home and involved the children, even the mothers didn't have transport. So that was the problem."* (R4M3B9)

> *"If it rains, they don't come [to school] because they ride a motorcycle or walk."* (R12M3B9)

As a result of not attending school, these students tend to drop out of the teaching syllabus, which also makes it difficult for the teachers to assess absent students, as stated by participants 5, 8, 12, and 13:

> *"In the end, he didn't attend school... it was hard to assess [*CBA*]. Because he also relied on his parents. That means he often skips school and is absent. umm... When he skips school, he can't study. He's lagged behind."* (R5M2B18)

> *"The issue was attendance. If the student comes to school, the teacher can do it [assessment]. Whatever method the teacher uses, God willing,* CBA *is possible. But when students are absent, that's actually the memory. If given the opportunity to talk about* CBA*, I may say* CBA *is really good. So, it was the issue of student attendance that constrained the implementation of* CBA*."* (R8M1B1)

> "CBA *is continuous, so it becomes a problem when students' attendance is incomplete. It was hard to assess TP, even though we were conducting screening at that time via test."* (R12M3B2)

> *"The problem was student attendance... at my school, if the mother gives birth, the student skips school. For example, one of my students has been absent from school for almost two weeks. His child did not attend kindergarten because of a speech delay, and he was not very good at speaking. So, he was absent for two weeks. Later, when he came back to school, he really lagged behind."* (R13M4B9)

Moreover, the challenge of absent students results in dropout issues in subject mastery, as stated by Participant 11:

> *"There was an issue of achieving 95% attendance...the dropout factor can occur. For example, if I teach the topic of money, I would like the students to know the value of money, but then they are absent. The next day we may add the money value. So, he's lagged behind."* (R11M2B11)

The next challenge in the implementation of CBA is financial concerns. In terms of technology-based devices, some B40 students do not own them. Therefore, they cannot access information easily, or at all, when they are at home or complete more challenging tasks using technology devices to achieve higher TP. This was emphasized by participants 1, 2, and 7:

> *"T20 has the advantage of economic and educational background. T20 students have great and easy opportunities to access computers and internet. B40 students have no such opportunity... hard…. [No] books, computer access."* (R1M3B1)

> *"...I saw a difference in the way technology was used. Not all B40 students owned gadgets. Maybe from a low-income family, it was not easy. So, the use of gadgets and technology terms was a little less. So, if we ask non-B40 students, they know about trendy and viral issues as they are more exposed, unlike B40 students. Maybe at home, he doesn't own a gadget. So he is less exposed to technology."* (R2M3B2)

> *"When there is a financial problem, it will directly affect the child, and there are so many things he cannot buy. For example, if we need to do a project for a history subject that requires students to do research, sometimes we need to make it interesting. We ask the students to make presentations in groups because they like it. But the problem is that there are no gadgets like laptops, handphones... they can't do it. So, it is quite hard to give high TP."* (R7M3B18)

Most teachers will do their best to assist students and provide them with the opportunity to obtain TP. However, it remains limited when considerable costs are involved. For example, Arts Education and Design and Technology (RBT) subjects require great capital to achieve higher TP. Participants 6, 11 and 13 stated:

> *"If it's a project assignment, we ask them to buy any item... maybe less... because they can't afford it."* (R6M3B11)

> *"I taught RBT...if possible, we want the student to have the items for the project. But we have to share one item with five people, so it's hard for us to assess individually. Cost and material constraints make it difficult for us to assess. The cost of buying items for RBT subjects is high."* (R11M4B8)

> *"We provided basic items for assessment but other items needed to be brought by students. We saw differences in the results of the B40 students' assignments recently. Even the items for the artwork and costs were divided by group. One group finished their work...another group could not finish it because there were not enough items. B40 students did not bring any items. I asked why, and he replied that it was okay and that the friends would bring it later. There is such a mindset."* (R13M3B18)

Another challenge in the implementation of CBA is parental support. According to Participant 7, parents' awareness of the importance of CBA is extremely low as they perceive that CBA is not an examination that children have to pass:

> *"We saw most of them, maybe in terms of awareness issues. Ok, I didn't know, maybe it was due to awareness or others. Maybe because these parents perceived there were no exams, it was okay not to go to school. Unlike the non-B40, parents insisted their children go to school because the non-B40 group is intellectuals. They indeed asked their children to go to school..."* (R7M4B9)

The issue of student attendance at school every day is also related to parental support, as stated by participants 1,3, 5, 6, and 13:

