INCLUSIVE DEVELOPMENT PARTNERS

Longitudinal study and impact evaluation of early intervention centres in Sarawak for children with developmental delays

Baseline Findings Report

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CONTENTS

TABLES ***4***

FIGURES ***4***

ACRONYMS ***5***

ACKNOWLEDGEMENTS ***7***

EXECUTIVE SUMMARY ***9***

1. INTRODUCTION ***16***

1.1 Country Context **16**

1.2 Evaluation Purpose and Methodology **19**

1.2.1 Purpose 19

1.2.2 Objectives and Scope 19

1.3 Overview of Programs **23**

1.3.1 OSEIC Sarawak (Kuching and Dalat) 25

1.3.2 Agape Centre Sibu 25

1.4 Quality Assurance **27**

1.5 Evaluation Limitations **27**

1.6 Ethical Considerations **28**

2. EVALUATION FINDINGS ***28***

2.1 Summary of IDELA and KII Findings **28**

2.2 Findings by Evaluation Criteria **37**

2.2.1 Effectiveness 37

2.2.2 Efficiency 42

2.2.3 Coherence 45

2.2.4 Relevance 49

2.2.5 Gender 50

3. CONCLUSION AND RECOMMENDATIONS 52

3.1 Conclusion 52

3.2 Recommendations 53

Annex A: Evaluation Criteria and Framework 57

Annex B: IDELA Scores 59

Annex C: Data Collection Tools 62

Annex D: IDELA Adaptations 91

Annex E: Year 2 Preparation 92

Annex F: References/Supporting Resources 93

References 93

Supporting Resources 95

Annex G: Glossary of Terms 99

TABLES

Table 1 - EIC total enrollment and waitlist 21
Table 2 - Child sample and demographics 21
Table 3 - Caregiver sample and demographics 22
Table 4 - KII sample 23
Table 5 - EIC programme features 24
Table 6 - IDELA items and scoring 30
Table 7 - IDELA composite score definitions 31
Table 8 - Caregiver quotes on benefits of EIC 34
Table 9 - Mainstream teacher observations on students with and without early intervention 41
Table 10 - Average fees paid monthly by parents for EIC 43
Table 11 - Cost of disability 44
Table 12 - Attendance at preschool/KGs 45
Table 13 - Girls in the study sample 51

FIGURES

Figure 1 - IDELA scores 32
Figure 2 - Learning at EIC for children and caregivers 38
Figure 3 - Income distribution of parents from Kuching OSEIC 39
Figure 4 - IDELA scores by family income level for children enrolled in EIC 1+ year(s) 40
Figure 5 - IDELA scores by preschool/KG attendance 47
Figure 6 - Learning at preschool/KG 48
Figure 7 - IDELA scores by gender for children enrolled in EIC 1+ year(s) 52

ACRONYMS

12MP	Twelfth Malaysia Plan
13MP	Thirteenth Malaysia Plan
ACSNS	Association of Children with Special Needs Sibu
ADHD	Attention Deficit Hyperactivity Disorder
ASD	Autism Spectrum Disorder
CBR	Community-Based Rehabilitation
COP	Community of Practice
CSR	Corporate Social Responsibility
DD	Developmental Delay
ECD	Early Childhood Development
EI	Early Intervention
EIC	Early Intervention Centres
EIP	Early Intervention Programme
EQ	Evaluation Question
ERG	Evaluation Reference Group
GDD	Global Developmental Delay
HE	(IDELA) Home and Environment
IDELA	International Development and Early Learning Assessment
IDP	Inclusive Development Partners
IEP	Individualized Education Plan
KG	Kindergarten
KII	Key Informant Interview
KPWK	Ministry of Women, Early Childhood, and Community Wellbeing Development
LKHMCC	Lau King Howe Memorial Children's Clinic
MCC	Methodist Care Centre
MOH	Ministry of Health
MREC	Medical Research Ethics Committee
NECIC	National Early Childhood Intervention Council
NGO	Non-Governmental Organization
NHMS	National Health and Morbidity Survey
OSEIC	One-Stop Early Intervention Centre
OT	Occupational Therapy
PCDS	Post-COVID-19 Development Strategy
PETRONAS	Petroliam Nasional Berhad
PI	Principal Investigator
PIBAKAT	Sarawak Society for Parents of Children with Special Needs
PPDK	Pertubuhan Pemulihan Dalam Komuniti Sibu
PPI	Programme Pendidikan Inklusif (Inclusive Education Programme)
PPKI	Programme Pendidikan Khas Integrasi (Special Education Integrated Programme)
PT	Physiotherapy

RM	Malaysian Ringgit
SAA	Sibu Autistic Association
SEN	Special Education Needs
SWD	Social Welfare Department
UDL	Universal Design for Learning
UNIMAS	Faculty of Medicine and Health Sciences
UNICEF	United Nations Children's Fund
VSO	Voluntary Service Overseas

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EXECUTIVE SUMMARY

Purpose

The purpose of this longitudinal study and impact evaluation is to generate evidence on the key success factors and outcomes of early intervention centres (EICs), in terms of their implementation and contribution to a child's future inclusion in mainstream schooling and services (i.e., primary education, health, social welfare) and, thus, inform future decisions by Sarawak and partners on scale-up and replication. This report focuses on year one of the three-year study and presents baseline findings.

Context

The Sarawak State Social Welfare Department (SWD) reports a total of 16,024 children with disabilities (2.6%, aged 18 and below), including 13,154 children with learning disabilities (2.1%), which is one of the seven categories that the SWD tracks and the focus population of the EICs included in this study. The total number of children with disabilities aged 6 and below registered with the Sarawak State SWD is 1,561, including 1,254 children with learning disabilities.

Education for children with developmental delays has lagged behind compared to children with other categories of disabilities, such as children with visual impairments or who are blind and children who are deaf, for whom special schools were established in the 1970s. The EICs in this study include a range of supportive and educational services designed to help children with developmental delays or learning disabilities before they reach school-going age. These programmes typically help children to improve their learning, develop their ability to cope with future academic requirements, and develop self-care and social and communication skills.

During year one data collection, the One-Stop Early Intervention Centre (OSEIC) Kuching and OSEIC Dalat were both under OSEIC Sarawak, which began as a joint development project between the Government of Sarawak and Petroliam Nasional Berhad (PETRONAS), an oil and gas company, as the latter's corporate social responsibility (CSR) programme. However, the management of OSEIC has been under a non-governmental organization (NGO), the Sarawak Society for Parents of Children with Special Needs (PIBAKAT). Since the first year of operation, OSEIC funding has come from the Sarawak Government.

The Agape Centre in Sibu houses several organizations which run programmes for children and adults with disabilities. Those included in this study are the Sibu Autistic Association (SAA), the Methodist Care Centre (MCC), and the Pertubuhan Pemulihan Dalam Komuniti (PPDK) Sibu, managed by the Association of Children with Special Needs Sibu.

Methods

This first year of the study employed a combination of quantitative and qualitative methods to address the study objectives. Quantitative data involved the use of an adapted version of the **International Development and Early Learning Assessment (IDELA)** tool[1] to observe the differences in learning and development between children receiving EIC support (from OSEIC Sarawak or any of the three Agape Centre programs) with those not attending any EIC.

This study involved two groups – those enrolled in an EIC and the comparison group – which were further divided into two cohorts (for a total of four). The EIC group comprised children with developmental delays who have recently enrolled at the EIC and those who have received 12+ months of services at the EIC. The comparison group comprised children with developmental delays who have applied to attend the EIC but have not yet received services. For the comparison groups, one group is in the same age range as the others who have just enrolled in EICs, and the second group is in the same age range as those who have received 12+ months of services at the EIC.[2]

The IDELA tool was adapted for children with developmental delays after pre-testing it with a small sample. The IDELA tool included measures of motor (fine and gross) development, emergent literacy, emergent numeracy, and socio-emotional development. In addition, all caregivers of the selected children were surveyed using the **IDELA Home and Environment** (HE) tool. The study is longitudinal in design, spanning three years, and will track the four groups of children (along with their caregivers) as they transition from EICs to mainstream primary schools.

[1] Save the Children. (2019). International Development and Early Learning Assessment (IDELA).

[2] Based on the EIC policies as described by various staff, children on the waitlist are not selected for enrolment based on the severity of their disability or delay, nor on the family's socioeconomic status; children are offered enrolment as they reach the top of the waitlist based on when they registered.

Qualitative data for year one were obtained through **key informant interviews** (KIIs) with a subset of caregivers of children receiving services at the EICs, caregivers of children on the waitlist for an EIC, selected EIC staff, and teachers from mainstream Kindergartens (KGs) and primary schools.

Sample

This study sample includes EICs in Sarawak, including the **OSEICs** in Kuching and in Dalat, and three EICs located within the **Agape Centre in Sibu**, including MCC, PPDK Sibu, and SAA.

The sample included a total of **275 children** with developmental delays (194 EIC children and 81 comparison children). The children in the comparison group are on the waitlist for the EICs in the study, meaning that they are as similar as possible to those already enrolled in the EICs. Children ranged in age from 3 to 6 years, and the average age was 4.4 years for the two younger cohorts (those newly enrolled in the EIC and the comparison cohort) and 4.9 and 5 years, respectively, for the older cohorts (those enrolled for one or more years in the EIC and the comparison cohort).

Children residing in **rural areas represent 26 percent to 36 percent** of the sample. Finally, in all cohorts except for the younger comparison cohort, **most children in the study had a diagnosis** of at least one type of developmental delay. Most rural children (74%) are from the lowest income level (RM 3000 or less per month); 42 percent of urban children are in the lowest income level.

A total of **275 caregivers** of these children completed the IDELA-HE survey. The average age of caregivers is mid- to late-30s, and more mothers have achieved higher education than fathers. The largest ethnic groups are Malay (42%), Chinese (20%), and Iban (16%), and the most common languages parents reported speaking at home were English (70%) and Malay (48%), with Mandarin and Iban also common at 21 percent and 20 percent, respectively.

A total of 37 KIIs with selected caregivers as well as with EIC staff and mainstream teachers rounded out the set of tools and provided qualitative information about their experiences with the children in the study, which complemented the IDELA data.

Findings: EICs

- All EICs in the study provide individualized intervention through one-on-one sessions with trained staff. All EICs also provide occupational therapy (OT) and physiotherapy (PT) services. At Agape Centre, OT and PT are provided by the Lau King Howe Memorial Children's Clinic (LKHMCC) on-site. Only the OSEICs allow children without a formal diagnosis to enroll (later, some children receive a diagnosis from a paediatrician or medical officer who comes to the OSEIC three to four times a year). All three EICs at Agape Centre require a diagnosis, which typically comes through the LKHMCC. All EICs except for SAA accept children with multiple types of developmental delays; SAA is only for children diagnosed with Autism Spectrum Disorder (ASD). Only the two OSEICs also offer hydrotherapy (one has an indoor pool and the other has an outdoor pool). The OSEICs as well as SAA have a dedicated sensory/calming room and dedicated indoor rooms for gross motor play. OSEIC Kuching also has a

full-time speech therapist. SAA provides daily sessions, while the other EICs in the study provide once a week services.

- EICs reported that their annual operational and programmatic spending does not exceed their allocated budget, demonstrating strong financial accountability, while also noting that they need more funds to accomplish and expand the work they do. The total expenditure ranged from RM 0.5 million for SAA to RM 2.2 million for OSEIC. OSEIC reported that 90 percent of its income comes from the state government and the rest from parents' fees. MCC reported that 80 percent of its income comes from the Sarawak Chinese Annual Conference of the Methodist Church, Malaysia, and that the rest is covered through parents' contributions, car washes, and café projects run by adults. SAA and PPDK Sibu / ACSNS reported public donations, government grants, and merchandise sales as sources of income.

- There is limited interaction between the OSEICs and the preschools/KGs where children enrolled at the OSEIC also attend or may attend. One OSEIC staff person noted that parents often ask for recommendations for inclusive preschools or KGs, but that the OSEIC does not have any formal relationships with such centres and does not know how many exist or where they are. The mainstream KG and school teachers recognized the Agape Centre, as it has been in service for nearly 20 years, and teachers with many years of teaching in PPDK Sibu/ACSNS, SAA and MCC have close contact with the schools where the children transitioned.

Findings: Children

- Across both groups (EIC and comparison), the **scores among older children are higher than those of younger children** in every domain (motor, literacy, numeracy, expressive vocabulary, and socio-emotional). However, the average scores were higher for children in the comparison group than those in the EIC group.

- In terms of child learning within EICs, the largest proportion of EIC caregivers noted growth in social skills and motor skills, while also mentioning learning in hygiene habits (self-care) as well as academic skills like letters and numbers.

- Children at EICs from higher income families showed greater skill on a few more tasks than those in the lower income groups and scored the same on some. Yet, EIC staff observed that a family's socioeconomic position did not necessarily impact a child's learning progress and that parents' attitude and commitment were far more critical factors for success.

- **Mainstream teachers** shared their observations of many children they had taught and **described clear differences between those who had attended EIC and those who had not**, noting that children who had received early intervention had a level of confidence and comfort in a classroom setting, and were able to follow instructions, that children who had not received early intervention lacked. Children who had attended an EIC also possessed self-care skills, particularly related to using the toilet, while those

who had not attended any EIC were often still in diapers or needed assistance with basic self-care tasks, including eating.

- **The majority of children across the sample (65% to 83%) attend preschool or KG** with daily sessions that are typically in the morning. Many such early learning centres provide children with opportunities to gain similar skills as those taught in the EICs (gross and fine motor skills, self-care, early literacy and numeracy, and social interaction), but the setting is in a group with other children rather than an individualized intervention.

- This data show the **clear advantages of attending early learning opportunities** for children in preschool/KG in developing skills in the various IDELA domains. The overall IDELA score, combining all domains, was 59 percent for those who attend preschool/KG and 46 percent for those who did not. Children attending preschool/KG were more likely to come from relatively higher-income families.

- When asked about gender differences, EIC staff noted no major differences but said that boys tend to be quicker but less precise, while girls are more diligent but engage at a slower pace. However, performance on the IDELA showed boys demonstrate skills with slightly greater accuracy than girls across most measures.

Findings: Caregivers

- Mothers described bearing the **largest share of caregiving** responsibilities, and many felt that their child's additional needs were not well-understood by others, including by the child's father.

- Those whose child was enrolled in an EIC noted the **affordability and strong support from teachers** as well as the convenient proximity to their home, though a few families still travelled a far distance.

- Parents expressed gratitude for the gains they had observed in their child since attending the EIC, such as increases in social skills, a greater ability to communicate, better emotional regulation, and better self-care skills. They also noted growth in their own understanding of how to parent their child and meet their child's needs, as well as an overall sense of being less isolated and alone.

- Caregivers particularly shared that they had learned about behaviour management and literacy strategies from the EICs. Not surprisingly, caregivers whose child had been enrolled longer (a year or more) noted more learning in most domains.

- EIC families paid *more* for **assistive device maintenance**, **medication,** and **housing** (because of the child's condition and the child's age or parental awareness) and *less* for **caregiving services** than the comparison group. This warrants further examination in subsequent years of the study.

Conclusion

Overall, the findings from year one provide an important baseline for understanding the role of EICs on the developmental profiles of children with developmental delays in Sarawak, as well as the experiences of their families, EIC staff, and mainstream teachers. The data reveal meaningful patterns of growth from younger children to older children within both cohorts (EIC cohort and comparison cohort) and highlight both the promise and challenges of early intervention.

Parents and teachers consistently emphasized growth in children's readiness, confidence, and self-care when early intervention (EI) was provided, even as gaps remain in access, resources, and systemic support. Taken together, these findings underscore the critical role of EICs while also pointing to the need for more comprehensive services, stronger parental engagement, and closer coordination across institutions. As the study progresses and it follows children and families, subsequent rounds of data collection will provide clearer evidence of the EICs' long-term impact on children's development and inclusion, as well as their transition to mainstream schooling.

Recommendations

#	Recommendation	Priority
1	Make information about the options and services provided by EICs easily available and accessible to parents and in a variety of locations and formats.	High
2	Create opportunities for OSEIC and Agape Centre staff, the National Early Childhood Intervention Council (NECIC), university faculty, and international experts to train mainstream preschool/KG staff in early intervention and Universal Design for Learning (UDL); create communities of practice (COPs); provide certification to staff and centres; scale strategically for location equity.	High
3	Expand the number of OSEICs in Sarawak and hire/train staff to screen applicant children and focus enrolment on those needing one-on-one early intervention; use digital tools for screening; refer children not needing one-on-one early intervention to mainstream centres with early intervention/UDL training.	High
4	Hire assistants to pair with OSEIC teachers to reduce stress and enable greater focus on each child's intervention.	High
5	Address specialist shortages through recruitment and training; include EICs as internship sites; integrate early-intervention modules into early-childhood teacher training.	Medium
6	Expand one-on-one EI services in rural areas by researching and mapping rural needs and opening additional OSEICs and/or updating existing preschools/KGs with EI-designated spaces.	High
7	Subsidize travel, housing, and assistive device costs and/or increase financial aid for rural families; cover EI costs in mainstream centres for low-income families; prioritize children with disabilities in SWD childcare scheme.	Medium

8	Expand early screening and diagnosis services to rural areas; support rural medical officers; organize weekend screening camps; advertise screening opportunities widely.	Medium
9	Provide explicit provision and planning for special needs and inclusive education in policy documents, with costed implementation plans, teacher development, medical officer training, coordination mechanisms, and stigma-reduction efforts.	Medium
10	Conduct a mapping exercise of preschools/KGs attended by EIC children; create a directory with profiles and family reviews to support enrolment and transition.	High
11	Encourage parents to enroll their child in preschool/KG and provide a child profile to share with staff for developing Individualized Education Plans (IEPs).	Medium
12	Expand communication between EICs and preschools/KGs so parents understand preschools/KGs complement EI, not replace it.	High
13	Create stronger ties between EICs and primary schools through joint training, annual meetings, orientation events, and the sharing of child profiles.	Medium
14	Establish and strengthen formal collaboration between government entities (KPWK, the Ministry of Health, MOE, and health sector) to improve transitions and service coordination.	High
15	Expand inclusive learning opportunities (PPI model) in mainstream primary schools and apply UDL principles across all teacher training.	High
16	Provide more opportunities for parents to learn strategies from EICs; launch programs for fathers' participation in caregiving and learning strategies as well as for socializing with other fathers.	Medium
17	Recognize the role of grandparents and extended family; include them in community events and home intervention guidance.	Medium
18	Assist SWD to work through EICs to provide families with information on social services, subsidies, and benefits.	Medium

1. INTRODUCTION

This baseline report describes key findings from data collected in year one of a **longitudinal study and impact evaluation of early intervention centres in Sarawak for children with developmental delays.** The study is supported by UNICEF Malaysia and the Sarawak Ministry of Women, Early Childhood, and Community Wellbeing Development (Kementerian Pembandgunan Wantia, Kanak-Kanak dan Kesejahteraan Komuni, KPWK). As the first year of this study involved collecting baseline data from children and families who will be followed over a subsequent two years, the findings described in this report focus largely on descriptive summaries; evidence related to impact will emerge in later rounds of data collection.

A validation workshop was held in Kuching on 23 September 2025 to present preliminary findings and engage with various stakeholders. Participants included KPWK, UNICEF, the Inclusive Development Partners (IDP) research team, staff representatives from Early Intervention Centres (EICs) and mainstream schools in the study, parent representatives, and members of the Evaluation Reference Group (ERG), among others. Recommendations that emerged from the workshop are included in the final section of the report.

1.1 Country Context

As with all children, those with disabilities benefit greatly from early childhood services, yet typically do not have equal access to early childhood development (ECD) or early intervention programmes due to policy environmental, economic, organizational, and attitudinal barriers. In Malaysia, the Persons with Disabilities Act (2008) defines adults and children with disabilities as "those who have long-term physical, mental, intellectual and sensory impairment which in interaction with various barriers may hinder their full and effective participation in society".

The Social Welfare Department registers persons with disabilities at the state level under seven specific categories: 1) hearing disability, 2) visual disability, 3) speech disability, 4) physical disability, 5) learning disability, 6) mental disability, and 7) multiple disability.[3] Children with "learning disabilities"[4] are those who have multiple difficulties due to developmental delays or neurodevelopmental disorders in some skill areas that are essential for learning, such as reading, writing, listening, and comprehension skills and include those assessed to have global developmental delay (GDD), Down Syndrome, Attention Deficit Hyperactivity Disorder (ADHD), and specific learning disabilities (dyslexia, dyscalculia, or dysgraphia).[5] [6] For the purpose of this study, Autism Spectrum Disorder (ASD) and Down syndrome are also included

[3] Social Welfare Department, https://www.jkm.gov.my/main/article/pendaftaran-orang-kurang-upaya-oku

[4] The term "learning disability" is gradually being replaced by "neurodevelopmental disorders," a category under which learning disability can fall.