> *"Even parents did not support these B40 students. They didn't send their children to school... umm the student wanted to come to school, so he lagged behind when the assessment was conducted..."* (R1M3B17)

> *"Like I say, the parents themselves. We couldn't implement* CBA *explicitly because parents didn't send their children to school...So it could not be implemented holistically."* (R3M2B2)

> *"If it's a young student, we can't blame him because he relies on his parents, right? If his parents work at night, they wake up late. The same goes for him. We can't say 100%. Both parents are in business. So, they couldn't send him and so on. For example, selling burgers at night. When his mother wakes up late, he also does the same."* (R5M3B9)

> *"There is a parenting issue related to attendance, right? Sometimes, they don't care if the child doesn't attend school. The attendance of B40 students was really bad at this school... why is attendance and* CBA *important? For assessment, right? We want to assess the student. If the student does not attend on the day, we have to skip the day and conduct the assessment on another day. Sometimes parents refuse to send [child]."* (R6M3B20)

> *"Parents of B40 students cared less about their children's learning, and they did not do homework and had attendance problems. So, no support from parents. Parents have to play their role. For example, sometimes the teacher didn't have time to write on the blackboard, so we snapped [pictures] of the work given and put it in the class group, and the students did it at home. Students who were not present could do it, too. But tomorrow morning, we found out that the schoolwork was not completed. If parents monitor, the students must do it."* (R13M4B8)

There were also some parents who did not give their support due to work and time constraints when the restoration session regarding CBA was given. As a result, limited information related to the implementation of CBA is conveyed to parents, as stated by participants 7 and 8:

> *"For example, we invited parents to a meeting about* CBA *to share relevant information for everyone's understanding. The attendance of the B40 group was usually not satisfying because he said if he came, his salary would be deducted. Some of them are paid based on a daily rate, right? When asked why his mother never came, he replied that if she did, she wouldn't receive money. Work. Actually, she will understand if she is face-to-face with the teacher. If we write, she doesn't understand. Then, she still thinks, oh, it's okay, there's no examination. So, there is information missing actually, even though the school has invited parents so many times to explain what* CBA *is and how it is implemented."* (R7M4B18)

> *"...we also created a special program for B40 students who dropped out. In-class remedial program. For students who couldn't read too. We also invited both parents, but they didn't come. So, how?..."* (R8M3B19)

The subsequent challenge is the content and syllabus of the subjects for B40 pre-school and primary school students. For example, Participant 1 stated that the contents of subjects in CBA were difficult and affected the support of parents from the B40 group:

> *"It was actually too heavy. Just imagine... I saw it myself... my mother was a teacher, but the current mathematics subject caused me to lose*

interest because it was difficult... students also lost their interest... The syllabus needs to be reduced...the cognitive load is reduced... B40 parents lack education, and it is difficult for them to teach their children...not only B40, maybe the same goes for T20 parents." (R1M)

6. Discussion

The CBA system has many positive impacts on the entire education system, especially for B40 pre-school and primary school students. With CBA, students are evaluated holistically through comprehensive learning. As evidenced in the interview findings, several B40 students had poor academic achievement but they were able to achieve good results in CBA due to its comprehensive and holistic implementation. The self-achievement of these students can be seen through continuous and comprehensive assessments contained in the CBA itself, such as attitude/behavior, practice, manipulative skills, social skills, kinesthetic skills, computer literacy skills, and creative skills (Curriculum Development Division, 2019). These seven aspects emphasize students' self-effort to improve their achievements. The observation made in the assessment serves to see the efforts of each student improve the skills that have been taught by their teachers during teaching and through learning with peers (Hopfenbeck, 2020).

In addressing the nuances of CBA among B40 pre-school and primary school students, this discussion underscores the pivotal factors that often go unexamined in broader educational research. Notably, the distinct challenges and environments of B40 schools necessitate a more granular analysis to fully comprehend the implementation and efficacy of CBA within these contexts. It is critical to evaluate whether CBA, as an assessment tool, is adequately equipped to meet the diverse needs of students from economically disadvantaged backgrounds. Comparative analysis of CBA against traditional evaluative methods reveals its potential to offer a more comprehensive assessment framework. Unlike conventional methods that primarily focus on summative assessments, CBA encourages a continuous evaluative process. This process is instrumental in not just assessing but also enhancing student learning through immediate feedback and adjustments in teaching strategies. However, the effectiveness of CBA in B40 settings hinges on its adaptability to the specific educational challenges these students face, such as resource limitations and varying levels of foundational skills.