[5] Dzulkifli, 2023

[6] For this study, we have adopted the term "developmental delay" on the recommendation of the Medical Research Ethics Committee (MREC). Additionally, some parents in the study objected to the term "disability" in relation to their child.

among developmental delays or neurodevelopmental disorders discussed. However, while early intervention can significantly improve functioning and support development for children with and without ASD and Down syndrome, these diagnoses are not considered to involce a “delay” that resolves over time, whereas children without ASD and Down syndrome who experience delays may be able to fully resolve them through intervention.

The latest figures from the Federal Ministry of Welfare (31 July 2025) show a total of 787,886 persons (2.3% of the population) with disabilities registered in Malaysia, with 53,295 (2% of the population) residing in Sarawak.[7] Using the Washington Group of Questions, the National Health and Morbidity Survey NHMS (2019) estimates a much higher prevalence rate of disability at 11.1 percent for adults and 4.7 percent for children aged 2–17.[8] The Sarawak State Social Welfare Department (SWD) reports a total of 16,024 (~2%) of children with disabilities (aged 18 and below) registered, including 13,154 children with learning disabilities, which is one of the seven categories that the Sarawak SWD tracks and the focus population of the EICs included in this study. The total number of children aged 6 and below registered with the Sarawak State SWD is 1,561, including 1,254 children with learning disabilities.[9]

These figures are likely to underestimate the total number of children with disabilities and children under age 6 with disabilities in Sarawak due to a number of factors that are often reasons for underestimations of persons with disabilities in data, including varying definitions of disability and who belongs in the disability community, the stigmatizing label often linked to disability, and inaccessibility or refusal to or isolation from social services (where data is often collected).[10] Despite this, the high percentage of children with learning disabilities (82% of all children registered as having a disability) indicates a critical need for systematic and regular services and support to this population.

There is a rich body of evidence documenting the importance of early intervention and early education programmes to support the development of children with disabilities and improve their later-life outcomes and opportunities. The benefits of early intervention also extend to caregivers of children with disabilities, enabling parents and other caregivers to gain the skills needed to support their children in their day-to-day living, and often offering an improved support network with other caregivers and professionals.[11] Children with developmental delays and neurodevelopmental disorders, including learning disabilities, are often in great need of early childhood services and yet typically have not had access to ECD or early intervention programs due to environmental, economic, organizational, and attitudinal barriers.

The EICs in this study include a range of supportive and educational services designed to help children with developmental delays or learning disabilities before they reach school-going age. These programs

[7] Statistik Pendaftaran OKU 31072025, jkm.gov.my/

[8] National Health and Morbidity Survey, 2019, National Institutes of Health (NIH), Ministry of Health Malaysia

[9] KPWK, 30 September 2025

[10] UNICEF, 2020

[11] NECIC & UNICEF, 2020

typically include helping children improve their learning, develop their ability to cope with future academic requirements, and develop self-care skills and social and communication skills.[12] In Sarawak, early intervention programmes (EIPs) were first developed by the Social Welfare Department with the support of Voluntary Service Overseas (VSO) in 1988 and the involvement of paediatricians from Sarawak General Hospital. EIPs were provided as part of the community-based rehabilitation (CBR) project.[13] It was only in the early 1990s that several non-governmental organizations (NGOs) such as Malaysian Care, the Kuching Autistic Association, and the Sarawak Society for Parents of Children with Special Needs began to include EIPs in addition to their programs for children and adults with disabilities.[14]

In 2020, the Government of Sarawak and its partners collaborated to develop a few EICs specifically for children with learning disabilities and developmental delays.[15] These centres aim to provide early diagnosis, intervention and rehabilitation under one roof for children aged 7 and below, hence the name One-Stop Early Intervention Centre (OSEIC). The presence of these EICs indicates Sarawak's commitment to address the issues faced by children with developmental delays, particularly in helping them develop skills needed for schools. Sarawak has, furthermore, indicated a commitment to identifying and demonstrating good practices that can be replicated and scaled up across all divisions and districts in Sarawak. Despite this progress, significant geographic disparities remain in accessing quality early childhood intervention services for children with developmental delays; however, no studies have been conducted to investigate the impact of EICs on children with developmental delays in Sarawak.

Currently, in Malaysia, there are insufficient numbers of professionals and service providers such as speech and occupational therapists, as well as specialist paediatricians and clinical psychologists. Additionally, families and their children can experience a lack of coordination of services across support providers (i.e., Ministry of Education, Ministry of Health and Social Welfare Department) and have reported receiving insufficient information from government health workers about their child's disability.[16] Thus, families may seek help from the private sector at a higher cost rather than rely on government services, though private services can also have long wait times due to personnel shortages.[17] In Malaysia, the opportunity for children with developmental delays or disabilities to access EIPs is further hampered by the shortage of such services, partly due to the lack of awareness of the importance of early intervention for their long-term development. Furthermore, efforts to identify and register children with disabilities in preschool have been fraught with difficulties.[18]

Education for children with developmental delays has lagged behind compared to children with other categories of disabilities, such as children with visual impairments or who are blind and children who are

[12] Tan & Mohamad, 2019; Vivanti et.al. 2018

[13] Russ, 1991

[14] Lee & Low, 2014; Malaysian information networks on disabilities, https://mind.org.my

[15] https://www.sarawak.gov.my/web/home/news_view/119/14362

[16] Lee & Low, 2014; UNICEF, 2017

[17] UNICEF, 2014, 2017

[18] Amar HSS, 2008

deaf, for whom special schools were established in the 1970s. Education for children with learning disabilities at the primary school level began as an integrated programme in mainstream schools in the late 1990s – Programme Pendidikan Khas Integrasi/Special Education Integrated Programme (PPKI) – and involves separate classrooms with trained special education teachers within the campus of a mainstream primary school. An inclusive programme was developed in more recent years (Programme Pendidikan Inklusif, PPI), but typically only children with very mild learning difficulties or speech delays are placed in these mainstream classes with peers who do not have identified disabilities or delays.[19] Early identification and intervention are therefore vital to address the learning difficulties experienced by children with learning disabilities and developmental delays so that these children are able to access education side by side with children without disabilities.

1.2 Evaluation Purpose and Methodology

1.2.1 Purpose

The purpose of this longitudinal study and impact evaluation is to generate evidence on the key success factors and outcomes of EICs (in terms of their implementation and contribution to a child's future inclusion in mainstream schooling and services) and, thus, inform future decisions by Sarawak and partners on scale-up and replication. This report is focused on year one of the study and presents baseline findings.

1.2.2 Objectives and Scope

Evaluation objectives include:

- To identify key factors at family, community, EIC, preschool and primary school levels that contribute to achieving EIC programme objectives (noted above) and long-term child outcomes.
- To identify whether changes in child outcomes observed at EICs and in the mainstream preschool/primary system can be attributed to the EIC intervention model, across different types of disabilities.
- To build understanding among key stakeholders on whether the EIC approach is an effective means of transitioning children aged 7 (or below) into mainstream primary schools (or preschools) and supporting their continued advancement in the school system; to reference international best practice on EICs, where appropriate.
- To inform future budget decisions in Sarawak around efficient and effective means to build school readiness for children with disabilities.

[19] Amar-Singh, 2012; Amar-Singh, 2020; Lee & Low, 2014; Nasir & Efendi, 2016

1.2.3 Methodology and Sample

This research is designed as a three-year longitudinal study and impact evaluation. Children and their families selected in year one will be followed over three years of schooling, with younger children likely remaining in the EIC for the duration of the study and older children transitioning out of the EIC into mainstream Kindergartens (KGs) or primary schools. Some of the children in the comparison group, described further below, will likely transition off the EIC waitlist if they are offered enrolment in the EIC. Based on the EIC policies as described by various staff, children on the waitlist are not selected for enrolment based on the severity of their disability or delay, nor on the family's socioeconomic status; children are offered enrolment as they reach the top of the waitlist based on when they registered.

This first year of the study employed a combination of quantitative and qualitative methods to address the study objectives. Quantitative data involved the use of the IDELA tool[20] to observe the differences in learning and development between children receiving EIC support (from OSEIC Sarawak or any of the three Agape Centre programmes) with those not attending any EIC. In addition, all caregivers of the selected children were surveyed using the IDELA-HE tool. The study is longitudinal in design, spanning three years, and will track both groups of children (along with their caregivers) as they transition from EICs to mainstream primary schools.

Qualitative data for year one were obtained through KIIs with a subset of caregivers of children receiving services at the EICs, caregivers of children on the waitlist for an EIC, selected EIC staff, and teachers from mainstream KGs and primary schools.

The IDELA tool for children was developed by Save the Children and is a tool that measures children's early learning and development. IDELA has been widely used in around 100 countries, including Malaysia. IDELA assesses a child's four core development domains through either a long version (24 items) or a short version (eight items). This study used the short version, which the study team adapted and pretested to align with the population of interest and the cultural context of Sarawak. The domains' measures are described below:

a) **Motor development**, which encompasses both fine and gross motor skills, including hand-eye coordination, balance, and physical dexterity.
b) **Emergent literacy**, which focuses on the early stages of reading and writing, including letter recognition, phonemic awareness, and vocabulary development.
c) **Emergent numeracy**, which involves the foundational understanding of numbers, shapes, patterns, and basic mathematical concepts.
d) **Social-emotional development**, which encompasses a child's ability to understand and manage their emotions, establish relationships, and interact with others in a positive and healthy manner.

[20] Save the Children. (2019). International Development and Early Learning Assessment (IDELA).

The two study groups – those enrolled in an EIC and the comparison group – were further divided into two cohorts (for a total of four), as follows:

EIC Group

- Cohort 1.1: Children with developmental delays who have recently enrolled at the EIC.
- Cohort 2.1: Children with developmental delays who have received 12+ months of services at the EIC.

Comparison Group

- Cohort 1.2: Children with developmental delays who have applied to attend the EIC but have not yet received the service (in the same age range as cohort 1.1).
- Cohort 2.2: Children with developmental delays who have applied to attend the EIC but have not yet received the service (in the same age range as cohort 2.1).

Table 1 - EIC total enrollment and waitlist

	OSEIC Kuching	OSEIC Dalat	Agape MCC	Agape PPDK	Agape SAA
Newly enrolled	140	9	2	21	8
Enrolled 1+ years	419	43	11	7	17
Boys-girls ratio	3.1	3.3	2.6	1.9	4.0
On waitlist	327	-	80		

The sample of children for the IDELA totaled 275. See Table 2 for a demographic summary of the children in the sample. As noted below in the discussion of limitations, more families with children enrolled in an EIC agreed to participate in the study than families in the comparison group, which is reflected in the sample. The average age of children was 4.4 years for the two younger cohorts (those newly enrolled in the EIC and the comparison cohort) and 4.9 and 5 years, respectively, for the older cohorts (those enrolled for one or more years in the EIC and the comparison cohort). Children residing in rural areas represent 26 percent to 36 percent of the sample. Finally, in all cohorts except for the younger comparison cohort, the majority of children in the study have a diagnosis of at least one type of developmental delay.

Table 2 - Child sample and demographics

	Newly enrolled in EIC (1.1)	**Enrolled in EIC 1+ year (2.1)**	**Comparison younger (1.2)**	**Comparison older (2.2)**
# of children	87	107	34	47
Child average age	4.4	4.9	4.4	5.0
3 years	15%	6%	18%	2%
4 years	40%	25%	47%	36%

	Newly enrolled in EIC (1.1)	Enrolled in EIC 1+ year (2.1)	Comparison younger (1.2)	Comparison older (2.2)
5 years	26%	50%	18%	26%
6 years	18%	20%	18%	36%
% of rural children	28%	26%	29%	36%
% with diagnosis	71%	84%	43%	78%

The IDELA Home and Environment (HE) survey tool for caregivers, also developed by Save the Children and adapted by the study team, takes 30–40 minutes to administer and focuses on several topics, including general family information, their child's preschool or KG experience and their education aspirations, home environment and caretaking practices, socioeconomic background, disability, and parent attitudes.

In total, 275 caregivers completed the IDELA-HE survey (Table 3). Average ages of caregivers were mid- to late-30s, and more mothers had achieved higher education than fathers. The largest ethnic groups are Malay (42%), Chinese (20%), and Iban (16%), and the most common languages parents reported speaking at home were English (70%) and Malay (48%), with Mandarin and Iban also common at 21 percent and 20 percent, respectively.

Table 3 - Caregiver sample and demographics

Sample, age, and education	
Number of respondents	275
Mothers' average age	36
Fathers' average age	40
Mothers with at least higher education	46%
Fathers with at least higher education	41%
Ethnicity	
Malay	42%
Chinese	20%
Iban	16%
Melanau	10%
Bidayuh	8%
Other	3%
Language(s) used at home	
English	70%
Malay	48%
Sarawak Malay	41%
Mandarin	21%

Iban	20%
Melanau	11%
Foochow	6%
Bidayuh	6%
Other	5%

KIIs with selected caregivers, as well as with EIC staff and mainstream teachers, rounded out the set of tools and provided qualitative information about their experiences with the children in the study, which complemented the IDELA data. The team applied purposive sampling for caregivers to ensure they represented children of different types of developmental delays, as well as from a range of ethnic and socioeconomic backgrounds and different locations/districts. The team attempted to find male caregivers to interview, but the vast majority were female, typically mothers.

For EIC staff, the team selected those with at least three years of experience working in the EIC. The group included two staff members with long years of service in the Agape Centre (16 years). Mainstream teachers were selected from schools where children in the study sample attend or where former EIC children have transitioned. One teacher was from a special school run by an NGO. It should be noted that when children with developmental delays attend mainstream primary schools in Sarawak, most are placed in a school with the PPKI for children with special needs. The KII sample is shown in Table 4.

Table 4 - KII sample

	OSEIC	Agape	Mainstream school teacher
Staff	2: Kuching, F 1: Dalat, F	2: PPDK, F 1: MCC, F 1: SAA, F	3: Kindergarten, F 4: Primary in Kuching and Sibu,[21] F 1: NGO special school, F
Parent/caregiver	9: Kuching, 8F 1M 2: Dalat, F 5: Comparison, F	3: PPDK, F 3: SAA, F	NA

1.3 Overview of Programs

This study sample includes three EICs in Sarawak: 1) the OSEIC in Kuching, 2) the OSEIC in Dalat, and 3) the Agape Centre in Sibu. During year one data collection, OSEIC Kuching and OSEIC Dalat were both under OSEIC Sarawak, which began as a joint development project between PETRONAS, an oil and gas company, as the latter's CSR programme. However, the management of OSEIC has been under the NGO PIBAKAT, and after the first year of operation, OSEIC funding has come from the government.

[21] The primary school in Sibu has an integrated programme for children with developmental delays. Staff were not available for KIIs, but the questions were shared with teachers. One senior assistant at the school compiled responses from six teachers.

The Agape Centre is a community-based one-stop centre for children and adults with disabilities. Currently, the Agape Centre houses several organizations that run programmes for children and adults with disabilities. Those included in this study are SAA, MCC, and PPDK, managed by the Association of Children with Special Needs.

The early intervention programmes provided by these centres include fine motor and gross motor skills, language and communication, self-care and socio-emotional skills, and pre-academic and academic skills. While the two OSEICs provide the same models of intervention, those at the three Agape Centre organizations vary. In all cases, staff work to tailor the details of the interventions to an individual child's needs, and these interventions are adjusted over time as the child learns and progresses.

Various features of the EICs in the study are outlined in Table 5. All EICs in the study provide individualized intervention through one-on-one sessions with trained staff. All EICs also provide OT and PT services. At Agape, OT and PT are provided by the LKHMCC on-site. Only the OSEICs allow children without a formal diagnosis to enroll (later, some children receive a diagnosis from a paediatrician or medical officer who comes to the OSEIC three to four times a year); all three EICs at Agape Centre require a diagnosis, which typically comes through LKHMCC. All EICs except for SAA accept children with multiple types of developmental delays; SAA is only for children diagnosed with ASD. Only the two OSEICs offer hydrotherapy (one has an indoor pool and the other has an outdoor pool). The OSEICs as well as SAA have a dedicated sensory/calming room and dedicated indoor rooms for gross motor play.

Table 5 - EIC programme features

	Individ. interven-tion	Require diagnosis to enroll	Enroll multiple dev. delays	Occupa-tional therapy	Physio-therapy	Speech therapy	Hydro-therapy	Sensory/ calming room	Indoor gross motor playroom
OSEIC Kuching	✓		✓	✓	✓	✓	✓	✓	✓
OSEIC Dalat	✓		✓	✓	✓		✓	✓	✓
Agape: MCC	✓	✓	✓	✓	✓				
Agape: PPDK	✓	✓	✓	✓	✓				
Agape: SAA	✓	✓		✓	✓			✓	✓

1.3.1 OSEIC Sarawak (Kuching and Dalat)

The vision of **OSEIC Sarawak** is to be the "preferred early intervention centre for children with developmental delay". Its mission and objectives are as follows:

Mission: Providing early intervention access to children with developmental delay through:

i. Early educational awareness to the community;
ii. Parent engagement and participation;
iii. Professional and world-class best practices;
iv. Provision of a safe and conducive environment to enable the children to grow and develop in a holistic and integrated manner, thus achieving their optimum potential in life.

Objectives:

1. Engage and support parents in nurturing and improving their children's development.
2. Provide appropriate professional intervention programmes as early as possible.
3. Identify the special needs and process of the child's achievement and ability through Individualized Education Plans (IEPs).
4. Optimise the growth and functional development of children for total well-being.
5. Provide space and appropriate intervention opportunities in a safe and conducive environment.

Children enrolled at the OSEICs attend one session per week according to two levels:

- Level 1: One teacher to one child, lasting 1 hour 15 minutes. This is typically where children begin upon entering the centre, and the time they spend at this level depends upon their rate of progress.
- Level 2: One teacher to two children, lasting 2 hours. This level includes opportunities for learning social interaction skills and can support the transition into mainstream schools.

1.3.2 Agape Centre Sibu

MCC within the Agape Centre has the objective of providing educational and training programmes for children (and adults) with learning disabilities. Services include its early intervention programme for children aged 0-6 years, as well as parental training. Children enrolled at MCC attend once per week, and MCC requires parents to be there together with the child for those at the lower and mid-level. The lower level, which is one-on-one, is typically for newly enrolled children or those with a greater level of developmental delay, and the duration is 1 hour. In the mid-level, four teachers work together with four to eight children for 2.5 hours. For children at the higher level, groups are comprised of four teachers with 16 children for 2.75 hours.

PPDK Sibu has a primary objective to support children with developmental delays to transition to school with independence or minimal assistance needs. Its target is that 100 percent of children in its early intervention programme successfully transition to a primary school. Children enrolled at PPDK Sibu attend once or twice per week for one-on-one intervention lasting 1 hour (six total sessions per month). In addition, twice a month, a social class is organized for parents and children to come in groups of 15 parents/children for two hours, which allows parents to participate in the activities.

The **mission of SAA** is "To contribute to the society of Sibu by providing an effective, efficient and appropriate teaching/learning programme for children with autism or autism characteristics". Children enrolled in SAA attend five days per week for 2-hour sessions.

Its **objectives** include the following:

1. To provide children with ASD the opportunity to learn and reach their full potential
2. To encourage parental involvement in the education and development of their children with ASD, by equipping them with essential information and skills
3. To promote public awareness over the special needs of children with ASD and to encourage them in taking an active role in integrating them into society

1.4 Quality Assurance

The research team in Sarawak comprises a principal investigator (PI), three co-investigators, and 10 enumerators. An initial six enumerators, who had experience working with children with developmental disabilities and were conversant in Sarawak's major languages, were recruited and underwent a four-day intensive enumerator training. The training included learning the assessment procedures, practicing techniques in interviewing young children through role play with each other and field testing this training with several children with developmental delays after obtaining approval from an EIC. They were also trained in administering informed consent with adults and requesting verbal assent from children in an appropriate manner and mindful of ethical considerations. Later, to speed up the data collection process, and four additional enumerators were trained and joined the team.

During data collection, three teams, each comprising one co-investigator and two enumerators, administered the assessment to the children at each of the three centres. The PI was in close contact with the teams while they collected data using the tools, and the international trainers and study manager were in close and frequent contact with the PI and the team via messaging apps. Data were collected initially on paper forms, then transferred digitally using the Kobo platform. Debriefs were conducted on a regular basis (every week) to ensure that protocols were followed. The PI and the lead data analyst conducted random spot checks during the data collection to minimize non-compliance and ensure quality control.

1.5 Evaluation Limitations

The following limitations are worth considering in relation to the year one findings presented:

- **Sample size**: Due to the small population size, the sample does not allow for disaggregation by the EIC intervention programme or by sex. Additionally, while the target sample for the EIC cohort was met during data collection, the sample for the comparison cohort fell short of the target due to the difficulty in recruiting parents whose children were not enrolled in the EICs.
- **Timing of data collection**: For the children in the EIC group, the research team administered the IDELA before or during their usual session at the EIC and, occasionally, after their session. The research team observed that children in the EIC group struggled more than children in the comparison group to remain engaged and cooperative during the IDELA, which may have impacted their performance.
- **Additional support**: As noted in the study's inception report, children are likely to be enrolled in multiple programs, and indeed, the majority of children across the sample were found to be attending

a mainstream preschool or KG. This context presents a methodological challenge in isolating the effect of EICs.

- **Year one delays**: The study design included a timeline for commencing data collection that aligned with the beginning of the school year in Sarawak (in January/February). However, significant delays in acquiring MREC approval resulted in data collection taking place in June. Most children in the EIC "newly enrolled" cohort had received several months of intervention by the time they were assessed, which may have resulted in inflated baseline data for this cohort.

1.6 Ethical Considerations

The study was reviewed and approved by MREC on May 29, 2025.[22] Materials provided to MREC included the study description and objectives, information about participants, the study sample, informed consent, and interview protocols. The research team was also trained in research ethics, including how to engage with children and vulnerable populations, during enumerator training.

2. EVALUATION FINDINGS

This section presents the baseline findings as follows: **First**, we summarize the findings from the IDELA measures of the children in the sample (child tool) and their home environment according to their caregivers, as well as key KII findings. **Second**, we provide findings according to the study's evaluation criteria and evaluation questions (EQs), which were determined during inception. Given that this report presents findings from the baseline data, not all evaluation criteria are relevant (for example, *impact* and *sustainability* have been left out), nor are all EQs covered at this stage. Data from later stages of the study will provide a more complete response.

2.1 Summary of IDELA and KII Findings

2.1.1 IDELA Child

Items and adaptations are described below, followed by Table 6, which summarizes the scoring of IDELA item responses by domain, sub-domain, and items. See Annex D for a table describing adaptations.

Motor skills: To measure *fine motor skills*, the enumerator showed the child a picture of a triangle and asked the child to draw the shape on a blank piece of paper. The child was scored based on the number of closed corners in the shape he or she drew, whether or not the shape resembled a triangle as observed by the enumerators, and whether the child used a tripod grip for the pencil. The original IDELA item for measuring fine motor skills involves drawing a person, but in pretesting, the team realized this was too advanced for most children in the EICs. *Gross motor skills* were measured by asking the child to hop on

[22] NMRR ID-25-01492-UCP

one foot, and the score was the number of hops the child completed. Enumerators demonstrated a few hops before asking the child to hop. The maximum number of hops to be recorded was 10.

Expressive vocabulary: Children were shown a piece of paper with several images of foods and asked to name as many as they could. The same was done with a picture of various animals. The child was scored by noting the number of foods or animals they named. The original IDELA measure does not involve pictures; the child is simply asked to think about a category (food, animals, etc.) and say as many words as come to mind. Our study used this measure as well, but given that pretesting showed it to be difficult for many children, we added the pictures. We recorded whether the food/animal items the child named were from the picture shown or not.

Emergent numeracy: To measure *one-to-one correspondence,* children were shown 15 clothespins on the table. The enumerator first asked the child to show three of the items, followed by five items. If the child was able to correctly show three and five items, the enumerator asked the child to show eight items. Scoring was based on whether the child could correctly perform the task. The original IDELA asked the child to show three, eight, and 15 items in the same manner.

Another numeracy measure (*number identification*) involved showing the child a page of 20 random numbers in a 4x5 grid and asking the child to name them. The child was asked to name the numbers one by one from the first two rows, while the enumerator hid the last two rows. If the child could identify at least four numbers correctly, the remaining two rows were shown for the child to attempt naming more numbers. The score was based on how many the child correctly named.

Emergent literacy: Similar to numeracy, we measured emergent literacy with a 4x5 grid of 20 letters, not in order, and asked the child to name them, scoring by accuracy.

Social-emotional skills: The enumerator invited the child to talk about their friends and counted how many friends the child mentioned. Another measure involved the enumerators using puppets to model a situation where two friends each want to play with the same toy. The child was asked what he/she would do if they had a toy and another child wanted to play with it. The child's response represented their "conflict resolution" strategy, and enumerators allowed for up to two strategies. The original IDELA did not include puppets, but the team found the concept to be too abstract for children in the EICs without the puppets.

Table 6 - IDELA items and scoring

Domain	Sub-domain	Items	✓	✖	Range[a]
Motor Skills	Fine motor	Number of closed corners, no gaps (0, 1, 2, 3)			0-3
		Resembles closely the triangle picture (diagonals, relatively straight lines)	1	0	0,1
		Holds pencil using tripod grip	1	0	0,1
	Gross motor	Number of steps hopped			0-10
Expressive vocabulary	Naming foods	Number of pictured foods named			0-10
		Number of non-pictured foods named			0-10
	Naming animals	Number of pictured animals named			0-10
		Number of non-pictured animals named			0-10
Early Numeracy	Counting	Child counts 3 items	1	0	0,1
		Child counts 5 items	1	0	0,1
		Child counts 8 items	1	0	0,1
	Number identification	Number of correctly identified numbers			0-20
Early Literacy	Letter identification	Number of correctly identified letters			0-20
Social-emotional	Friendship	Number of friends named			0-10
	Conflict resolution	Child gives one response for how to solve conflict	1	0	0,1
		Child gives second response for how to solve conflict	1	0	0,1

[a] Refused/skipped were recorded as neither correct nor incorrect.

Scores on the IDELA Child tool are shown below in Figure 1 and are presented as composite scores for each cohort by domain as well as by overall IDELA score. Table 7 provides the definitions of each composite score by domain. Scores are not comparable across domains.

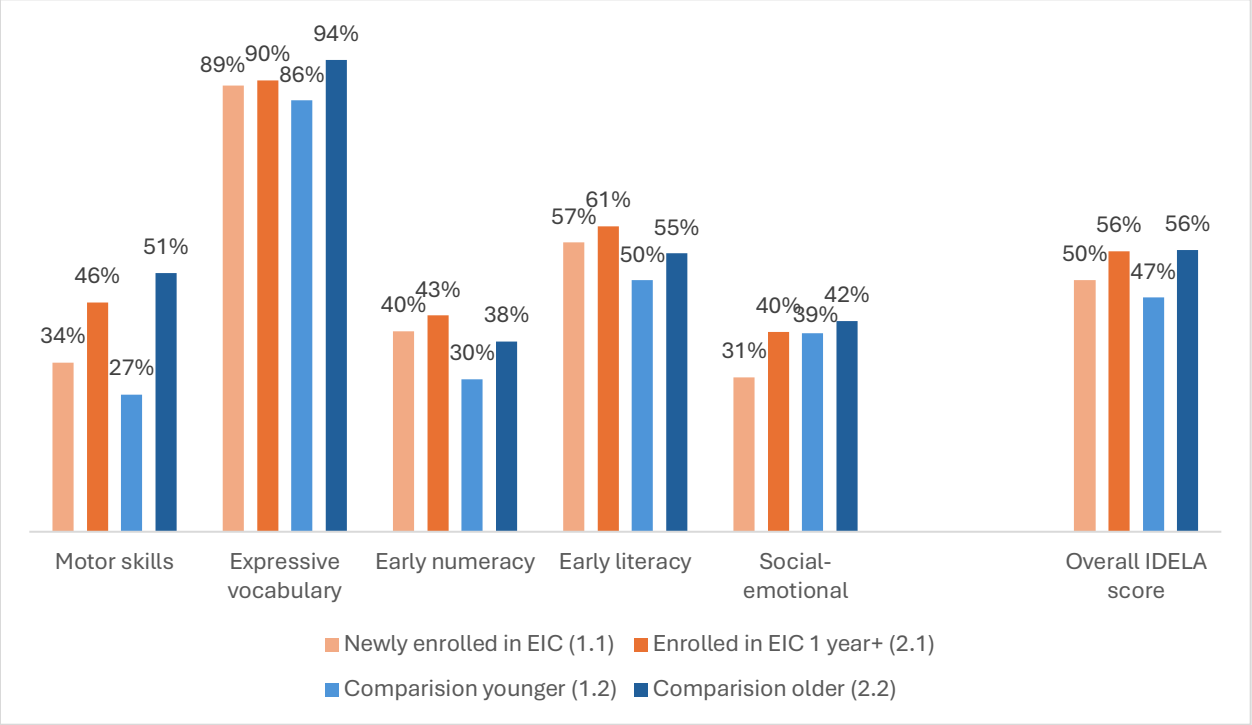
As a reminder, the delay in beginning data collection resulted in the EIC's newly enrolled cohort receiving several months of intervention prior to taking the IDELA. The difference in scores between the newly enrolled and year+ cohorts is, thus, likely to be smaller than it would be with a true baseline measure at the start of the year.

Table 7 - IDELA composite score definitions

Domains	Measure (average of)
Motor skills	% of children hopping at least once
	% of children producing a drawing resembling a triangle
Expressive vocabulary	% of children naming at least one animal or picture
Early numeracy	% of children counting three items correctly
	% of children identifying at least one number
Early literacy	% of children identifying at least one letter
Social-emotional	% of children suggesting at least one correct solution to a conflict
	% of children naming at least one friend
Overall IDELA score	Average of all

Additionally, while later years of the study will provide more robust data for comparison and impact measurement by following the same children over time, the cohorts within the baseline design were intended to provide proxy comparison data across time to give an initial sense of potential growth. Thus, the IDELA scores below are presented as they were collected: The two bars on the left side represent performance among the group of children enrolled in the EICs; first the newly enrolled cohort (1.1), who tend to be younger, followed by those who have been enrolled one year+ (2.1), who tend to be older. The third and fourth bars in each domain are for the comparison group – children not enrolled in any EIC, first younger (1.2) then older (2.2).

Figure 1 - IDELA scores



The **overall IDELA score** shows that among the EIC group of children, the average composite score was 50 percent for the newly enrolled cohort and 56 percent for those enrolled one year+. Among the comparison group, the difference between the younger and older cohorts is greater at 47 percent and 56 percent, respectively. Looking across groups, the overall score for the newly enrolled EIC children is three percentage points higher than that of their same-age peers in the comparison group. Among the older children, those in EICs for a year+ and their same-age peers in the comparison group, the overall score is the same at 56 percent.

In **motor skills**, among EIC children, the average score was 34 percent for the newly enrolled cohort and 46 percent for the year+ cohort. In the comparison group, the younger children scored 27 percent on average, and the older scored 51 percent, showing a larger jump. Across groups, the EIC newly enrolled cohort leads the younger comparison cohort by seven percentage points, while the older comparison cohort leads the EIC year+ cohort by five points.

In **expressive vocabulary**, the EIC group in both newly enrolled and year+ cohorts scored nearly the same at 89 percent and 90 percent, respectively. There was a larger gap between younger and older children in the comparison group, at 86 percent for the younger cohort and 94 percent for the older. Looking across the EIC and comparison groups, the newly enrolled EIC and younger comparison cohorts were different by three percentage points (89% and 86%, respectively) while the EIC year+ and older comparison cohorts showed a four-point difference in the other direction at 90 percent and 94 percent.

In **early numeracy**, within groups, scores increase from younger to older cohorts, at 40 percent to 43 percent in the EIC group and 30 percent to 38 percent in the comparison group. Looking across groups by age, the newly enrolled EIC cohort leads the younger comparison cohort by 10 percentage points, and the EIC year+ cohort leads the older comparison cohort by five points.

Early literacy follows a similar pattern. Among EIC children, the average score was 57 percent for the newly enrolled cohort and 61 percent for the year+ cohort. In the comparison group, the younger children scored 50 percent on average, and the older children scored 55 percent. Across groups, the EIC newly enrolled cohort leads the younger comparison cohort by seven percentage points, and the EIC year+ cohort leads by six points.

Finally, in the **social-emotional** domain, unlike the others, the larger difference is within the EIC group, where the newly enrolled cohort scored 31 percent and the year+ cohort scored 40 percent. In the comparison group, the difference from younger to older is 39 percent to 42 percent. Across groups, this is the only domain where the younger comparison cohort leads the EIC newly enrolled cohort; the younger comparison cohort leads by eight points. The older comparison cohort also leads the EIC year+ cohort by two points.

Within both groups (EIC and comparison), scores among older children are higher than those of younger children in every domain. The average scores are higher for children in the comparison group than those in the EIC group. However, among these *within-group* differences across age groups, only the increase in the motor skills domain is statistically significant. Additionally, while the scores of the same-age children *across groups* show some differences, these are not statistically significant, nor do they show a clear pattern, in that the EIC children scored higher than their similar-aged comparison peers in some domains, while the reverse is the case in other domains.

IDELA scores by family income level, by attendance at preschool/KG, and by gender are described in various sections below.[23]

2.1.2 Key Informant Interviews

KIIs with caregivers and EIC staff revealed key insights, summarized below. KIIs with mainstream teachers are summarized later in the section on *Effectiveness*.

Caregivers

Across the sample, caregivers of children (all parents except for one uncle and one grandmother) with developmental delays described their **initial shock** at discovering that their child had a developmental

[23] During analysis, we also examined IDELA scores among children attending SAA compared to those in other EICs to look for any differences in performance that might be attributed to the additional time spent receiving intervention. No significant differences were detected.

delay, or, in some cases, autism. They mentioned both shock and emotional upheaval. Social stigma and discrimination from other adults, as well as from within themselves, were also discussed.

Most children in our study live in two-parent households (76%). Mothers described bearing the **largest share of caregiving** responsibilities, and many felt that their child's additional needs were not well-understood by others, including the child's father. Several mothers (at least one-third of the caregiver sample) experienced significant challenges balancing the care needs with their own careers, with two deciding to quit their jobs and at least three others making adjustments to their work schedule, cutting back their hours, or relying on flexible and understanding employers in order to be more present for their child. At least three parents expressed distress because their work prevents them from spending more time with their child, and several noted their struggles to make appointments for their child in light of their work commitments. In some families, grandparents are a significant source of support and provide help during the workweek.

Parents also described frustration with **long waits for appointments** and care within the public healthcare system, with some waiting a year or more. Those who could afford it sometimes opted for a private hospital or clinic, though the cost is exponentially more expensive. In terms of EIC services, parents expressed **difficulty learning what services exist** and said that there are **few affordable options**, and those that exist are not accessible for everyone due to location and distance. Publicly funded EICs have long waitlists, including the OSEICs in the study.

"Affording private therapy is not within our financial capability."

"It's a government-supported organization, we trust it."

Those whose child is enrolled in an EIC noted the **affordability and strong support from teachers**, as well as convenient proximity to their home, though a few families still travel a far distance. Parents expressed gratitude for the gains they had observed in their child since attending the EIC, such as **increases in social skills, greater ability to communicate, better emotional regulation, and better self-care skills**. They also noted **growth in their own understanding** of how to parent their child and meet their child's needs, as well as an overall sense of being **less isolated and alone**. Table 8 provides quotes from caregivers illustrating the changes they have seen through early intervention.

Table 8 - Caregiver quotes on benefits of EIC

Children with early intervention
Communication and language
• **"He has made a lot of progress... he can socialize with people... He can remember his friends' names. He can remember his teacher's name."** • **"He started talking a lot. Before, he didn't speak much."** • **"His communication skills improved; his speech delay disappeared."** • **"Recently, he can clearly say 'mami' and 'daddy'."**
Self-care and daily living skills

Children with early intervention
• **"Now he knows how to say he's hurt. He will say 'sakit'."** • **"Now he can bathe himself... he knows where to put [diapers]."** • **"He can do everything himself... knows how to use soap, water... use the toilet."**
Social-emotional development and behaviour
• **"He is always happy."** • **"Emotional outbursts have decreased, though still a challenge."** • **"Sleep improved: no more crying at night, sleeps well."** • **"He's more aware of others' feelings: comforts crying sibling."**
Impact on parents and family
• **"For me, the biggest impact is that he can now talk, interact with us. That's a very big impact for us."** • **"My perspective on special children changed... I feel less stressed and more guided."** • **"We also found support from other parents, making the vibe more positive."**

We also asked caregivers to reflect on **how life would be different** for them and their child if they did not have access to early intervention. Key observations include:

- **Lack of Guidance and Knowledge**: Parents would not receive the necessary guidance on "macam mana nak handle budak macam ni" (how to handle a child like this). They would also lack understanding of their child's specific weaknesses and how to help them. One boy's mother, for instance, had "no knowledge about Down Syndrome", and OSEIC was the first centre to provide her with help and an idea of how to teach her son.
- **Delayed Development:** Another boy's mother expressed concern that without OSEIC, her child's development would be much slower, as delayed intervention makes it "makin susah mahu dikasih pulih" (harder to recover). One girl's mother noted that with less frequent sessions (like the Ministry of Health's every three months compared to OSEIC's weekly), children tend to forget what they've learned, hindering consistent progress.
- **Emotional and Social Challenges**: Parents would find it harder to understand and address their child's needs and emotional expressions, leading to further delays in self-expression. Without the social skills gained at OSEIC, children might face increased risks of bullying or social isolation in mainstream settings. One mother admitted to feeling "bingung" (confused) and "takut" (afraid) before OSEIC, not knowing how to handle his behaviour or ensure his development without guidance.
- **Ineffectiveness of Mainstream Education**: Another mother emphasized that while a regular school might teach academics, it would be ineffective if the child lacked the communication and social skills developed at OSEIC.

Lastly, when asked what they hope to see for the future, parents expressed a desire for a more holistic system (not just academic, but one that also involves the development of talents among children) that

allows children with developmental delays or ASD to develop their unique talents; more direct support for parents; and more facilities for early intervention to better meet the demand.

EIC Staff

Researchers conducted KIIs with seven EIC staff, all female, ranging in age from 29 to 44 years old. Their experience working at an EIC ranged from 3 to 16 years. Their qualifications included formal degrees in ECE, social sciences, and the humanities and also included on-the-job training and specialized courses.

EIC staff noted several key factors in meeting students' needs, based on their experiences. These include the **importance of early intervention even before a formal diagnosis** and the critical need for **parental involvement and commitment**, which extends to ensuring regular attendance for their child and consistent practice at home. **Collaboration among professionals** who serve these children helps all involved. While baseline data did not provide clear evidence of this, the observation warrants closer examination in future rounds of this research.

The **primary challenges** expressed by staff included **behaviour management**, such as handling children's tantrums and self-harming behaviour, **communication with parents,** and being sensitive to parent worries and concerns, while also emphasizing the importance of their role in their child's development. Many staff expressed **frustration with parents' lack of cooperation**, such as non-attendance and non-continuance of activities at home.

Staff also described the burden they felt due to **limited resources and staffing**, a shortage in specialized therapists like speech and OT, needing more training, and not being able to attract and retain qualified staff due to low pay. They shared that the job, while very rewarding, can also cause personal and emotional strain – the work can be physically demanding as well as emotionally draining when progress is slow. Those who have been working in early intervention for many years noted the need to adapt to changing times, giving the example of using tablets or screen time as a reward, when in the past a snack or time with a toy would serve the purpose.

OSEIC Kuching staff noted working **long hours** each week, with a typical weekday involves arriving to work at 6:30am and leaving at 5:00pm. OSEIC Kuching recently added Saturday sessions to serve more children. EIAs come to work for half a day.

EIC staff shared **transition strategies** that can help ease the shift from the EIC to school, including **parental counseling** to guide parents as they explore mainstream options; **simultaneous enrolment** so that children receive both targeted and personalized interventions at the EIC as well as broader pre-primary experiences in mainstream settings; and **after-school activities** to provide continued socialization and skill reinforcement.

Summary

The interviews with caregivers and EIC staff revealed key points of agreement and some areas of divergence. Both groups agree on the importance of early intervention. Caregivers expressed gratitude for the ways that EIC staff had taught them and helped them to better support their child. They also shared a need for more direct support to parents. On the other hand, EIC staff often said they found parents to be disengaged or seeming to relegate all or most of their child's learning to the limited time at the EIC, whereas staff view caregivers as critical partners responsible for continuing interventions daily at home. Caregivers shared concerns related to finances and work demands; further research can explore whether these constraints may contribute to their struggle to continue interventions at home. Both groups pointed to bottlenecks in the services EICs provide, with caregivers noting long waitlists and too few affordable early intervention options. EIC staff noted a need for more training and a need for more specialized staff, as well as commented on the danger of burnout and their low pay. Together, these stakeholders highlighted the value of early intervention and the urgent need for more investment, both in existing centres and in opening new ones.