Moreover, the adoption of CBA should be viewed as an opportunity to transform assessment into a tool for opening up broader learning opportunities rather than merely measuring educational outcomes. Through the lens of CBA, educators can foster a more inclusive and supportive learning environment that prioritizes student growth and development over traditional performance metrics. This shift is crucial for truly understanding and improving the educational trajectories of B40 students, making the learning process both more responsive and holistic. The findings from the first theme align with those previously reported by Lewkowicz and Leung (2021), where CBA has increased the self-achievement of the students through a more comprehensive class exploration in various aspects. Lewkowicz and Leung (2021) also explained that students have been able to be involved according to their needs, interests, and abilities in learning. Similarly, the B40 pre-

school and primary school students in Malaysia can be assessed holistically according to their abilities and needs through CBA (Brandmo et al., 2020).

Based on the findings of this study, CBA is regarded as a fair assessment when B40 pre-school and primary school students have the opportunity to achieve a level of mastery in the subjects taught at school. CBA increases students' self-achievement. Students learn to achieve learning goals through fair competition with their peers to achieve good results. As is known, CBA is performed continuously and comprehensively in the form of oral, written, and observational assessments. Based on these three aspects, the means of assessment can be unraveled and, indirectly, it can also improve students' self-achievement (Lokman et al., 2023). Brandmo et al. (2020) found that students learn by self-regulated learning through planned tasks while trying to adapt to class activities to achieve the desired learning objectives. Several factors, such as attitude, belief in learning, and self-efficacy, lead to the success of CBA.

In the presence of CBA, B40 students are able to achieve a level of mastery in various aspects. According to the findings of the interviews, the participants stated that B40 students have a variety of talents and opportunities to succeed, which are not entirely dependent on academics. This situation bridges the gap between B40 and non-B40 pre-school and primary school students.

In this study, the participants clearly stated that the achievement gap of students in CBA is much better than UPSR, which only emphasized academics through examination. Vlachou (2018) conducted a study to evaluate the teaching concept of PBD to science teachers in Greece. Through the research findings, CBA was able to reduce the achievement gap between students in rural and urban areas, as well as between excellent and weak students. Similarly, the findings of this study reveal a noticeable gap between B40 and non-B40 students across various aspects. For instance, non-B40 students in urban areas have access to multiple tuition classes before UPSR, unlike their B40 counterparts. This contrasts with CBA, which assesses students based on their achievements and efforts, not influenced by external factors.

The findings of this study also focus on student achievement, in which B40 pre-school and primary school students could master the subjects studied. Based on the interview findings, the participants stated that mastery of TP can be continuously stimulated according to sub-topics of teaching. Students attempt to achieve TP continuously and it is very effective for weak students from the B40 group. The findings of the third theme are very similar to those of Yan et al. (2021) about teachers who taught English in China. In that study, the implementation of CBA was able to motivate students. Low-achieving students were motivated to attain higher achievements. This study clearly demonstrates that CBA can stimulate student achievement, especially weak students in the B40 group in schools, due to its highly beneficial and helpful form of assessment.

Although CBA has many positive effects on B40 pre-school and primary school students, it also has profound challenges. The low level of knowledge among the

parents of B40 students causes them to put aside the importance of CBA as an assessment. This results in less parental support. Some parents perceive that CBA has no examinations; therefore, it is not a priority for their children to master learning at school. Yan et al. (2021) also expressed the same opinion, where a community in China also considered examinations to be more important than CBA, which provides formative assessment. This misconception explains the reason CBA is often compared to summative assessment, which focuses on examinations. However, both formative and summative assessments are integral components of CBA (Lokman et al., 2023).

In addition to knowledge, achieving B40 students is one of the challenges. In this study, some of the B40 students are weak students, necessitating regular remedial classes. This situation prevents the students from following the teaching session by the teacher, thus affecting the mastery of the subject being studied. Moreover, some B40 students face reading problems as they were not sent to kindergarten, complicating matters for the teachers to implement continuous CBA assessment. According to Lewkowicz and Leung (2021), teachers need to detect students' abilities implicitly as a result of the activities carried out. Still, it remains an obstacle for B40 students as they cannot master the basics of reading. This situation is more serious for the Malay language subject at school.

In addition, students' awareness of the importance of CBA to them is still low. Several issues regarding students' misbehavior while implementing CBA affected their achievement. For instance, some students fail to complete their assignments, complicating the process for teachers to assign appropriate performance scores. In their study, Puad and Ashton (2021) also explained the same issue, particularly the irresponsible attitude of students in completing every task given which thwarts their achievement in school-based assessment. Failure of students to perform assignments results in low TP. Through CBA, students explore more learning opportunities and not merely summative assessments (Brandmo et al., 2020).