2.2 Findings by Evaluation Criteria

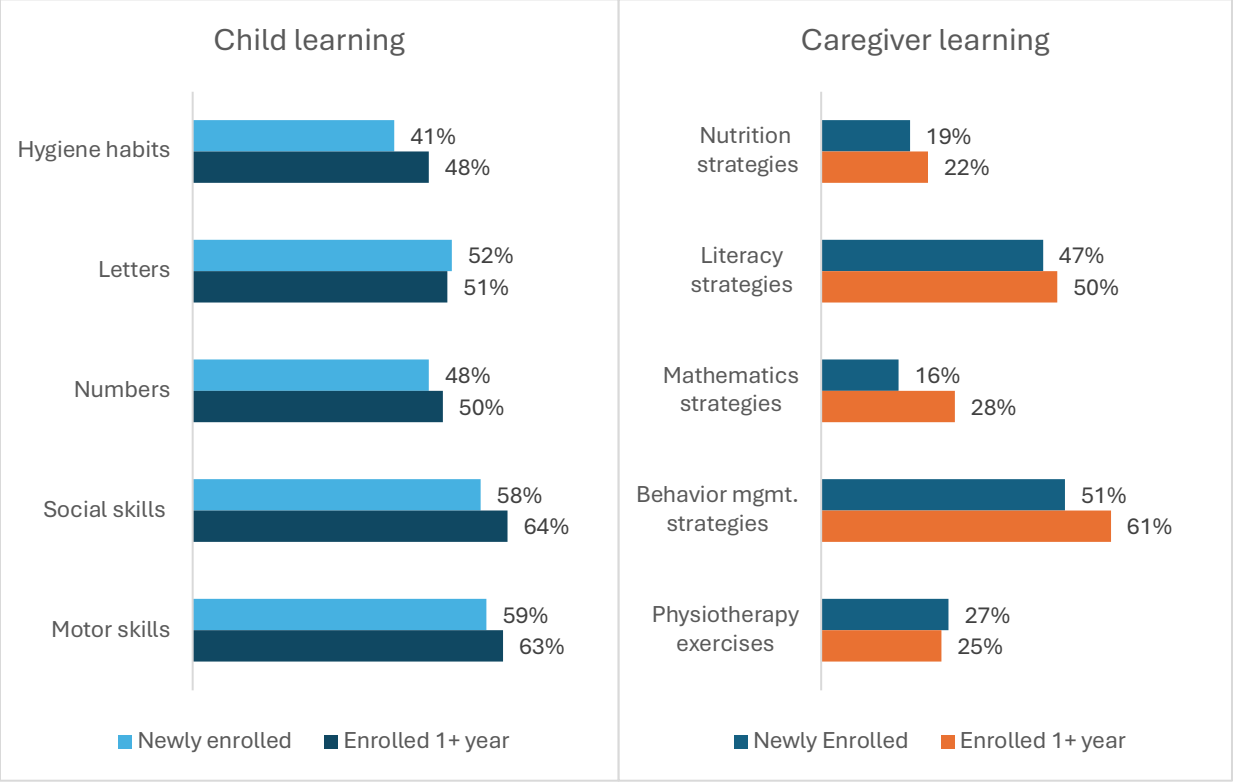
2.2.1 Effectiveness

EQ: To what extent have planned results of the EIC models been achieved, particularly as they relate to successful transition to/inclusion in mainstream school settings? Do children benefit or progress differently based on socioeconomic status?

Learning at EICs

At the baseline stage of this study, measures of effectiveness largely rely on qualitative data from interviews with parents and teachers. During the IDELA-HE survey, caregivers of children enrolled at an EIC were asked what their child is learning at the EIC, as well as what strategies they are learning to continue supporting their child at home (Figure 2). For child learning, the largest proportion of caregivers noted growth in social skills and motor skills, while also mentioning learning in hygiene habits (self-care) and academic skills such as letters and numbers. For themselves, caregivers particularly shared that they had learned about behaviour management and literacy strategies from the EICs. Not surprisingly, caregivers whose child had been enrolled longer (a year or more) noted more learning in most domains.

Figure 2 - Learning at EIC for children and caregivers

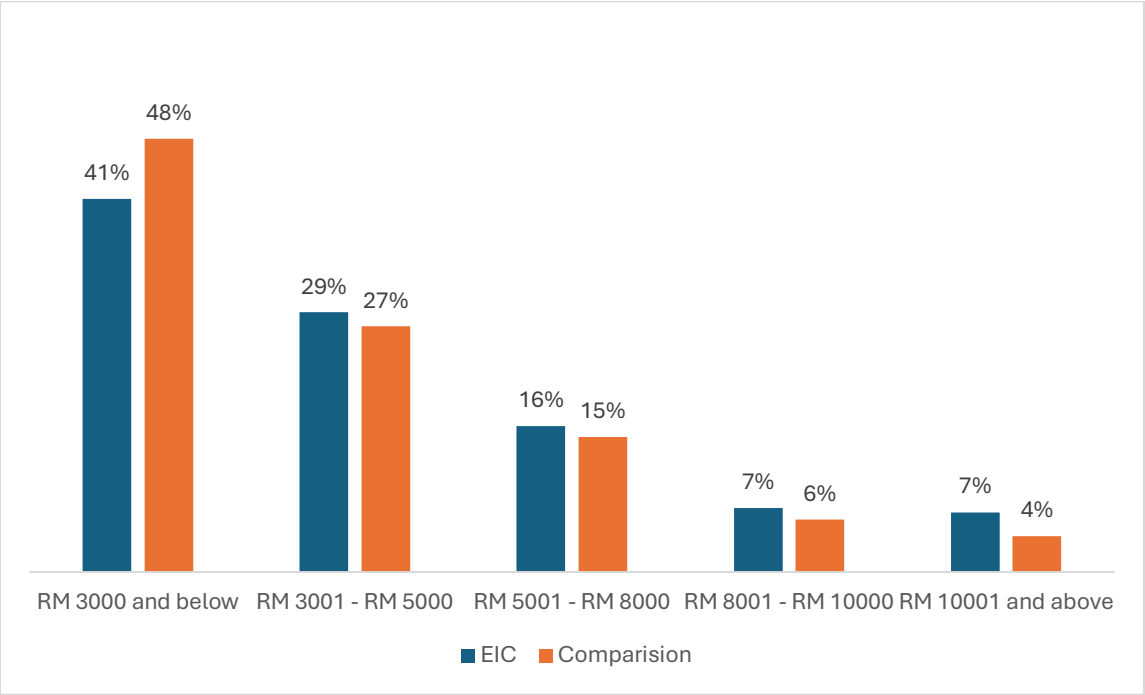


Demographic Differences

The largest share of families make RM 3,000 or less (41% of enrolled families and 48% of comparison families), indicating the need for subsidized early intervention, particularly among lower-income families (Figure 3).[24]

[24] The Government of Malaysia divides income into three categories: B40: Households with a monthly income of up to RM 4,849; M40: Households with a monthly income between RM 4,850 and RM 10,959; T20: Households with a monthly income of RM 10,960 and above. However, the data provided for this study does not allow for disaggregation by these categories. Nevertheless, most families in the study fall into the lowest (B40) category.

Figure 3 - Income distribution of parents from Kuching OSEIC[25]



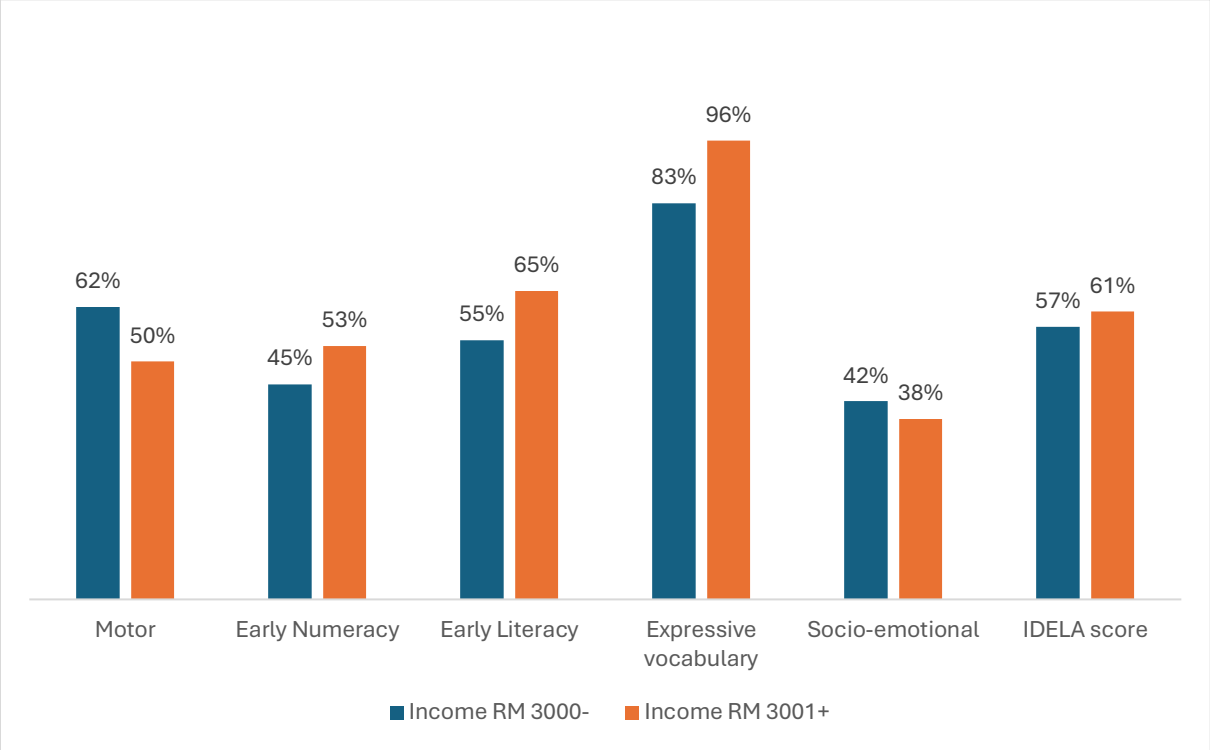
When disaggregated by income level, slight differences emerge with children from higher income families showing greater skill on a few more tasks than those in the lower income groups and scoring the same on some skills. However, none of these differences is statistically significant.[26] During KIIs, EIC staff reported that a family's socioeconomic position does not necessarily impact a child's learning progress and that parents' attitude and commitment are far more critical factors for success. Along the same lines, EIC staff shared frustration that parents are less engaged than they would hope, particularly in continuing the centre's interventions at home with their child. In contrast, parents expressed feeling a need for more support and guidance from the EIC centres.

For example, more children in the low-income group drew a shape resembling a triangle compared to those from higher-income families, but the low-income group also had a higher percentage of children who could not draw any corners of a triangle). In both number and letter identification, the higher-income group performed best and could also name slightly more pictured food items. However, the sample size is small, and these differences are not statistically significant. Income-based differences will be explored further in later years of the study.

[25] Data shared by OSEIC Kuching from records.

[26] One potential reason for insignificant results could be the small sample size, rather than no difference.

Figure 4 - IDELA scores by family income level for children enrolled in EIC 1+ year(s)



Within the study sample, 29 percent of children are from rural areas, and of these, 74 percent are from the lowest income level (RM 3000 or less). In urban areas, 42 percent of children in the sample are in the lowest income level. Regarding differences between children coming from urban versus rural settings, two staff members from Agape Centre, who each have over 15 years of experience, said that parents living in the city might limit "messy" outdoor play, relying on toys and gadgets more, while rural children tend to be more hyper or brave and sociable due to outdoor exposure. Rural children tend to travel long distances for their sessions at the EIC, which can lead to inconsistent attendance. Lastly, they noted that urban parents (of all ethnicities) are increasingly proactive in seeking intervention, while some rural indigenous parents and grandparents believe their child will "grow out of it" This indicates the need for more outreach and increased accessibility to early detection and intervention for those in rural communities, in addition to more support for parents and caregivers to understand their child's support needs as well as their potential for growth and learning.

Transition to Mainstream Education Settings

Regarding the transition to mainstream education settings (including preschools, kindergartens, and primary school) EIC staff noted several challenges. Those with many years of experience in Agape Centre caution that children may regress in less individualized, larger settings, and that mainstream schools often do not have sufficient resources, may be unprepared or reluctant to accept children with developmental delays. Parents often fear a lack of support, bullying, or a decline in progress.

We interviewed 10 teachers: five teachers from three KGs, four teachers from four primary schools, and one teacher from one special school. Of these, four from the government schools have backgrounds and training in special education. The PERKATA special school is run by an NGO and not under the purview of the Ministry of Education. Rather, it is registered as a care centre under the SWD. Teachers at PERKATA do not all have training in supporting children with disabilities or delays. We asked teachers to share their observations on differences or similarities between students with developmental delays who had or had not first received early intervention, specifically from the EICs in this study. These teachers consistently highlighted significant differences between children who have attended or are attending these EICs and those who have not/do not attend, encompassing various aspects of development and learning (Table 9).

Regarding readiness to learn and adaptability, teachers noted that children who had received early intervention had a level of confidence and comfort in a classroom setting and were able to follow instructions whereas children who had not received early intervention lacked these skills. Children who had attended an EIC also possessed self-care skills, particularly related to using the toilet, while those who had not attended any EIC were often still using diapers or needed assistance with basic self-care tasks, including eating. Those coming from EICs had more developed social skills when interacting with other children and with teachers, and their parents were also observed to be easier to work with. Those not coming from EICs were less comfortable with their peers and struggled with emotional regulation. When asked whether these differences persist or have lessen over time, teachers said that while some children without early intervention do show improvement over time, in many cases, their struggles persist and sometimes worsen. These observations from experienced teachers provide important insights into the effectiveness of early intervention and its potential for long-term impact in the lives of the children who receive it.

Table 9 - Mainstream teacher observations on students with and without early intervention

Children with early intervention	Children without early intervention
Readiness to learn and adaptability	
• **They are generally "easier to manage, they understand simple instructions" and "only need minimum assistance".** • **They "already have a readiness to learn, they can sit and listen to the teacher, they are a bit more mature in their acceptance of learning".** • **They possess a "readiness to go to school" and a "state" of knowing "I came to school".** • **They are "happier" and "more confident" when coming to school, knowing where to sit and waiting for the teacher.**	• They "need much more time to adapt to the school environment". • They often "come in the morning crying, and sometimes they have to be sent home early, tantrums". • They are "scared", "not used to the environment", "feel afraid", and require "a long time for him to feel comfort in the classroom". • Some still require "behaviour management" for basic sitting in a proper manner.
Self-care and daily living skills	

Children with early intervention	Children without early intervention
• **They demonstrate better self-management. For instance, one OSEIC student, "can manage himself, he goes to the toilet by himself".** • **They "know how to use the toilet… pull down the pants, the pampers, and then sit on the toilet bowl".**	• Some are "still unable to manage themselves even though they are already 7 years old… Still wearing diapers". • They may "need more adult assistance throughout, including needing to be fed and may not understand instructions".
Social-emotional development and behaviour	
• **They "understand how to interact with others, take turns, and share, and occasionally engage in eye contact".** • **Parents of EIC children are "more open-minded" and "more cooperative with the teacher" and open to "accepting their child's condition and receiving feedback".**	• They "may face difficulties in social interaction, easily become isolated, or even exhibit aggressive behaviour due to a lack of security". • They often struggle with emotional regulation, with one teacher noting, "Even when I was giving him the toys or whatever that he likes, he is still crying, crying, crying nonstop". • Parents of non-EIC children are often in "denial" or "wait and see" stages, fearing the "label 'special'".
Persisting differences	
• **"EIC children are more advanced; non-EIC children have improvement but not all".**	• "There will be differences… even after many months, one year later, those with intervention and those without still have very far differences".

2.2.2 Efficiency

EQ: To what extent do the EIC models represent a cost-efficient or timely way to achieve these results and outcomes? What conclusions can be drawn regarding cost-effectiveness differences between models and among different programmes within each model?[27]

EIC Finances

EICs reported that their annual operational and programmatic spending does not exceed their allocated budget, demonstrating strong financial accountability, while also noting that they need more funds to accomplish and expand the work they do. The total expenditure ranged across centres: RM 0.4 million at PPDK Sibu, RM 0.5 million at SAA, RM 1.15 million at MCC, and RM 2.2 million for OSEIC. OSEIC reported

[27] The authors note that the findings described in this section do not fully answer these EQs, and additional information related to financial considerations of families is included here that does not follow directly from the EQs. More detailed information about the EIC costing models will be explored in later years.

that 90 percent of its income comes from the state government and the rest from parents' fees. MCC reported that 80 percent of their income comes from the Sarawak Chinese Annual Conference of the Methodist Church, Malaysia, and the rest is covered through parent contributions, car washes, and café projects run by adults. SAA and PPDK Sibu reported public donations, government grants, and merchandise sales as the sources of income. Excessive reliance on a single source of income could affect the future sustainability of the centres as it becomes vulnerable to unexpected external shocks originating from that source.

The fee structure across the EICs in this study varies (Table 10). The fee for the two OSEICs – in Kuching and Dalat – is the same at RM 50 per month for one session per week. This reflects the subsidization of services provided by the Government of Sarawak.[28]

Within Agape Centre, each of the three EICs included in the sample have a different fee: at PPDK, the cost is RM 30 per month,[29] which covers one individual session per week and a second social session with parents and other children together; at MCC the average cost is RM 63 per month, also for one weekly individual session (reported cost ranged from RM 30 to 150 and is determined on a case-by-case basis in consultation between the MCC committee and each family); and at SAA, both the cost and the session frequency is higher at RM 400 per month for two-hour sessions five days a week.

While data from later stages of the study will provide more insight into comparative differences in efficiency, the tables below show the fees paid for each EIC from the baseline responses.

Table 10 - Average fees paid monthly by parents for EIC

	Avg. fees paid per month (RM)
OSEIC Sarawak	50
Agape: PPDK	30
Agape: MCC	63
Agape: SAA	400

Family Finances

Where relevant, caregivers also shared various details about the frequency of use as well as costs related to their child's disability and care, as shown in Table 11. For those whose child uses an assistive device[30],

[28] While the petroleum company PETRONAS contributed RM 4 million to renovate and equip the building housing OSEIC Kuching and fund its first year of operation, since then the centre (and the addition of OSEIC Dalat) have been funded primarily by the government.

[29] RM 30 comes from the RM 300 disabled person allowance provided to each child registered with Social Welfare Department.

[30] More details on assistive devices will be collected in later years of the study, to enable more specific comparisons by type of device.

the most recent **maintenance cost** to the family was RM 109 (average). Most (93%) said their child uses an assistive device on an as-needed basis. Families who said they pay for additional **caregiving assistance** in the home paid an average of RM 375 at the most recent time. Just over half (53%) said they use caregiving help daily, while 20 percent said weekly, and another 20 percent said as needed. The cost of **medicine** averaged RM 107, and 55 percent said their child takes the medication daily, while 29 percent said as needed, and 10 percent said monthly.

Some families also said they chose to live in their current residence due to their child's developmental delay because of the ease of location or travel with their child. These families shared the **additional housing cost** to live there instead of elsewhere, averaging RM 452 monthly. EICs are concentrated in specific urban locations in Sarawak, and families might need to relocate to these places to avoid extensive travel distances.

Examining these costs by group – EIC and comparison – reveals interesting insights that warrant further analysis. The data show that **EIC families pay *more* for assistive device maintenance** than the comparison group by a large margin (RM 141 vs. RM 57). This could be due to caregivers learning about assistive devices from the EIC, whereas caregivers in the comparison group may not know what options exist.

EIC families pay *less* for caregiving assistance than comparison families. While this cannot be attributed to the time EIC children spend outside of the home (they spend overall fewer hours per week in a centre than comparison children, as noted below in Table 11), more research is needed to explore whether this finding could be related to children receiving early intervention being less challenging for their caregivers to manage at home. This result may be due to skills the children are learning in the EICs as well as skills the caregivers are gaining through better understanding of their child.

EIC families repoarted paying *more* for medication, which, as with assistive device maintenance, could be a result of having more knowledge and access to medications because of being at the EIC. In the case of Agape families, all children have a formal diagnosis, which may be linked to higher rates of medication use. More information on types of medication will be collected in later years of the study. For example, some families may refer to various supplements as medication.

Finally, **EIC families pay *more* for housing** as a result of their child's condition. This is not surprising, given that these families are enrolled in EICs, while comparison families are not (yet). In examining these cost differences, it is notable that EIC families appear to save money on caregiving assistance, but this is offset by other costs.

Table 11 - Cost of disability

Disability-related costs/income	Total	EIC	Comparison	Frequency of use
Cost of maintaining assistive device (most recent time)	109	141	57	Monthly: 3.4% As needed: 93%

Disability-related costs/income	Total	EIC	Comparison	Frequency of use
Cost of caregiving assistance in home (most recent time)	375	297	511	Daily: 53% Weekly: 20% As needed: 20%
Out-of-pocket cost of medication (most recent time)	107	113	77	Daily: 55% Monthly: 10% As needed: 29%
Extra pay for choosing the location because of ease of living or traveling with child (monthly)	452	512	206	

When asked if they receive any financial aid, 69 caregivers (23%) reported receiving some form of financial aid. Among these, all received financial aid from the national government (RM 300 monthly), and 20 percent said they also receive aid from the Government of Sarawak. A few (3%) said they get aid from "other" sources, and 1 percent mentioned receiving aid from an NGO.

2.2.3 Coherence

EQ: How best can OSEIC and Agape Centre work closely with other ECD key stakeholders (such as preschool teachers, social workers, and parents/caregivers) to support and enhance programme targets? How many children with disabilities in EICs attend preschool education (be it mainstream/private/government or Pra Sekolah Khas) before entering a primary one?

Through the IDELA-HE survey with caregivers, we learned that the majority of children across the sample (65% to 83%) attend preschool or KG, with daily sessions typically in the morning (Table 12). Many such early learning centres provide children with opportunities to gain similar skills as those taught in the EICs (gross and fine motor skills, self-care, early literacy and numeracy, and social interaction). The setting is in a group with other children rather than an individualized intervention, which can provide children with valuable opportunities to gain social skills. The preschools/KGs, while not specifically tailored for children with developmental delays, may nevertheless reinforce the EIC interventions.

Table 12 - Attendance at preschool/KGs

	Newly enrolled in EIC (1.1)	Enrolled in EIC 1+ year (2.1)	Comparison younger (1.2)	Comparison older (2.2)
% children attending preschool/KG	66%	75%	65%	83%
% caregivers saying "preschool/KG too far"	7%	19%	13%	8%
Hours spent at preschool/KG per week	15.8	17.7	20.9	20.9

	Newly enrolled in EIC (1.1)	Enrolled in EIC 1+ year (2.1)	Comparison younger (1.2)	Comparison older (2.2)
% attending preschool/ KG for 1 year +	49%	55%	23%	53%
Hours spent at EIC per week	1.4	1.7	NA	NA

Avg. Time in Mainstream Preschool/KG Per Week

EIC group = 17 hours

Comparison group = 21 hours

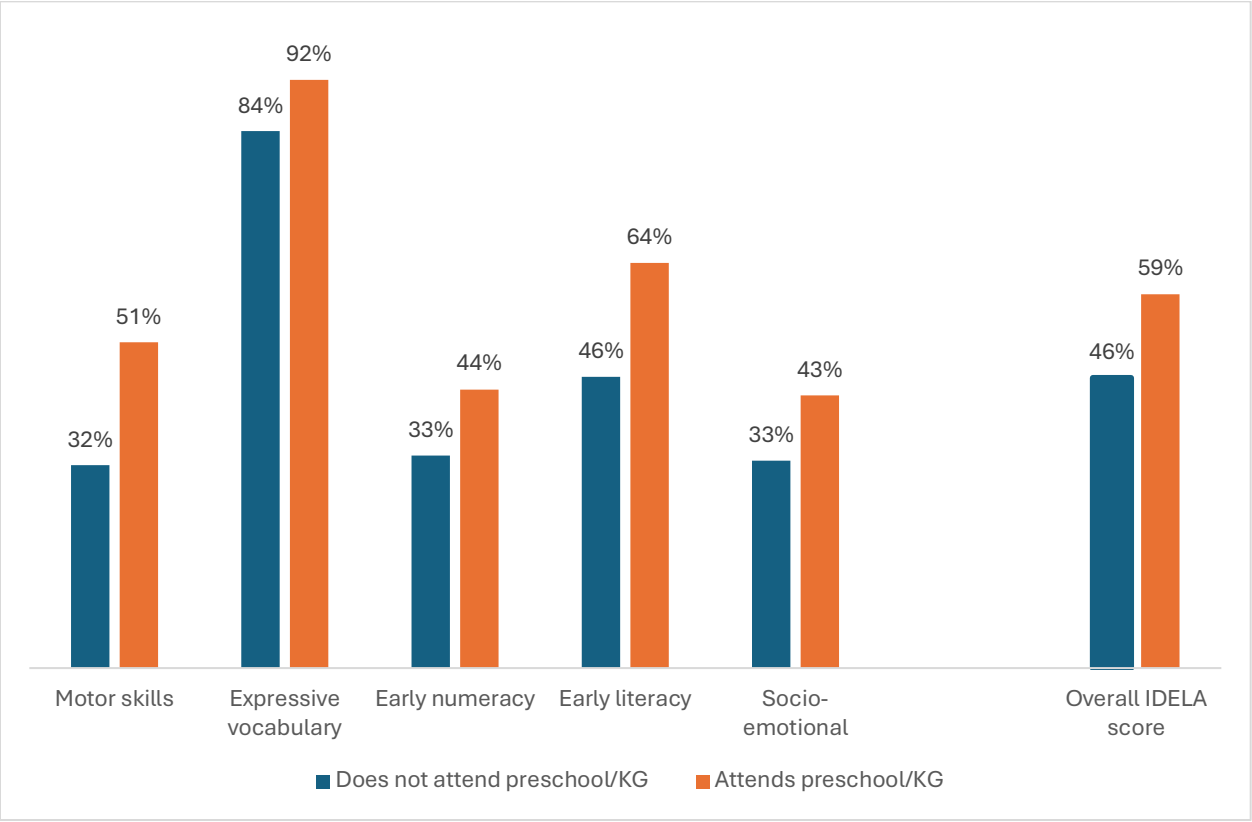
A larger proportion of children in the older groups (those who have attended an EIC for at least a year and those in the comparison group of similar age) attend a preschool/KG than those in the younger groups. Children in the EIC group spend less time each week in preschool/KG than those in the comparison group, with newly enrolled EIC children averaging just under 17 hours per week versus almost 21 hours per week for children in the comparison group. Even when their time in the EIC is added, the total time each week in some form of early learning centre is less than the comparison group at about 18 hours,[31] likely because on the day that a child attends a session at the EIC, they do not attend their preschool/KG. Thus, as noted among the limitations of this study, children in the comparison group are spending significantly more time in early learning settings, which contributes to challenges in differentiating the effectiveness of the EICs.[32]

As noted above in Table 12, most children in the sample attend preschool/KG, but not all do. In order to isolate the effect of attending preschool/KG, we combined IDELA data from the two older cohorts (EIC and comparison) and disaggregated by preschool/KG attendance (Figure 5). This analysis appears to show an advantage of early learning opportunities on developing skills in the various IDELA domains, and warrants further exploration in later years of the study. The overall IDELA score, combining all domains, was 59 percent for those who attend preschool/KG and 46 percent for those who do not. The largest gaps are in the motor skills domain (19 percentage-point difference) and early literacy (18 points).

[31] 17.2 for the EIC newly enrolled and 19.4 for those enrolled a year or more.

[32] p=0.10

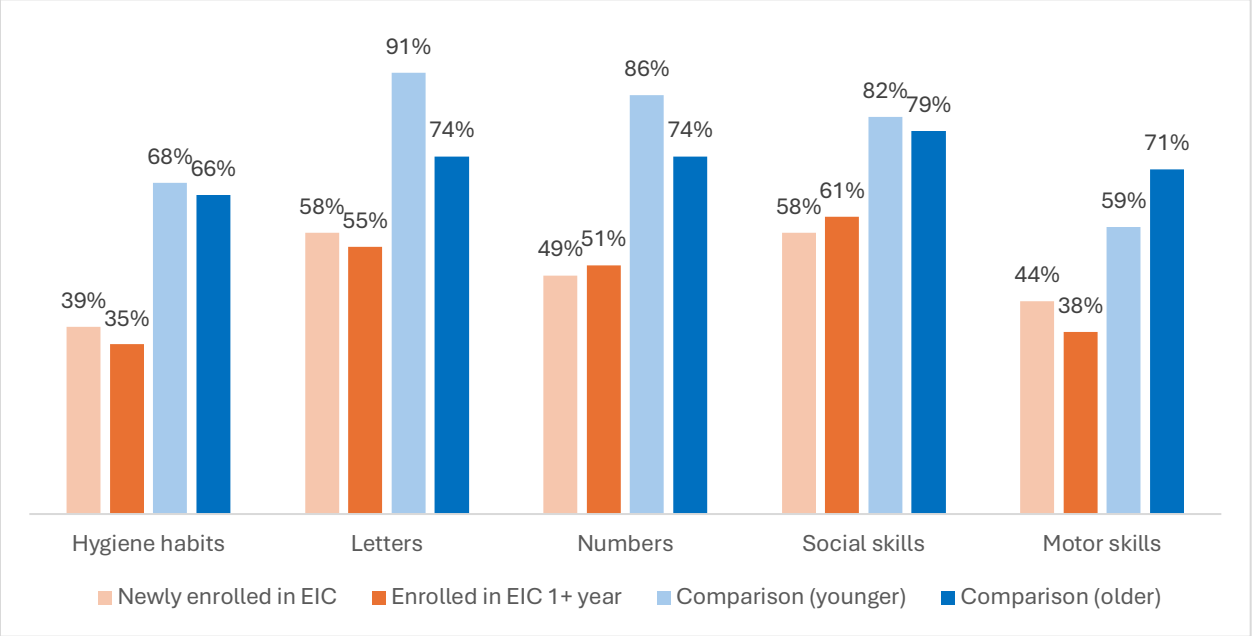
Figure 5 - IDELA scores by preschool/KG attendance



All caregivers whose child attends a preschool or KG were asked about what their child has learned at these centres (Figure 6). The trend shows higher rates of reported learning for younger children compared to older children in all domains for the comparison group, and in hygiene habits and letters for the EIC group.

Figure 6 also shows a large difference in parents' reports about learning between parents of children who attend EICs and parents in the comparison group. Further exploration in subsequent years of the study may shed light on the reasons for these differences, but the additional three to four hours per week that children in the comparison group spend at preschool/KG may provide some explanation.

Figure 6 - Learning at preschool/KG



Additionally, in relation to coherence, we found that there is limited interaction between the OSEICs and preschools/KGs. One OSEIC staff person noted that parents often ask for recommendations for inclusive preschools or KGs, but the OSEIC has no formal relationships with such centres and does not know how many exist or where they all are. This person said that it would be helpful to have a "map" of inclusive preschools/KGs across the areas in which the OSEIC children live so that they could better advise families where to go. Some families learn about options through speaking to one another during informal interactions at the OSEIC. Likewise, regarding primary schools, the OSEIC has no formal relationships with any schools, and the OSEICs are not under the jurisdiction of the Ministry of Education.

On the other hand, Agape Centre, being in service for nearly 20 years, is very well recognized by the mainstream kindergarten and schoolteachers, and teachers with many years of teaching in SAA and MCC have close contact with the schools in which the children transitioned. MCC and SAA offer an annual session for parents to help them understand how to navigate enrolling their child in primary school. As reported by one of the teachers in a mainstream school in Sibu, teachers have established a standard practice that upon a child's transition to the school, Agape Centre provides the school with a report on the child.

There is also a unique relationship between the Fu Yuan KG in Sibu and the Sunflower Programme, which is located a short walk from the preschool. The Sunflower Programme receives children who initially enroll in KG but who struggle in various ways consistent with possible developmental delays. Such children are referred to Sunflower and, when a place opens, will enroll and attend daily for a span of two to five months, where they receive a combination of small group class engagement and one-to-one teacher support over a two-hour session. Once staff have seen enough progress, the child is typically included in the KG. Sunflower staff are informally "on call" when KG staff need help managing a situation with a child

and also provide informal training to KG staff. When the research team visited Sunflower in September 2025, there were 19 children enrolled. The cost to families is RM 400 per month, or roughly RM 19 per day.

Among those whose caregivers said they do not attend a preschool/KG, 58 percent had family incomes below RM 3,000, whereas among those who attended a preschool/KG, only 45 percent had family incomes below RM 3,000. This shows children attending preschool/KG are more likely to come from relatively higher-income families.

2.2.4 Relevance

EQ: To what extent are the EIC model objectives and targets in line with the goals and targets of the respective state and national development plans (including the Twelfth Malaysia Plan, 12MP; the Malaysia Madani framework; and the Sarawak Post-COVID-19 Development Strategy, PCDS)?

The **Thirteenth Malaysia Plan** (13MP), which spans 2026 to 2030, is organized into three dimensions, four pillars, 27 priorities, and 122 strategies. One of the dimensions is Quality and Inclusive Life and one of the pillars is Enhancing Social Mobility. Within this, education reform is a priority area. The 13MP mentions access to education beginning in early childhood as an initiative under this pillar and lists "construction of autism centres" as a programme related to improving the well-being of persons with disabilities. Beyond this, there is no broader mention of students with special needs, inclusive education, or early detection and intervention. The **Twelfth Malaysia Plan** (12MP), which covered 2021 to 2025, includes a section on increasing accessibility to inclusive and quality education and describes the Ministry of Education's 2019 Zero Reject Policy, which guarantees that students with "special educational needs (SEN)"[33] have access to public schools that can meet their needs through "necessary intervention, rehabilitation, and support". To improve the quality of education for students with disabilities, the 12MP notes the importance of teacher competency as well as early detection and intervention (p. 218). The transition from pre-primary to primary schools is not explicitly mentioned in the 12MP (except for in relation to the Orang Asli population in Peninsular Malaysia), nor are EICs mentioned. Nevertheless, the EIC objectives and targets are aligned with the 12MP's emphasis on early intervention, as well as supporting schools to meet the needs of students with disabilities. While EICs do not provide direct support to primary schools, by helping to prepare children with developmental delays to gain school-readiness skills as well as by helping parents to support and advocate for their children, primary schools stand to gain.

The **Malaysia Madani framework**, Prime Minister Anwar Ibrahim's agenda, broadly emphasizes values of good governance, social justice, and concern for the rights and well-being of all citizens. It also discusses themes of universal access to education and health and the importance of a "conducive learning environment". While early intervention for children with disabilities is not mentioned in the framework, the EIC objectives related to supporting children to gain skills needed to learn, to engage socially, to care

[33] This is the term used in the 12MP.

for themselves, and to successfully transition into primary school (and beyond) are aligned with and relevant to the Malaysia Madani framework's values of inclusion and care for marginalized citizens.

The Government of Sarawak's **Post-COVID-19 Development Strategy** (PCDS) emphasizes themes of data-driven innovation, economic prosperity, social inclusivity, and sustainable development. In the section on social services, the PCDS mentions its strategy to "assist the vulnerable, risky and affected individuals (e.g., persons with disabilities, the elderly, etc.) through care, intervention and shelter initiatives" (p. 28). The PCDS goes on to list what it calls Catalytic Initiatives and among these is "One-Stop Community Social Intervention Centres Special Needs Community Centres" (p. 29). The OSEICs can be considered included in these. It also notes plans to build capacity in education and health services to promote and enhance social inclusivity (p. 52–53). These themes and strategies align with the EICs' objectives to assist children with developmental delays through early intervention.

An opportunity for further alignment and relevance between EICs and these policy initiatives relates to strengthening and formalizing the link between EICs, inclusive pre-primary schools and KGs, and primary education. All childcare centres for children aged 0 to 4 years old are legally required to be registered with the Social Welfare Department. All KGs for children aged 4 to 6 years old must register with the Ministry of Education and are guided by their curriculum. However, there is room for more alignment and communication between the SWD and the Ministry. Collaboration could increase efficiency and coherence and contribute to ensuring that the work of the EICs is maintained across educational settings for children with developmental delays.

2.2.5 Gender

EQ: To what extent do girls and boys experience differences in diagnosis and access to services in EICs? To what extent do gender norms and expectations play out at the family or community level that may influence access to EIC services?

Globally, boys are diagnosed with various developmental delays or difficulties like ADHD,[34] speech delays,[35] and ASD at higher rates than girls.[36] Research to explain this is still emerging but points to possible explanations such as the differences in the ways that boys and girls present symptoms, with girls often internalizing their symptoms in ways that are less disruptive or are more aligned to gendered social expectations, and possible teacher referral bias (due to boys' behaviours being more external and disruptive).

In our sample, this trend is reflected, with girls representing less than one-third of the sample across all groups (Table 13). As with global trends noted above, there may also be a cultural explanation in Sarawak

[34] Gaub, M., & Carlson, C. L. (1997).

[35] Nudel, et. al. (2023)

[36] Santomauro, D.F., et al. (2025).

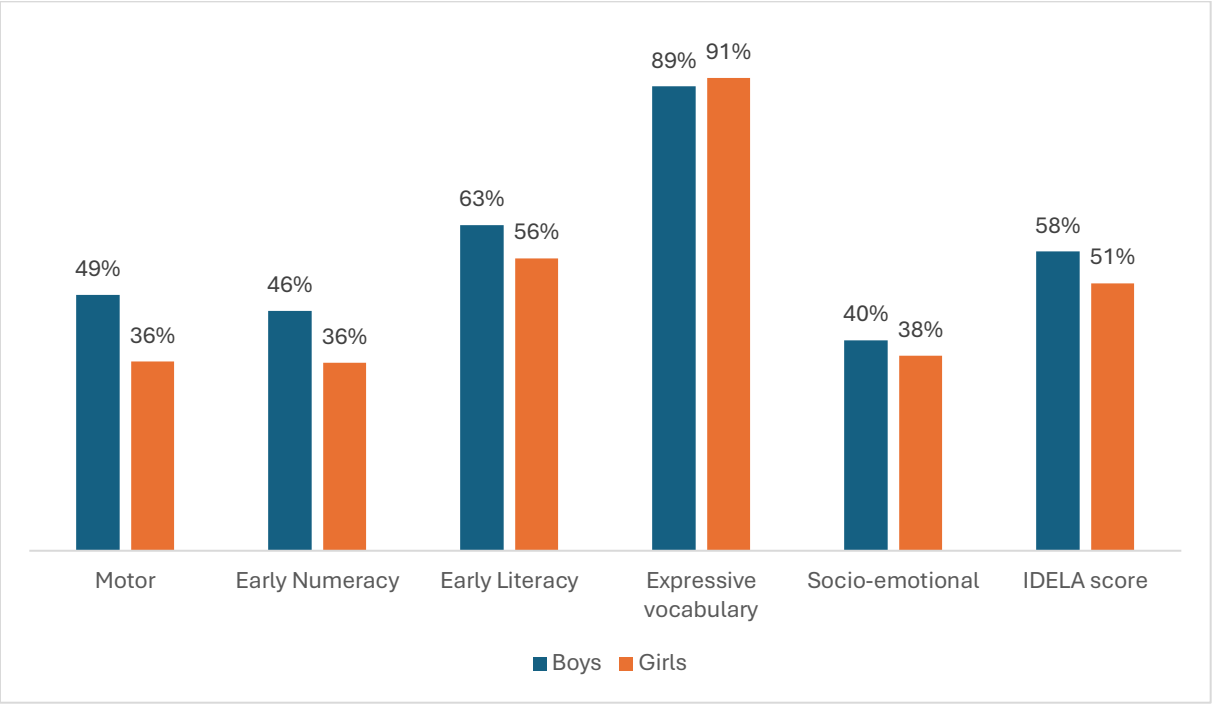
contributing to the lower identification of developmental delays among girls, generally due to behavioural expectations. When asked about differences between girls and boys, EIC staff noted no major differences but said that boys tend to be quicker but less precise, while girls are more diligent but engage at a slower pace.

Table 13 - Girls in the study sample

Study cohort	% girls
Newly enrolled in EIC	22%
Enrolled in EIC 1+ year	30%
Comparison (younger)	26%
Comparison (older)	30%

Performance on the IDELA shows boys demonstrate skills with slightly greater accuracy than girls across most measures, as shown in Figure 7 (for children who had been enrolled in an EIC for at least one year). For example, girls struggled more than boys to draw a triangle, with 78 percent of girls drawing no corners compared to 53 percent of boys, and 44 percent of boys' drawings resembled a triangle compared to just 22 percent of girls' drawings. However, slightly more girls were observed using a tripod pencil grip (33 percent compared to 30 percent of boys). More girls struggled with gross motor skills, with 54 percent not hopping when asked compared to 48 percent of boys. For the girls and boys who demonstrated this skill, performance was nearly the same. In numeracy, boys outperformed girls in counting as well as identifying numbers, and in literacy, 44 percent of girls could not identify any letters compared to 37 percent of boys. Among those boys and girls who could name letters, however, performance was nearly the same. For expressive vocabulary, boys named slightly more pictured food items and animals than girls. Both boys and girls struggled with the social-emotional measure, but girls appeared to have slightly more difficulty. However, most of these differences are not statistically significant, indicating near parity in performance across sex.

Figure 7 - IDELA scores by gender for children enrolled in EIC 1+ year(s)



3. CONCLUSION AND RECOMMENDATIONS

3.1 Conclusion

Overall, the findings from year one provide an important baseline for understanding the role of EICs on the developmental profiles of children with developmental delays in Sarawak, as well as the experiences of their families, EIC staff, and teachers in mainstream schools where children from EICs attend. The data reveal meaningful patterns of growth from younger children to older children within both cohorts (EIC cohort and comparison cohort) and highlight both the promise and challenges of early intervention.