The implementation of CBA for B40 pre-school and primary school students is challenging. The first sub-theme elaborates that too many students are in a class. This makes it difficult for teachers to focus on students individually, especially students in urban areas with high populations. A class may have between 35 and 40 students, with even a larger number of students in some schools. This is not a new issue, as Yan et al. (2021) agreed that it is complicated to conduct various approaches and activities related to assessment due to the large number of students in the class.

Another challenge in implementing CBA is student attendance. Since CBA assessments are conducted in stages, the absence of students can impact their mastery of the subjects. This finding aligns with a study by Kashfi et al. (2022) regarding the challenges and problems of B40 students at schools, which found that the level of student attendance was low. In this study, it was revealed that the contributing factors to students' absence are parental support and awareness, as well as financial issues.

Furthermore, finances to conduct assessments in certain subjects at school is a challenge in the implementation of CBA for B40 pre-school and primary school students. In this study, Participant 4 made a comparison of paintings between B40 and non-B40 students. Although the paintings had a similar concept, they differed in color quality as B40 students used poor quality and cheap colored pencils. This situation resulted in significant differences between the two works, thereby affecting the students' TP assessment. For the Design and Technology (RBT) subject, the need for expensive equipment ensures that students can master high TP, but it involves high costs. Previously, Zakari et al. (2022) discussed the financial issues among B40 students, where most parents of B40 students are from low-income families. Therefore, there is an issue in meeting the needs of children in learning, which affects mastery level and achievement (Mahamod et al., 2021).

The final challenge in the CBA implementation sub-theme is parental support. Some parents of B40 pre-school and primary school students perceive that CBA is an insignificant assessment for their children to master as it is not an examination. In the information session about CBA, parents did not give a good response due to their busy work schedules and various affairs. Similar to the attendance issue, the parents of B40 students do not giving enough attention to their children to ensure school attendance is fulfilled. The findings of this study align with those reported by Mazlan et al. (2020), demonstrating that the support and involvement of B40 parents in their children's lives are hindered by their need to meet the family's economic demands. Yan et al. (2021) also stated that parents' awareness of CBA is low because they still think examinations are more significant.

7. Conclusion

This study has explored critical discussions and understanding to improve the learning system and further realize the benefits of the implementation of PBD, especially for B40 pre-school and primary school students. The primary focus of this paper is the implementation of CBA and its impact on B40 pre-school and primary school students in Malaysia. This study specifically examined how teachers, as key facilitators of CBA, influence its effectiveness and address the unique challenges faced by students from B40 socio-economic backgrounds. This research aimed to unravel the complexities of CBA implementation in enhancing educational outcomes among underprivileged students, highlighting both the role of teachers and the specific experiences of B40 students within the framework of CBA. This approach ensures a comprehensive understanding of the educational dynamics at play, making clear the multifaceted nature of the study's focus.

The essence of its implementation includes aspects of pedagogy, assessment, and stimulation towards perfect learning. CBA is able to improve the learning of B40 students through an assessment strategy that helps them identify weaknesses and then strives to improve their performance. CBA also holistically measures the progress level of B40 students in various aspects, which is not dependent on examinations and, simultaneously, it stimulates students' motivation. In this study, the CBA assessment is seen as a fair assessment, in which the performance

of B40 students is comparable to non-B40 students, bridging the achievement gap between these two groups.

Due to its comprehensive assessment, personality assessment is also included as another essential element nowadays. Some challenges also exist in the implementation of CBA, namely, challenges in aspects of knowledge, achievement, and implementation. The parents of B40 pre-school and primary school students still have less knowledge regarding the implementation of CBA, causing misunderstandings in its implementation. The greatest challenge in CBA is the non-attendance of students, making it difficult to conduct teaching and assessment sessions and affecting the achievement of B40 pre-school and primary school students. Other challenges are financial concerns and the role of parents in their children's schooling.

This study provides crucial insights for enhancing the CBA framework, aiming to optimize its benefits for B40 students and improve overall educational outcomes. CBA substitutes the public examination system at primary school level and holistically gives prominence to summative and formative assessment. This study acknowledges limitations such as sampling size, data collection tools, and data analysis techniques. Future research may aim to address these aspects to enhance the validity and applicability of the findings. Additionally, it is recommended that educational authorities, parents, teachers, and school administrators collaborate to address challenges related to the needs and financial constraints of families, as well as to enhance parental involvement in their children's education. This comprehensive approach is crucial for improving the implementation and effectiveness of PBD in supporting student development.

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