Parents and teachers consistently emphasized growth in children's readiness, confidence, and self-care when early intervention was provided, even as gaps remain in access, resources, and systemic support. Taken together, these findings underscore the critical role of EICs while also pointing to the need for more comprehensive services, stronger support to parents and more parental engagement, and closer coordination across institutions, including between EICs and mainstream schools. As the study progresses and children and families are followed, subsequent rounds of data collection will provide clearer evidence of the EICs' long-term impact on children's development and inclusion.

3.2 Recommendations

Recommendations are derived from the study findings and include points made by participants at the validation workshop in Kuching on 23 September 2025. A priority of high or medium is proposed, based on urgency related to the accessibility of early intervention.

Evidence: Parents expressed difficulty learning what EIC services exist and said there are few affordable options and long waitlists. The OSEIC Kuching waitlist is over 300 children. EIC staff described working long hours and the risk of burnout, as well as shortages of specialized staff.

- **Recommendations:**
  1. **Make information about options and services provided by EICs easily available and accessible** to parents across a variety of locations and formats (online, at health centres, paediatrician clinics and hospitals, in community groups, organisations, organisations of persons with disabilities, CBR centres etc.) so that they can make informed and timely decisions. (High)
  2. Create opportunities with necessary resources for OSEIC and Agape Centre staff, as well as representatives from the National Early Childhood Intervention Council (NECIC) and university faculty and international experts, to **train staff at mainstream preschools and KGs in early intervention approaches**, including applying Universal Design for Learning (UDL) principles to existing ECCE and KG curriculum and programme offerings so that learning is accessible for all enrolled children (regardless of whether they have a delay or disability). Begin with public mainstream schools attended by children currently enrolled in EICs and expand from there. Scale up this capacity-strengthening support strategically to cover geographic areas that lack early intervention options. Training can include lectures, presentations, demonstrations, and interactive sessions, as well as opportunities to observe or shadow EIC staff. Trainees can receive certificates or other documentation showing the skills they have learned, and the centres that employ them can list early intervention support among their offerings. Small communities of practice (COPs) can be formed among training participants, using messaging apps or services to allow for ongoing communication, including support, questions, and resource sharing. Trainers

can be invited to serve as mentors for COPs (with compensation) and offered continuing professional development. (High)

3. Expand the number of OSEICs in Sarawak and hire and train staff to screen applicant children and focus enrollment only on those who need individualized early intervention. Consider using a digital tool such as TOY8's tool. Refer children to other centres whose delay or disability can be supported by trained mainstream centre staff (i.e., they do not need one-to-one early intervention) in conjunction with the above recommendation. (High)
4. **Hire an assistant to pair with OSEIC teachers** to alleviate stress and enable greater focus on each child's intervention. Assistants can prepare materials for each session, clean up between sessions, and support documentation and record-keeping. (High)
5. **Address specialist shortages** by recruiting and training more occupational therapists, speech therapists, and other relevant professionals. Include EICs among clinical internship sites for these specialists (allied health professionals). In addition, **integrate early intervention modules into early childhood teacher training** curricula to build capacity for inclusive education and care. (Medium)

Evidence: Within the study sample, 29 percent of children are from rural areas, and of these, 74 percent are from the lowest income level (RM 3000 or less). Rural children tend to travel long distances to their EIC sessions, which can lead to inconsistent attendance.

- *Recommendations:*
    6. In addition to equipping teaching staff at mainstream centres with early intervention skills that can be done in group settings, **expand one-on-one EI services in rural areas by opening additional OSEICs as well as by updating existing preschools and kindergartens**. This can be done by first conducting a needs assessment and mapping exercise to better understand the nature and location of service gaps in rural areas, and then using this data to allocate or add space designated for early intervention where children enrolled in mainstream classes can be pulled out for intervention until they are able to remain fully included with their peers in the group. The combination of new OSEICs with expanded mainstream centres can reduce travel time for rural families and make early intervention more accessible for more children. (High)
    7. **Subsidize the travel, housing, and assistive device costs** and/or increase financial aid for rural parents of children with developmental delays. If more mainstream centres offer one-on-one early intervention services, subsidize or fully cover the additional cost for low-income families. **Prioritize families of children with disabilities in the SWD childcare scheme.** (Medium)
    8. **Expand early screening and diagnosis services to rural areas** by supporting rural medical officers to conduct examinations at clinics as well as at preschools and KGs. **Organize "screening camps" on weekends** at such centres to enable more working parents to bring their child for assessment. Advertise screening opportunities through various media and include evidence-based information on the behaviours that may be linked to developmental delays as well as stories from families who have benefited from early intervention. Ensure that behaviours seen in both girls and boys are included. (Medium)

Evidence: No broader mention of students with disabilities (aside from autism), inclusive education, or early detection and intervention was found in the 13MP (2026–2030).

- *Recommendation:*
  9. **Create more concrete and explicit policies, accompanied by costed implementation plans**, which are informed by evidence as well as the lived experiences of individuals or families and workers who will be impacted. Explicit provision and planning for inclusive education in policy documents, including early intervention and support services for children with disabilities, can help to ensure inclusive education is integrated into all programs. However, policy commitments are insufficient to drive action. Plans should include activities such as teacher professional development, medical officer training, coordination and accountability mechanisms, and efforts to raise awareness and reduce stigma. (Medium)

Evidence: The overall IDELA score, combining all domains, was 59 percent for those who attend preschool/KG and 46 percent for those who do not. The largest gaps are in the motor skills domain (19 percentage-point difference) and early literacy (18 points). Regarding the transition to mainstream schools, EIC staff caution that children may regress in less individualized, larger settings, and that mainstream schools may be unprepared or reluctant to accept children with developmental delays. Parents often fear a lack of support, bullying, or a decline in progress. MCC and SAA offer an annual session for parents to help them understand how to navigate enrolling their child in primary school. As reported by one of the teachers in a mainstream school in Sibu, they have established a standard practice that upon a child's transition to the school, the EIC provide the school with a report on the child.

- *Recommendations:*
  10. **Conduct a mapping exercise** to gain an understanding of what preschools/KGs children in EICs are attending, as well as what preschools/KGs are located in proximity to enrolled children. Create a directory with brief profiles of each centre's location, cost, programme offerings, size, etc., along with contact information. Include brief reviews from families regarding how inclusive they felt the school is. EICs can use this directory to support families who wish to enroll their child in a mainstream centre or when they are ready to transition out of the EIC. (High)
  11. **Encourage parents to enroll their child in a preschool or KG** and provide guidance for how to speak to the centre staff about supporting their child. Provide an accessible and easy-to-understand profile of the child that parents can share with the preschool or KG staff and that can be used in developing an IEP at the school. (Medium)
  12. **Expand the communication between EICs and preschools/KGs** so that parents can be informed about the benefits of attending preschools/KGs in addition to EICs and encourage them to enroll children in these centres. EICs should not be a substitute, but rather a complementary aspect of the intervention that children need. (High)
  13. **Create a stronger tie between EICs and primary school staff/teachers** for smooth and effective transition pathways for children to primary education. This can be achieved through 1) joint training sessions, 2) joint annual meetings for EIC staff and primary school teachers at the centre, and 3) EIC orientation events for primary school teachers and staff. (Medium)

Evidence: There is limited communication or coordination between ministries overseeing early identification and intervention and later schooling (e.g., KPWK and the Ministry of Education). This can

hinder the smooth transition of support as children receiving EIC services age out and move into primary school settings. Additionally, most special needs education in mainstream schools takes place through PPKI, which is a segregated setting. PPI – the inclusive programme – is limited.

- *Recommendations:*
    14. **Establish and strengthen formal collaboration between government entities**, in particular KPWK and the Ministry of Education as well as health sector officials, for publicly funded services to increase efficiency and coherence and contribute to ensuring that the gains children make in the EICs are maintained across educational settings once they transition out of the EIC. This can begin with a dialogue between the groups to discuss shared goals, gaps, and opportunities for better collaboration. There can also be a coordination committee or working group established that includes EIC leadership as well as teachers and parents, with a mandate to improve and smooth transitions from EICs to mainstream schools and from early education to primary education for children with developmental delays. (High)
    15. **Expand inclusive learning opportunities** – the PPI model – in mainstream primary schools so that children can learn alongside their peers without developmental delays. Apply the principles of UDL to all teacher training (preservice and in-service) to equip teachers to provide accessible instruction to all students. (High)

Evidence: Mothers described bearing the largest share of caregiving responsibilities, and many felt that their child's additional needs were not well-understood by others, including by the child's father. Parents expressed a wish for more direct support from EICs.

- *Recommendations:*
    16. EICs can **provide more opportunities for parents to come together** in communal settings to learn strategies from the EIC. EICs can **launch programs to encourage fathers** to participate in caregiving that provide opportunities to learn behaviour management as well as literacy, numeracy strategies, and socio-emotional skills. (Medium)
    17. **Recognize the importance and role of family structures in local communities**, particularly the roles of grandparents and extended family. In some families, grandparents are the main caregivers, while in others, grandparents exert influence on the choice of intervention methods for their grandchildren. Be explicit about including and welcoming other family members in community-building events, as well as when sharing guidance or home intervention strategies. (Medium)
    18. **SWD can work through EICs to provide information to families** about social services, subsidies, and benefits that they may not be aware of. (Medium)

Evidence: Baseline data collection revealed some challenges and gaps with the IDELA tools, and the timing was delayed and not ideal.

Recommendation: Revise and test tools, and plan data collection for year two to avoid delays. (See Annex E for more detailed plans regarding year two preparation.) (High)

Annex A: Evaluation Criteria and Framework

Evaluation Question	Indicator	Desk/Secondary	KII	Survey
Impact: To what extent have key child outcomes been achieved as a result of EIC interventions for children with disabilities, particularly as they relate to successful transition to/inclusion in mainstream school settings? To what extent are these outcomes achieved across the different types of disabilities enrolled in the centres?	• IDELA child scores by domain • KII reports by domain • Disability type	EIC child assessment chart review	• EIC staff • Parents • KG/prim. teachers	• IDELA-Child • IDELA-HE
Effectiveness: To what extent have planned results of the EIC models been achieved, particularly as they relate to successful transition to/inclusion in mainstream school settings? Do children benefit or progress differently based on socioeconomic status?	• Transition success (transition happened) • Promotion in primary • Parent satisfaction with transition • Teacher perspectives	• EIC assessment data (readiness to transition) • Primary learning outcomes data (sec. analysis) • Individualized Education Plans (IEPs)	• EIC staff • Parents • KG/prim. teachers	• IDELA-Child • IDELA-HE
Efficiency: To what extent do the EIC models represent a cost-efficient or timely way to achieve these results and outcomes? What conclusions can be drawn regarding cost-effectiveness differences between models and among different programmes within each model?	• Centre/ programme budgets • Teacher/ student ratios • Transition rates by model per child	• Centre/ programme budgets	• EIC staff • Parents • KG/prim. teachers	

Evaluation Question	Indicator	Desk/Secondary	KII	Survey
Sustainability: What happens to children who have passed through EICs after they enter the school system, and what factors need to be in place to support their long-term success?	• Promotion in primary • Parent satisfaction with child experiences by domain and overall • Teacher perspectives on child experiences	• Primary learning outcomes data (sec. analysis) • IEPs	• EIC staff • Parents • KG/prim. teachers	IDELA-Child (Primary) IDELA-HE
Coherence: How best can OSEIC and Agape Centre work closely with other ECD key stakeholders (such as pre-school teachers, social workers, and parents/caregivers) to support and enhance programme targets? How many children with disabilities in EICs attend pre-school education (be it mainstream/private/ government or Pra Sekolah Khas) before entering primary one?	• Type/timing/ frequency of engagement across EIC—other ECD/primary school staff	• EIC transition protocol • Secondary data from EICs on transition	• EIC staff • Parents • KG/prim. teachers	IDELA-HE
Relevance: To what extent are the EIC model objectives and targets in line with the goals and targets of the respective state and national development plans (including the 12MP, the Malaysia Madani framework, and the Sarawak PCDS).	• Evidence of alignment across EIC and state documents	• EIC objectives • State policy review		
Gender: To what extent do girls and boys experience differences in diagnosis and access to services in EICs? To what extent do gender norms and expectations play out at the family or community level that may influence access to EIC services?	• Parent attitudes on seeking services and providing support for boys vs. girls • Time on waiting list by gender • IDELA child outcomes by gender	• EIC assessment chart review • Waiting lists	Parent	IDELA-Child

Annex B: IDELA Scores

IDELA Scores by Cohort

	Newly enrolled in EIC (1.1)	Enrolled in EIC 1+ year (2.1)	Comparison younger (1.2)	Comparison older (2.2)
FINE MOTOR – DRAWING TRIANGLE				
Percentage of children drawing zero corners	66%	60%	72%	49%
Average Number of corners DRAWN	0.8	1.0	0.8	1.3
Percentage of drawingS resembling a triangle	27%	38%	28%	42%
Percentage of children using tripod pencil GRIP	29%	31%	30%	49%
Gross motor – hopping on one foot				
Percentage of children not hopping	68%	50%	80%	47%
Average Number of hops	1.4	2.3	1.1	2.8
Numeracy – counting				
Percentage of children Counting 3 items correctly	17%	24%	14%	17%
Percentage of children Counting 5 items correctly	17%	24%	11%	10%
Numeracy – number identification				
Percentage of children identifying zero numbers	46%	42%	62%	49%
Average Number of numbers identified	5.8	7.0	3.9	6.7
Social-emotional				
Acg. Number of conflict resolution strategies (out of 2)	0.3	0.5	0.7	0.9
Average Number of friends Named	0.5	0.6	0.3	0.6
literacy – letter identification				
Percentage of children identifying zero letters	43%	39%	50%	45%
Average Number of letters identified	7.1	9.1	5.3	9.0
expressive vocabulary				
Average number of pictured food items named	4.7	5.6	3.3	5.9
Average number of not pictured food items named	0.1	0.1	0.2	0.1
Average number of pictured animals named	5.5	6.0	4.7	6.4
Average number of not pictured animals named	0.2	0.4	0.5	0.6

IDELA Scores by Family Income Level for Children Enrolled in EIC 1+ Year(s)

	INCOME RM 3000- N = 22	**INCOME RM 3001+ N = 37**
FINE MOTOR – DRAWING TRIANGLE		
PERCENTAGE OF CHILDREN DRAWING *ZERO* CORNERS	61%	56%
AVERAGE NUMBER OF CORNERS DRAWN	0.9	1.0
PERCENTAGE OF DRAWINGS RESEMBLING A TRIANGLE	50%	38%
PERCENTAGE OF CHILDREN USING TRIPOD PENCIL GRIP	35%	34%
GROSS MOTOR – HOPPING ON ONE FOOT		
PERCENTAGE OF CHILDREN *NOT* HOPPING	40%	39%
AVERAGE NUMBER OF HOPS	2.7	2.7
NUMERACY – COUNTING		
PERCENTAGE OF CHILDREN COUNTING 3 ITEMS CORRECTLY	29%	32%
PERCENTAGE OF CHILDREN COUNTING 5 ITEMS CORRECTLY	40%	31%
NUMERACY – NUMBER IDENTIFICATION		
PERCENTAGE OF CHILDREN IDENTIFYING *ZERO* NUMBERS	41%	32%
AVERAGE NUMBER OF NUMBERS IDENTIFIED	7.5	8.8
SOCIAL-EMOTIONAL		
AVG. NUMBER OF CONFLICT RESOLUTION STRATEGIES (OUT OF 2)	0.5	0.6
AVERAGE NUMBER OF FRIENDS NAMED	0.4	0.4
LITERACY – LETTER IDENTIFICATION		
PERCENTAGE OF CHILDREN IDENTIFYING *ZERO* LETTERS	45%	35%
AVERAGE NUMBER OF LETTERS IDENTIFIED	8.9	11.3
EXPRESSIVE VOCABULARY		
AVERAGE NUMBER OF PICTURED FOOD ITEMS NAMED	6.4	6.7
AVERAGE NUMBER OF NOT PICTURED FOOD ITEMS NAMED	0.0	0.0
AVERAGE NUMBER OF PICTURED ANIMALS NAMED	7.1	6.9
AVERAGE NUMBER OF NOT PICTURED ANIMALS NAMED	0.0	0.0

IDELA Scores by Gender for Children Enrolled in EIC 1+ Year(s)

	BOYS N = 75	**GIRLS N = 32**
FINE MOTOR – DRAWING TRIANGLE		
PERCENTAGE OF CHILDREN DRAWING ZERO CORNERS**	53%	78%
AVERAGE NUMBER OF CORNERS DRAWN**	1.2	0.5
PERCENTAGE OF DRAWINGS RESEMBLING A TRIANGLE**	44%	22%
PERCENTAGE OF CHILDREN USING TRIPOD PENCIL GRIP	30%	33%
GROSS MOTOR – HOPPING ON ONE FOOT		
PERCENTAGE OF CHILDREN NOT HOPPING	48%	54%

	Boys N = 75	Girls N = 32
Average Number of hops	2.3	2.4
Numeracy – counting		
Percentage of children Counting 3 items correctly	27%	17%
Percentage of children Counting 5 items correctly	28%	15%
Numeracy – number identification		
Percentage of children identifying zero numbers	40%	47%
Average Number of numbers identified	7.4	6.1
Social-emotional		
Avg. Number of conflict resolution strategies (out of 2)	0.6	0.4
Average Number of friends Named	0.7	0.4
Literacy – letter identification		
Percentage of children identifying zero letters	37%	44%
Average Number of letters identified	9.3	8.8
Expressive vocabulary		
Average number of pictured food items named	5.7	5.3
Average number of not pictured food items named*	0.1	0.0
Average number of pictured animals named	6.3	5.2
Average number of not pictured animals named	0.3	0.4

* = p-value of 0.1, ** = p-value of 0.05

International Development and Early Learning Assessment (IDELA)

2019

Adapted for EIC Study, Sarawak, 2025

(Do not distribute)

INTRODUCTION

This is the administration and adaptation guide for the IDELA tool. For each question in the IDELA tool, you will find 1) the objective of the question 2) instructions for administration 3) instructions for adaptations and 4) instructions for scoring. We begin with overall administration guidelines as well as scoring rules and then continue with guidance specific for each question.

General Administration Rules

- This tool allows you to assess the development and early learning of young children (ages 3.5-6.5 years). Please pay careful attention to the instructions, and read all questions to children exactly as they appear. Throughout the guide you will see three forms of type:
- **Bold type in boxes indicates things the assessor must say to the child out loud. Please read this type aloud to the child completely and exactly as it appears. This is important to ensure that the data will be collected in a standardized manner across all children.**
- *Italic type indicates instructions for assessors. Do not read these instructions aloud to the child. Follow these instructions exactly as they are written.*
- *Underlined type indicates a stop rule and is an area where you may need to stop a particular item and move on to the next.*

Child Assent

All children should be asked for assent before beginning the assessment. If a child refuses to participate do not continue; return them to their home or classroom.

If a child agrees to participate but then does not respond to any of the questions in the first 3 assessment tasks, stop the assessment and return them to their home or classroom. Mark the response for all remaining assessment items as “refused/skipped”.

If a child agrees to participate initially but then asks to stop at some point during the assessment, stop the assessment and return them to their home or classroom. Mark the response for all remaining assessment items as “refused/skipped”.

Probing and Repeating

Probing and repeating are critical components of administering the IDELA tool, but it is important to clearly understand when and how much is appropriate. Too little probing/repeating might bias results towards an incorrect response. A child could have known the answer but not understood the question or responded to the wrong question. Too much probing/repeating might bias results towards a correct response. A child who receives many opportunities to respond may be helped by the extra chances.

Probing should be used to clarify your understanding of a child’s response. Young child are still developing their verbal abilities so sometimes they speak very softly or say things that are unclear. We probe to make sure we clearly understand the child and their intended response. Some questions have built-in probes because we find that assessors commonly need to clarify children’s responses for these items

You may repeat each question TWICE (maximum) for the child. You may repeat a question for the reasons listed below. Wait for 10 **seconds** before repeating a question. This is important to standardize the way the assessment is administered and to allow children the necessary time to think and respond.

1) the child does not respond or looks confused,

2) the child demonstrates that they have misunderstood the question by giving a response to a different question or by talking about something irrelevant or

3) child requests for the question to be repeated.

When not to repeat or probe?

- DO NOT repeat a question after a child has provided an incorrect response, appropriate for the question. If the response is relevant to the question but is incorrect, accept the response and score appropriately.
- DO NOT repeat or probe if you have already repeated or probed twice and have waited the 10 seconds for the child to respond. It is very tempting to continue repeating a question and rephrasing it in different ways to help the child with the response, but this poses a big problem for standardizing an assessment because it gives unequal advantage to different children.

Assessment duration

- Assessors will have a maximum of 45 minutes to complete all the items in this tool. The order of the items can be flexible depending on what children prefer or what is feasible under a given situation with the child. Children might refuse to answer an item when asked but might return (within 45 minutes) to answer the item later. This should be allowed.

Practice Questions

For some IDELA questions, there is a practice component prior to administering the question. The purpose of this is to first introduce the concept or the skill being tested to a child and ensure understanding of the task at hand before moving on to the actual assessment. An example of this is the expressive vocabulary. In the first part of this item we explain the rules of the game to the child and practice once to check for understanding. Only after we are sure that the child has understood the rules do we move on to the actual assessment of this skill. The main differences between a practice question and an assessment question is that during the practice question the data collector does not score the child's response and provides the correct response to the child or explains the task as needed. During an assessment question, the enumerator scores the child's response and does not provide answers or explanations about the task. The structure of the practice questions is as follows:

- Provide the instructions for the question and ask the question.
- Wait for the child to respond.
- If the child responds correctly, acknowledge that the response was correct and repeat the correct response.
- If the child does not respond or responds incorrectly, provide positive encouragement and then provide the correct response for the child and explain why.

Scoring

- It is very important to score as you administer each question. If you are using the tablet-based version of IDELA, this will happen naturally. If you are using the paper-based version of IDELA, you need to remember to score each and every question immediately after the child has provided a response.
- At the end of the assessment, make time while you are still with the child to check your entire scoresheet and ensure that no responses were omitted.
- Almost all questions are scored on 0, 1, 999 scale with a few exceptions where an actual number needs to be written in the score sheet.
    - 1 stands for "correct response" and signifies that the child demonstrated the skill being assessed.
    - 0 stands for "incorrect response" or for a response that means "I don't know". That is, 0 means the child does not have or did not demonstrate the skill being assessed. Children have different ways of expressing that they do not know an answer. Some children actually use these words, while others shrug their shoulders, and yet others stay quiet and don't respond to the question. All of these instances are scored as 0.
    - 999 stands for "refused to respond" or "skipped question". It is important to understand the difference between "Incorrect/I don't know" and "refused to answer". Refused to answer is only to be used when a child literally refuses to respond to a question. They may say "I don't want to play this game," they may get up from the chair and demand to play with something else, or in rare instances they may cry, thus showing you they are not comfortable responding to the question. In these instances, mark "refused to respond" and move to the next question. The option "Refused to respond/Skipped" is used very rarely.
    - Continuous score refers to items for which the enumerator counts a child's response to a question and records that number in the scoring sheet. These questions include the following: 8, 9, 15, 19, 21, 23, 24. In these questions, we seek to gain understanding of the range of responses the child can provide or the depth of the skill he/she has. The maximum number you can record on all these questions is 10 even if the child provides more than 10 responses.
- If a child corrects themselves while still focused on the item, record the response as correct. The only except is for Item 14 in which self-correction has a separate score.

Working with the child throughout the assessment

- Make sure your stimuli (picture cards etc.) are prepared in advance in the order in which you will need them, and easily accessible so that you are ready to focus on the child immediately at the start of the assessment.
- As much as possible ensure that the environment where the assessment is taking place is calm and quiet. This is not always possible but to the best of your ability select a location where the child will not be distracted by too many other things and people. For example, if you in an ECD centre move to the back corner of the room, the hallway or even under a tree outside where the child might be more easily concentrated than inside. If you are in a home, select a room/outside area where not too many people will pass through.

- Before beginning any assessment, it is important to establish a relaxed and playful rapport with the child. Ask him/her a few questions about subjects of interest to them and introduce yourself. As much as possible, help the child see the assessment as a game rather than a serious test. Also, ensure that you begin the assessment by recording the child's name, sex, date of assessment, etc., on the score sheet.

- Throughout the assessment, it is important to offer consistent, neutral encouragement to the child. Say things like, *'You are working very hard - keep it up!'* Give encouragement in between questions, rather than in the middle of questions. Be patient and positive!

- After asking each question patiently wait for the child's response and don't rush into further explanations. Children need time to concentrate and think before responding. Use the "5 Second rule".

- Do not give hints to questions or make facial expressions while the child is completing tasks. Children are very quick to pick up on your body language or facial expressions so be sure not to show on your face or through your body if a child has provided an incorrect response. The best strategy is to use the same tone of voice and the same encouragement throughout – regardless of whether the child offers correct or incorrect responses.

- Observe how the child is doing and offer breaks as needed throughout. There is no time limit to complete the assessment, although some questions are timed to help move through the items at a regular pace.

BACKGROUND QUESTIONS

This information is to be completed **before** the assessment begins with the child. These questions should not be asked to the child. The specific items in this section can be decided on by each project team, but at minimum we recommend the following:

- Child ID
- Child's full name
- Child sex
- Child's date of birth (from birth certificate if available)
- Date of Assessment
- Time at start of the assessment
- Time at end of the assessment
- District name & ID
- Community name & ID
- ECCD Center name & ID
- Assessor name
- Assessor working in pair or alone (for inter-rater reliability)

GREETING & CONSENT

Hello,

My name is _____. I work with the organization _____.
We are here to learn about how children, like you, learn things so I would like to play games and do activities together. I will show you different games with stories, pictures, numbers, and other things, like these friends [*show puppets***]. I will also ask you to show me how you do things, like drawing. Some games may be easy for you and others may be harder. Don't worry if you cannot do everything. It is only important that you try.**

Your parent is nearby here—see? You can decide whether or not you want to play these games with me. If you do not want to play today, it will not affect how you are treated in class. Also, you can stop and take a break any time you need to.

Do you have any questions? Do you agree to do these activities with me?

	Yes	No
a) Does child consent?	1	0

Stop the assessment if the child does not give consent. Do no pressure them to continue the assessment with you and return the child to their classroom immediately.

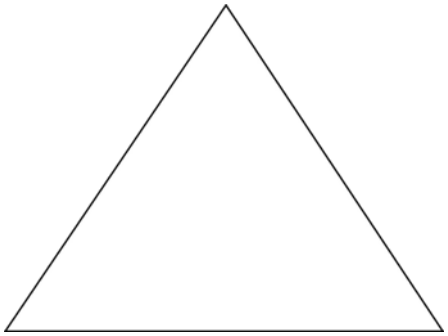
IDELA ITEMS

ITEM 1. COPYING A SHAPE (FINE MOTOR)

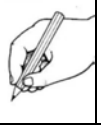
Materials: Pencil and paper, picture card with a triangle

Show the child the picture of a triangle and say:

Let's do some drawing! Someone drew this picture. Try to draw the same picture on your piece of paper.



SCORING

	Number		Refused/ Skipped
a) Number of closed corners, no gaps (0, 1, 2, 3)			999
b) Closely resembles the picture (diagonals, relatively straight lines)	Yes (1)	No (0)	999
c) Holds pencil using tripod grasp 	Yes (1)	No (0)	999

ITEM 2. HOPPING (GROSS MOTOR)

Materials: None

We are going to play a game. I want you to stand on one foot, whichever foot you prefer, and hop forward, and hop forward again, like this –

Demonstrate hopping 3-4 steps in a straight line. Make sure there are no sharp edges or tables nearby.

Try to hop as many steps as you can and I will count the number of steps you hopped.

Count the number of steps hopped by the child continuously in one go. Maximum 10 steps.

SCORING

	Number	Refused/ Skipped
Number of steps hopped (0-10)		999

ITEM 3. ONE-TO-ONE CORRESPONDENCE (EMERGENT NUMERACY)

Materials: 15 small items – clothespins

Arrange the 15 objects randomly in front of the child.

Now we are going to play with these clothespins. There are a lot of clothespins here. Please give me 3 clothespins.

Be patient while child arranges the objects. When child finishes, bring the 15 objects together again.

Thank you. Now, please give me 5 clothespins.

Be patient while child arranges the objects. When child finishes, brings the 15 objects together again.

If the child gives you neither 3 nor 5 objects correctly, STOP and move on to the next item. If they can give you 3 or 5 items, bring the 15 objects together again and say:

Thank you. Now please give me 8 clothespins.

While you administer this item observe how concentrated and motivated the child is in trying to answer the questions, and score according to the scoring rubric.

SCORING

	Correct	Incorrect/ Do not know	Refused/ Skipped
a) Child identifies 3 items	1	0	999
b) Child identifies 5 items	1	0	999
c) Child identifies 8 items	1	0	999
Persistence / Engagement (Optional)			
a) Child stays concentrated on the task at hand; not easily distracted	1	0	999
b) Child is motivated to complete task; does not want to stop the task.	1	0	999

ITEM 4. NUMBER IDENTIFICATION (EMERGENT NUMERACY)

Materials: Number chart of numbers from 1-20

Let's look at numbers now. I will point to a number, and I want you to tell me what number it is. It's OK if you don't know all of them.

Show the child a copy of the numbers chart. Using another sheet of paper cover all rows of the table except Row 1 so that it doesn't distract the child. Point to the first number in the first row and asking the child

What number is this?

If the child pauses for more than 10 seconds, mark as incorrect, point to the next number and encourage the child to continue.

Continue to show the grid number by number, moving your finger across the row until you complete Rows 1 and 2. As the child identifies each number, mark with an X those identified incorrectly and circle those identified correctly.

Count all of the numbers the child identified correctly in Rows 1 and 2. If the child has identified 3 or fewer numbers correctly, STOP and move on to the next item. If the child identifies 4 or more numbers correctly, move to Rows 3 and 4 saying,

Thank you. Let's look at a few more numbers now. I wonder which ones you know.

Ask the child to continue identifying the numbers as done in Rows 1 and 2 and continue marking answers on the score sheet.

2	4	10	5	7
9	6	8	3	1
13	17	14	19	16
15	18	11	12	20

SCORING

	Number	Refused/ Skipped
Number of numbers correctly identified		999

ITEM 5. SOLVING CONFLICT (SOCIAL-EMOTIONAL)

Materials: Two puppets and animal figure

a) **Here are two friends** [*show puppets, give one to the child*]**. I will be this friend** [*show one puppet*]**. YOU will be this other friend** [*point to child's puppet*]. **You** [*point to child's puppet*] **and this friend** [*point to researcher's puppet*] **each want to play with the same toy in the classroom** [*give the toy to the child*]**.**

b) **You are playing with this toy** [*point to the animal toy*].

c) [*Show puppet speaking*] **This friend says, "I want to play with this toy, too."**

d) **Tell me what <u>you</u> will do.**

If the child cannot put their hand inside the puppet, they can hold it.

If child cannot identify one solution, skip question b.

e) *Prompt ONCE by asking,* **Is there anything else you would do?**

Acceptable answers may include: share the toy; get a grownup (parent or teacher) to help; take turns. Inappropriate responses: crying, running away, hiding the toy.

SCORING

	Correct	Incorrect/ Do not know	Refused/ Skipped
a) Child gives one response for how to solve conflict	1	0	999
b) Child gives second response for how to solve conflict	1	0	999

ITEM 6. LETTER IDENTIFICATION (EMERGENT LITERACY)

Materials: High frequency and medium frequency letter sheet adapted in country

We will play an alphabet game now. **I will point to letters and I want you to tell me what letters they are. It's OK if you don't know all of them, just do your best.**

Show the child a copy of the letter chart. Using another sheet of paper cover all rows of the table except Row 1 so that it doesn't distract the children. Point to the first letter in the first row, and ask the child:

What letter is this?

Continue to show the grid letter by letter, moving your finger across the row until you complete Rows 1 and 2. If the child gets stuck for more than 10 seconds, mark it as incorrect, point to the next letter and encourage the child to continue.

Continue to show the grid letter by letter, moving your finger across the row until you complete Rows 1 and 2. Mark responses as the child identifies each letter.

<u>Count all of the letters the child identified correctly in Rows 1 and 2. If the child has identified 3 or fewer letters correctly, STOP and move on to the next item</u>. If the child identifies 4 or more letters correctly, move to Rows 3 and 4 saying,

Thank you. Let's look at a few more letters now. I wonder which ones you know.

Ask the child to continue identifying the letters as done in Rows 1 and 2 and continue marking answers on the score sheet or tablet.

E	T	A	N	I
O	S	H	R	D
L	C	U	M	F
G	W	B	Y	P

SCORING

	Number	Refused/ Skipped
Number of letters correctly identified		999

ITEM 7. EXPRESSIVE VOCABULARY (EMERGENT LITERACY)

Materials: Picture of vehicles (practice). Picture of foods. Picture of animals.

Now let's try a word game. I will show you some pictures and you will tell me what you see. Let's practice. In this picture I see a bus and a motorcycle [*point to items as you name them*]**. What is something you see?**

If child names something in the picture, say, **Yes. That is a [boat, car, etc].** *If child hesitates, point to an item and say,* **Can you tell me what this is?**

Now it's your turn. Here is a picture of foods from the market. Look at the picture and try to name as many foods as you can, and I will keep count. You can also name foods that you like, even if they are not in the picture.

Record the number of items the child lists until the child has listed 10 items. You can tally on the score sheet as the child says each object.

When the child pauses for 10 seconds or more, PROMPT ONCE by saying, **Can you think of any others, even something not in the picture?**

When the child cannot think of more items, move on to the next question and say:

Now, I want to know what animals you can name. Here is a picture of animals. Tell me the names of the animals that you know. Try to name as many animals as you can think of and I will keep count again. You can also name other animals that you know, even if they are not in the picture.

When the child pauses for 10 seconds or more, PROMPT ONCE by saying, **Can you think of any others, even something not in the picture?**

SCORING

	Number	Refused/ Skipped
a) Number of pictured food items named (0-10)		999
b) Number of *not* pictured food items named (0-10)		999
c) Number of pictured animals named (0-10)		999
d) Number of *not* pictured animals named (0-10)		999

ITEM 8. FRIENDS (SOCIAL-EMOTIONAL)

Materials: None

This is the last game we will play today. We are going to talk about friends. Please tell me the names of friends who you like to play with.

The child might say something distinct about a friend even when the child is not able to give exact name of the friend. For example, "My friend sits next to me in class." or "My friend plays with me." or "My friend has long hair." This can be counted. Similarly, if the child mentions a sibling or any other person they play with, even if not by name, this can be counted.

*After the child has paused for 10 seconds, prompt ONCE by saying***, Are there any [other] friends who you like to play with?**

SCORING

	Number	Refused/ Skipped
a) Number of friends named (0-10)		999

Thank the child for their patience and contributions and congratulate them on their effort. Ask if they have any questions or if there is anything else they want to say. If a child wants to draw let them do that while you check your score sheet.

OVERALL OBSERVATION OF CHILD

Based on your observation of the child throughout the assessment, answer the following questions as carefully as possible.

SCORING

	Almost never	Sometimes	Often	Almost always	Refused/ Skipped
a) Did the child pay attention to the instructions and demonstrations throughout the assessment?	1	2	3	4	999
b) Did child show confidence when completing activities; did not show hesitation.	1	2	3	4	999
c) Did the child stay concentrated and on task during the activities and was not easily distracted?	1	2	3	4	999
d) Was child careful and diligent on tasks? Was child interested in accuracy?	1	2	3	4	999
e) Did child show pleasure in accomplishing specific tasks?	1	2	3	4	999
f) Was child motivated to complete tasks? Did not give up quickly or want to stop the task?	1	2	3	4	999
g) Was the child interested and curious about the tasks throughout the assessment?	1	2	3	4	999

IDELA: Home Environment Tool

Date of Interview: _____ / _____ / 2025

Assessor's name: _____

Unique Child ID_____

District ID: _____

Community ID: _____

Introduction:

Thank you for your time. My name is _____, and I work for Inclusive Development Partners in the evaluation of early childhood programs for UNICEF. The goal of this evaluation is to learn about the education and support that is being provided to your child. Your answers to the following questions will help us greatly in reaching this purpose. All of your answers are confidential. Again, thank you for your time.

Hand consent form to caregiver to review.

PART 1: General Family Information

1. What is the gender of your child?	❒ Girl (1) ❒ Boy (0)
2. How old is your child?	Years_____ Months_____
3. What is the ethnicity of your child?	
4. How are you related to the child?	❒ Mother (1) ❒ Father (2) ❒ Grandparent (3) ❒ Older brother/sister (4) ❒ Other caregiver (5)
5. What is the mother's age?	
6. What is the highest level of education that the mother has completed?	❒ None/Not completed primary (0) ❒ Completed Primary (1) ❒ Completed Secondary (2) ❒ Completed Higher education (3) ❒ Don't know (999)
7. Can the mother read?	❒ Yes (1) ❒ No (0) ❒ Don't know (999)
8. What is the father's age?	
9. What is the highest level of education that the father has completed?	❒ None/Not completed primary (0) ❒ Completed Primary (1) ❒ Completed Secondary (2) ❒ Completed Higher education (3) ❒ Don't know (999)
10. Can the father read?	❒ Yes (1) ❒ No (0) ❒ Don't know (999)
11. Who lives at home with the child? (check as many as apply)	❒ Mother (1) ❒ Father (2) ❒ Grandparent (3) ❒ Older brother/sister (4) ❒ Younger brother/sister (5)

	❒ Other children (6) ❒ Other adults (7) Specify _____
12. What is the number of children in the family?	
13. What languages are spoken at home? (check as many as apply)	Language 1 (1) Language 2 (2) Language 3 (3) Language 4 (4) Other (99):_____
14. What language does your child feel most comfortable speaking and understanding?	Language 1 (1) Language 2 (2) Language 3 (3) Language 4 (4) Other (99):_____

PART 2: ECCD Experience and Education aspirations

▪

1. Is your child currently enrolled in a preschool or any other early learning program?	❒ Yes (1)	❒ No (0)	❒ Don't know (999)
2. If yes, what is the name of the school or program(s)?			
Note: If the child is **not** enrolled at a preschool, ask question "3", and then move to the next section *Family Background*; if the child **is enrolled**, ask questions "3 to 8", and then move to the next section; if the respondent **doesn't know** whether the child is enrolled, move to the next section.			
3. Why is your child <u>NOT</u> enrolled in a preschool/ECCD program?	❒ Child is too young (1) ❒ No center nearby/too far away (2) ❒ Fees to attend are too high (3) ❒ No value in sending child to preschool (4) ❒ Child does not want to go (5) ❒ Other (99) Please state:		
4. How long has your child been attending this preschool/ECCD program?	❒ Less than 1 year (0) ❒ For 1 year (1) ❒ For 2 years (2) ❒ For 3 years (3) ❒ Don't know (99)		

5. Why do you send your child to this program? ***Let parent respond freely and tick as many options as appropriate.***	❒ The child gets food to eat (1) ❒ Child is kept busy and out of mischief (2) ❒ Child learns something (3) ❒ Child is difficult to care for at home (4)) ❒ Child gets prepared for primary school (5) ❒ Advised by doctor to send child (6) ❒ Child likes to go to the center (7) ❒ I learn how to support my child (8) ❒ Other (9) Please state:		
6. How often does he/she attend the pre-school/ early learning program?	❒ Daily (5) ❒ 3 to 4 days a week (4) ❒ Twice a week (3) ❒ Once a week (2) ❒ Once or twice in a month (1)		
7. How many hours per day does your child attend preschool?	Hours _____		
8. What kind of things is your child learning in the preschool? ***Let parent respond freely and tick as many options as appropriate***	❒ Hygiene habits (1) ❒ Letters (2) ❒ Other early literacy skills (3) ❒ Numbers (4) ❒ Other early math skills (4) ❒ Social skills (ex: how to get along with friends) (5) ❒ Motor skills (6) ❒ Other (7) Please state: ❒ Don't know (99)		
9. Do you expect that your child will complete primary school?	❒ Yes (1)	❒ No (0)	❒ Don't know (99)
10. Do you expect that your child will complete secondary school?	❒ Yes (1)	❒ No (0)	❒ Don't know (99)
11. What kind of things are *you* learning from having your child in the preschool? ***Let parent respond freely and tick as many options as appropriate***	❒ Behavior management strategies (1) ❒ Literacy strategies to support child (2) ❒ Mathematics strategies to support child (3) ❒ Nutrition (4) ❒ Physiotherapy exercises (4) ❒ Other (7) Please state: ❒ Don't know (99)		

PART 3: Home Environment / Caretaking Practices

1. Do you have any of the following types of other reading materials at home?			
	❒ Yes (1)	❒ No (0)	❒ Don't know (99)
a. Story/picture books for young children?			
If yes, how many books?			
b. Textbooks?			
c. Magazines?			
d. Newspapers?			
e. Religious books?			
f. Coloring books?			
g. Comics?			
2. I am interested in learning about the things that your child plays with when s/he is at home. Does s/he play with:			
a. Homemade toys, such as stuffed dolls, cars, or other toys made at home?			
b. Toys from a shop or manufactured toys?			
c. Household objects, such as bowls, cups or pots?			
d. Objects found outside, such as sticks, stones or leaves?			
e. Does your child have any drawing or writing materials?			
f. Does child have any puzzles (even a two piece puzzle counts)?			
g. Does your child have any two or three piece toys that require hand-eye coordination?			
h. Does child have toys that teach about colors, sizes or shapes?			
i. Does child have toys or games that help teach about numbers/counting?			
j. Others			

3. In the past week, did you or any other family member older than 15 years engage in these activities with <<insert child's name>>? Note: ask "Who?" if the answer is "yes". – *tick as many as appropriate*	**Yes (1)**	**No (0)**	**Mother**	**Father**	**Other caregiver**
a. Read books or look at pictures books with child?					

b. Tell stories to the child?					
c. Sing songs to or with the child, including lullabies?					
d. Take the child outside the home? For example, to the market, visit relatives.					
e. Play with the child any simple games?					
f. Name objects or draw things to or with the child?					
g. Show or teach your child something new, like teach a new word, or teach how to do something?					
h. Teach alphabet or encourage to learn letters to the child?					
i. Play a counting game or teach numbers to the child?					
j. Hug or show affection to your child?					
k. Spank your child for misbehaving?					
l. Hit your child for misbehaving?					
m. Criticize or yell at your child?					

4. I would like to know about how your child spends his/her day.	
a. On a regular day, how many hours does the mother spend time talking, walking, and/or playing with the child?	
b. On a regular day, how many hours does the father spend time talking, walking, and/or playing with the child?	
c. On a regular day, how many hours the child spend in the care of another child who is less than 10 years old?	
d. On a regular day, how many hours does the child spend alone?	

PART 4: Socio-economic background

1. What kind of roof does your house have?	❒ Thatch (1)	❒ Iron sheets (2)
	❒ Cement (3)	❒ Other (99)

2. What kind of walls does your house have?	❒ Mud (1)	❒ Cement (5)
		❒ Bricks (6)

	❒ Thatch (2) ❒ Other (99) ❒ Stone (3) ❒ Wood (4)

3. Does your home have:	❒ Yes (1)	❒ No (0)	❒ Don't know (99)
a. Radio?			
b. Television?			
c. Refrigerator?			
d. Bicycle?			
e. Motorcycle?			
f. Mobile phone?			
g. Electricity?			
h. Land for crops?			
i. Livestock, family animals, or poultry?			

4a. Does child do household chores or work outside the household?	❒ Yes (1) ❒ No (0)
4b. How much time (in minutes) does (CHILD) spend doing chores or work each day?	_____hours

Part 5: Disability

1. Do you suspect or know that the child has any disabilities?	❒ Yes (1) ❒ No (0) *If No, skip to question 3.*
2. If so, what type?	❒ Communication/language (1) ❒ Cognitive (2) ❒ Sensory integration/attention (3) ❒ Physical (4) ❒ Visual (5) ❒ Auditory (6) ❒ Other (7)
3. At what age did you begin to suspect your child has a disability?	❒ Before birth (1) ❒ At birth (2) ❒ Between birth and age 3 (3) ❒ After age 3 (4) ❒ Other (5)

4. Does your child have a formal disability diagnosis?	❒ Yes (1) ❒ No (0) *If No, skip to question 3.*
5. If yes, who provided the diagnosis?	❒ Pediatrician (1) ❒ EIC therapist (2) ❒ Other (3)
6. Are you worried about any aspect of your child's cognitive or social development or skills?	❒ Yes (1) ❒ No (0)
7. Are you worried about any aspect of your child's physical development or growth?	❒ Yes (1) ❒ No (0)
8. If your child attends or attended an EIC, how much did you pay per month, if any?	_____amount
9. What assistive devices (including for education, play, socialization) does your child use currently?	❒ Assistive technology (tablet, apps) (1) ❒ Finger grips (2) ❒ Choice board (3) ❒ Sensory/fidget toys (4) ❒ Weighted blanket (5) ❒ Headphones (6) ❒ Picture instructions (7) ❒ General mobility (8) ❒ Other (9)
10. Who paid for the device(s)?	❒ Family (1) ❒ State government (2) ❒ National government (3) ❒ Civil society (4) ❒ NGO (5) ❒ Charity/philanthropy (6) ❒ Other (7)
11. How frequently do you need to change the device(s)?	❒ Never/not yet (1) ❒ Yearly (2) ❒ Many times a year (3) ❒ Monthly (4) ❒ Weekly (5) ❒ As needed (6) ❒ Other (7)
12. If you paid for the device(s), how much did you pay for last maintenance?	_____amount

13. Do you need human assistance or service to support daily life of your child?	❒ Yes (1) ❒ No (0) *If No, skip to question 15.*
14. If yes, what is the service for?	❒ General mobility (1) ❒ Eating (2) ❒ Bathroom (3) ❒ Communication (4) ❒ Other (5)
15. If yes, how frequently do you need the assistance/service?	❒ Yearly (1) ❒ Many times a year (2) ❒ Monthly (3) ❒ Weekly (4) ❒ Daily (5) ❒ As needed (6) ❒ Other (7)
16. Who pays for the service?	❒ Family (1) ❒ State government (2) ❒ National government (3) ❒ Civil society (4) ❒ NGO (5) ❒ Charity/philanthropy (6) ❒ Other (7)
17. If you paid for the service, how much did you pay for the last service?	_____amount
18. Do you need to buy medicine for your child because of disability?	❒ Yes (1) ❒ No (0) *If No, skip to question 19.*
19. If yes, how frequently do you need the medicine?	❒ Yearly (1) ❒ Twice a year (2) ❒ Monthly (3) ❒ Weekly (4) ❒ Daily (5) ❒ As needed (6) ❒ Other (7)
20. Who pays for the medicine?	❒ Family (1) ❒ State government (2) ❒ National government (3) ❒ Civil society (4) ❒ NGO (5) ❒ Charity/philanthropy (6) ❒ Other (7)

21. If you paid for the medicine, how much did you pay last time?	_____amount
22. Did you choose to live in the current location because it is easier to live or travel with your child?	❒ Yes (1) ❒ No (0) *If No, skip to question 21.*
23. If yes, how much extra do you pay for choosing this location compared to what you might find at next cheapest location?	_____amount monthly
24. Are there any items your child needs for self-care that a child without a disability would not need, or would need less?	❒ Yes (1) ❒ No (0)

PART 6: Parent Attitudes

Ask parents to rate how they feel about each of these statements	
a. Parents of children with disabilities play an important role in children's learning and development.	❒ Strongly agree (4) ❒ Agree (3) ❒ Disagree (2) ❒ Strongly disagree (1)
b. Knowing how to read and write is important for children with disabilities to have a good/productive life.	❒ Strongly agree (4) ❒ Agree (3) ❒ Disagree (2) ❒ Strongly disagree (1)
c. Parents of children with disabilities can support their children's educational development at home.	❒ Strongly agree (4) ❒ Agree (3) ❒ Disagree (2) ❒ Strongly disagree (1)
d. Children with disabilities can learn a lot of skills by playing games.	❒ Strongly agree (4) ❒ Agree (3) ❒ Disagree (2) ❒ Strongly disagree (1)
e. It is possible for parents of children with disabilities to talk with or engage children in games while doing their daily work.	❒ Strongly agree (4) ❒ Agree (3) ❒ Disagree (2) ❒ Strongly disagree (1)
f. Praising children with disabilities when they try to do something new is important	❒ Strongly agree (4) ❒ Agree (3) ❒ Disagree (2) ❒ Strongly disagree (1)

Interview Guides: Key Informant interviews for selected parents

Goal of KIIS

- ☐ To identify key factors at family, community, EIC, pre-primary and primary school level that contribute to achievement of EIC programme targets and long-term child outcomes such as
  - learning (reading and numeracy)
  - self-care skills
  - social-emotional skills
  - motor skills
  - speech and communication skills
- ☐ To identify whether changes in child outcomes observed (as listed above) during the study period can be attributed to the EIC intervention model, across different types of disability
- ☐ to generate evidence on the key success factors and outcomes of EICs (in terms of their implementation and contribution to a child's future inclusion in mainstream schooling and services)

Group 1.1: for parents whose children are newly enrolled in the EIC

1. Would you please share a little bit about your child ?
2. What can you tell me about barriers or challenges that you have experienced before now in supporting the development and care of your child?
   a. *Social (stigma, stereotypes, discrimination), financial, distance, access to information, diagnosis services, time management*
3. Please share the reasons you decided to enroll your child in this center.
   a. How long has your child been enrolled as of now?
4. How long did you have to wait before your child was admitted?
5. Was your child enrolled in another center before enrolling here? If yes, what kind of services was the child receiving and how helpful were those services for your child?
6. What are some challenges your child experiences that you hope the EIC will be able to help with?
   a. *Probe for self care, social-emotional, learning, motor skills, and speech/communication.*
7. How do you think your life might be different if you weren't able to access the services at the EIC?
   a. *Financially, employment opportunities, time management, socially, emotionally, family relations etc*
8. How long do you plan to have your child attend this center?
   a. Do you plan to enroll your child in a primary school when s/he is too old for the center? If yes, what kind of school?
      OR
   b. Do you have plan to transition your child to mainstream (pre-primary or primary) school?
9. Is there anything else you want to share with me about your experiences that you haven't yet shared?

Group 2.1: for parents of children who have been in EICs 12 months or over

1. Would you please share a little bit about your child?
2. What can you tell me about barriers or challenges that you have experienced so far in supporting the development and care of your child?
    a. *Social (stigma, stereotypes, discrimination), financial, distance, access to information, diagnosis services, time management*
3. Why did you first decide to seek services at [name of Centre]?
4. How was the interaction you had with the center when your child is receiving the services?
    a. *How frequent*, *who made the first move to communicate, what was the area of discussions and interactions, what was your role, how did you communicate any concerns you had with the center?*
5. What would you identify as the biggest impact of the [Centre]
    a. For your child
        i. *Probe for self care, social-emotional, learning, motor skills, and speech/communication.*
    b. For yourself [or maybe for your family unit]?
6. How do you think your life or your child's life might be different if you weren't able to access the services at the EIC?
    a. *Financially, employment opportunities, time management, socially, emotionally, family relations etc*
7. Were there any unexpected and unintended effects on your child's development after the services in the centre?
8. What are your hopes for your child's school experience going forward?
9. Is there anything else you want to share with me about your experiences with the EIC that you haven't yet shared?

Group 1.2: Parents who have applied for their children (3 – 6 years) to enter the EIC

1. Would you please share a little bit about your child?
2. What can you tell me about barriers or challenges that you have experienced so far in supporting the development and care of your child?
    a. *Social (stigma, stereotypes, discrimination), financial, distance, access to information, diagnosis services, time management*
3. Was or is your child attending a pre-primary school or receiving any interventions at another center? If yes, what kind of services was/is the child receiving and how helpful have those services been for your child?
4. Would you please share a little bit about your child and why and how you decided to seek services at [name of Centre]?
    a. *Where did you find the information, reasons for making the decision, support from EICs while getting the enrolment and assessment process (if any*
5. Can you say anything about how the decision (process) for your child's enrolment was made? What kind of assessments (child's and parent's) were conducted to make the decision? What do you think about the process?
6. What supports would you like to receive for your child to help him achieve his/her full potential?
    a. *Probe for self care, social-emotional, learning, motor skills, and speech/communication.*

7. What can you tell me about the facilitators that have assisted you to provide the best life for your child so far?
8. Do you plan to enroll your child in another pre-primary or (later) primary school? If yes, what kind of school?
9. Is there anything else you would like to share with me about your child and your hopes for the future?
    a. *The child is making progress already, things are getting worse etc*

Group 2.2: for parents who have applied for the children (4-6 years) to enter EIC

1. Would you please share a little bit about your child?
2. What can you tell me about barriers or challenges that you have experienced so far in supporting the development and care of your child?
    a. *Social (stigma, stereotypes, discrimination), financial, distance, access to information, diagnosis services, time management*
3. Is your child attending any other ECD centre/KG /
4. How did you make the decision to enroll your child in this ECD/KG? What was your role in the decision?

    a. How is the interaction you have with the ECD/KG your child is attending?
    b. *How frequent*, *who made the first move to communicate, what is the area of discussions and interactions, what is your role, how do you communicate any concerns you had with the school?*
    c. What would you identify as the biggest impact of the ECD/KG?
        i. For your child
        1. Probe for self care, social-emotional, learning, motor skills, and speech/communication.tr
        ii. For yourself [or maybe for your family unit]?

5. If no…

    a. Where did your child spend most days?
6. What supports would you like to receive for your child to help him achieve his/her full potential?
    a. *Probe for self care, social-emotional, learning, motor skills, and speech/communication.*
7. What can you tell me about the facilitators that have assisted you to provide the best life for your child so far?
8. Do you plan to enroll your child in another pre-primary or (later) primary school? If yes, what kind of school?
9. Is there anything else you would like to share with me about your child and your hopes for the future?

Interview guides Key Informant Interview: EIC Staff

Background information
EIC Centre: _____
Age: _____
Gender:_____
Ethnicity: _____
Roles at EIC: _____
Training/Educational background:_____
Number of years working in current EIC: _____
Years of experience in Early Intervention:_____
Previous work experience: _____

1. Would you please talk about the nature and type of therapies/sessions you conduct with children at the center? What kind of skills do you help children learn at the center?
2. How do you see the sessions helping the children gain different skills such as
    a. Gross motor skills
    b. Fine motor skills
    c. Numeracy
    d. Literacy
    e. Communication skills
    f. Social emotional skills
    g. Self-care skills

3. Can you share about some of the challenges and barriers (personal and professional) you face in your work? Please share any two areas that can be changed to improve the situation.

4. Can you share some stories of successes achieved by the children who have received services at the center?

5. What can you share about the parents' participation and role to achieve the targeted outcomes of children?

6. What do you think are the key factors contributing to the development of a child?

7. In your opinion, what are the major challenges faced by the parents and the children in receiving and completing the services at the center?

8. Do you notice any difference in learning between

    A) boys and girls,
    B) children from rural and urban areas,

C) children from poorer families?

9. Have you experienced or observed challenges related to the language of the children, their mother tongue, and the language of instruction at the center?

10. How is the center involved in the transition process from here to a mainstream pre-primary or primary school?

Interview guides: Key Informant Interview for KG/Primary school Teachers

Name of KG/primary school:
Age:
Gender:
Ethnicity:
Training/Educational Background:
Number of years working in current KG/School:
Previous work experience:

1. Can you share about your experience teaching children with learning difficulties and disabilities at your school?

2. Do you teach children with disabilities who have any received/completed services from EICs? If yes, how is teaching them different from teaching children with disabilities who come to schools without first receiving any EIC services?
    a. *Probe for self care, social-emotional, learning, motor skills, and speech/communication.*

3. If you find any difference between the two groups, do you see the difference growing or narrowing or remaining same as they progress to higher grades?

4. What kind of academic and non-academic difficulties do children with disabilities face in your school? Are those difficulties different for children coming from EICs?
    a. *Probe for self care, social-emotional, learning, motor skills, and speech/communication.*

5. Can you share some of the success stories about children with disabilities that you teach?
    a. Is the story about a child from an EIC or not from EIC?

6. Do you find some gaps and areas of improvement EICs can make in their services to reduce the challenges and barriers you see persisting in your school? If yes, what are your suggestions for the EICs?

7. Do you find any difference in attitude and perceptions of parents of children with disabilities from EICs compared to those not receiving any EIC services?

8. What difference you find between

A) boys and girls (from EICs),
B) rural and urban children,
C) children from poorer families?

Annex D: IDELA Adaptations

Domain	Subtask	Pre-testing observation	Changes required	Adaptations
Emergent Literacy	Letter identification	No major issues detected	No change required	None
	Expressive Vocabulary	Children knew the vocabulary, but did not speak	Some changes requried to help children think about items	Show a picture of vehicles for children to practice first. Then, show children picture of 10-15 objects (animals and food). Pictures attached
Social Emotional	Emotional Awareness/regulation	No response from child	Replace with new item form the long form	Replaced by "friends" item. Child is allowed to say something distinct about a friend even when the child is not able to give exact name of a friend.
	Empathy/perspective taking	No response from child	Replace with new item form the long form	Self-awareness items ask about name, sex, caregivers, which might not be culturally appropriate. Replaced by "solving conflict" item. Puppets were used to demonstrate the conflict situation.
Emergent Numeracy	Number identification	No major issues detected	No change required	None
	One to one correspondence	No major issues detected, but number of items could be reduced	Reduce the numbers to count	Reduce counting to 3, 5 and 10 from 5,8 and 15
Fine motor	Drawing a person	Children did not focus and rarely followed	Replace with new item form the long form	Replaced it with "copying s shape" (triangle) item
Gross motor	Hopping	Children did not focus and rarely followed	No options available in the long form	Assessors hop only 3-4 times; item assessed as the first item

Annex E: Year 2 Preparation

For year 2, we recommend the following:

- Begin data collection with children as close as possible to the start of the school year, in January or early February, and reduce the overall duration of IDELA data collection to 4 weeks or less. Consider Ramadan and Chinese New Year in planning.
- Organize learning events to support recruitment of comparison group families into study. This can be held at Agape and OSEIC buildings, possibly with double sessions to allow families to be interviewed/assessed and participate in the learning sessions.
- Modify assessment schedules to minimize fatigue among children during the IDELA. Avoid scheduling assessments just after or instead of EIC sessions, as children can be tired or confused.
- Add an observation tool for measuring social emotional learning in a more natural environment. Using the Strengths and Difficulties Questionnaire (SDQ), which is familiar and commonly used in Malaysia, collect SEL data through classroom observations in the EICs and mainstream schools.
- Modify IDELA-HE tool to make some of the items more contextually relevant. For example, update the socio-economic status items to be more aligned with Sarawak context and ask more questions about family finances and support needs.
- Collect more detailed data related to EIC finances and operational costs to compare models.
- Engage the MOE to learn more about the PPKI and PPI programs and to gain permission and support for data collection in primary schools.

Annex F: References/Supporting Resources

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Annex G: Glossary of Terms

Term	Operational Definition in This Study
Agape Centre	A community-based one-stop centre for children with disabilities in Sibu, hosting multiple NGOs providing early intervention and support services. It functions as one of the study sites.
Barriers to Access	Environmental (e.g., transport), economic (e.g., poverty), organizational (e.g., lack of facilities), and attitudinal (e.g., stigma) obstacles that prevent children with DD/LD from accessing services.
Community-Based Rehabilitation (CBR)	A grassroots strategy for delivering rehabilitation and support services to persons with disabilities in community settings, predating current centralized EICs.
Developmental Delays (DD)	A condition where children experience significant delay in achieving developmental milestones in one or more areas (e.g., motor, language, cognition, social-emotional, adaptive skills), as assessed by health or educational professionals.
Early Childhood Development (ECD)	The physical, cognitive, language, and socio-emotional development of children from birth to 8 years. In this study, ECD is particularly focused on children with delays in these domains.
Early Intervention Centre (EIC)	A dedicated facility that provides EIPs under one roof, offering assessment, therapy, and rehabilitation services for children aged 0–7 with DD or LD. In this study, it refers to OSEIC Kuching, OSEIC Dalat, and Agape Centre Sibu.
Early Intervention Programme (EIP)	Structured, multi-disciplinary services provided to children under the age of 7 with DD or LD, aimed at enhancing developmental functioning, school readiness, and adaptive skills through targeted therapy and support.
Identification and Registration	The process of screening, assessing, and formally recording children with developmental delays or disabilities through relevant services (e.g., EICs or SWD).
Inclusive Education	An educational approach where children with and without disabilities learn together in the same classroom, with appropriate support provided to the child with a disability.
Learning Disabilities (LD)	A specific subset of developmental disorders involving persistent difficulties in essential learning skills (e.g., reading, writing, comprehension, attention), including conditions like ADHD, Down Syndrome, Dyslexia, and Global Developmental Delay (GDD).
Long-Term Child Outcomes	The developmental, functional, and academic achievements of children with DD/LD as they transition into and progress through formal education. This includes domains like communication, mobility, self-care, learning, and social interaction.

Term	Operational Definition in This Study
Observational Longitudinal Study	A non-interventional research design where participants (in this case, children enrolled in EIPs) are observed over an extended period to examine changes in outcomes without assigning specific interventions.
One-Stop Early Intervention Centre (OSEIC)	A specialized EIC initiated through a public-private collaboration (Sarawak Government and PETRONAS), delivering integrated early intervention services to young children with DD or LD.
Pre-School Age	Children aged between 0 to 6 years who have not yet entered formal primary school. This study targets children within this age range for early intervention tracking. However, in the current study, we only focused on children between 3 to 6 years old.
Programme Targets	The intended developmental goals of EIPs (not the current study), including improvement in fine and gross motor skills, communication, self-care, pre-academic skills, and social-emotional competencies.