ECHO FRAMEWORK

EARLY CHILDHOOD HOLISTIC OUTCOMES (ECHO)

Practice Guide

for Early Intervention in Singapore

ECHO Technical Assistance Team

Early Childhood Holistic Outcomes (ECHO) Practice Guide

for Early Intervention in Singapore

ECHO Technical Assistance Team

Contents

Foreword

Early Childhood Holistic Outcomes (ECHO) Framework: A New Paradigm of Early Childhood Intervention

Early childhood intervention (ECI) is a nation's investment for the future. Although it is about doing the right thing at the right time in order to have the greatest impact on the child's future, expectations of the outcomes, cost-effectiveness and returns on investment of ECI are set to grow considerably. Outcomes evaluation should be a continuous effort and in line with the current shift of emphasis on intervention from disability-focused, to functional and developmental performance, participation and quality of life. Outcomes should also be interpreted from the perspectives of the summative effectiveness and efficiency of the network of medical care, social and community supports, education, and parental and family participation in the ecosystem, as it is impossible to proportionate the contributions of each individual components.

For many years, providers of Early Intervention Programme for Infants and Children (EIPIC) use different assessment practices because of varying client profiles. For example, the Enhanced Programme Evaluation Systems (EPES) framework measures the child's skills and behaviours in isolation within developmental domains (e.g., gross motor, fine motor skills) only in the classroom and therapy settings. Backed by international evidence-based recommendations for ECI, and based on the Early Childhood Outcomes (ECO) Framework adopted by the United States Office of Special Education Programs, the Early Childhood Holistic Outcomes (ECHO) Service Framework is a pioneering push for a paradigm shift in Singapore's ECI practices, ushering in a new era of programme evaluation.

The ECHO Framework is an enhancement to the EPES model. It emphasises that outcome measurement processes are an integral part of daily ECI services. ECHO brings together trans-disciplinary collaboration between ECI professionals: social workers, teachers, allied health professionals, psychologists, and significant others in the child's life, including family and primary caregivers. This strong emphasis on equal partnership between professionals and caregivers is the hallmark of best-evidenced form of family-centred practice. It extends the measurement framework to monitor child outcomes across a variety of typical daily routines and activities, beyond that of a classroom setting: having positive socio-emotional relationships; acquiring and using knowledge; and using appropriate behaviour to meet needs. In addition, ECHO measures family functional outcomes: understanding their child's strengths, abilities and special needs; helping their child develop and learn; knowing how to communicate their child's needs to others; and accessing relevant services and support. With its uniform set of child and family outcome measures, ECHO offers a framework for enhanced service quality and outcome service delivery in ECI. This also sets the foundation for a future continuum of services for children with special needs and their families.

ECHO's holistic functional child outcomes are aligned with the key stages' outcomes for pre-school education in Nurturing Early Learners Framework and the 21st Century Competencies, as well as the World Health Organization's International Classification of Functioning Disability and Health. With ECHO, the stage is now set for ECI in Singapore to progress with new standards.

Funded by the Lien Foundation, and jointly spearheaded by KK Women's and Children's Hospital and Thye Hua Kwan (THK) Moral Charities, ECHO started as a pilot project and rolled out in phases in four THK EIPIC centres since February 2014. The ECHO project in Singapore received assistance and advice from the Early Childhood Technical Assistance (ECTA) Center. By November 2016, ECHO has benefited more than 500 children with special needs and their families, and 100 professionals at the THK EIPIC centres.

Since 2019, the ECHO Framework has progressively been rolling out to the EI centres. A set of manuals has been produced to guide its implementation. The national ECHO Framework is in now in its final year of implementation, and has arrived at a steady state targeting to end by March 2024. Hence, the manuals would be refreshed as the ECHO Practice Guide for EI practitioners to refer to in their daily work.

I would like to congratulate the ECHO team for completing a monumental task.

Professor Ho Lai Yun
Director, Child Development Programme
Ministry of Health, Singapore

The ECHO Technical Assistance Team (2019-2024)

Management

A/Prof Lim Sok Bee (Head, ECHO; KKH) (2019-2023)   Mr Peter Tan (TA Lead, CPH)
Dr Ellen Tay (Consultant Paediatrician, KKH)
Mr Tang Hui Nee (Head, Community Services &
Deputy Director, KKH)

Advisor

Ms Louise Clarke

Leadership

Dr Teoh Wei Qin, PhD (Implementation Team Lead)

Dr Lim Chun Yi, PhD (Implementation Team Co-Lead)

Ms Chong Hwee Min (Implementation Team Co-Lead)

Dr Wong Shyh Shin, PhD (Data Team Lead)

Ms Charlene Soon Siew Lee (Data Team Co-Lead)

TA Members (Implementation Team)

Ms Jesseln Goh Jie Ning	Mr Ong Goon Tat
Ms Corrine Hoo Kar Ling (2020-2024)	Ms Ong Siow Kee
Ms Majella Irudayam (2019-2023)	Ms Seah Yoon Choon
Dr Gloria Law Chun Yi, PhD	Ms Carline Tan Ching Teng (2019-2022)
Ms Leong Yi Lin (2020-2024)	Ms Daisy Tan Qiaoling
Ms Mok Tse Ling	Mr Johnny Tan Chuan Sheng
Ms Sharlynn Neam Sze Yuen	Ms Teo Hui Fang (2019-2023)
Ms Nataline Ng Huai Kuan	Ms Fiona Woo Pui Kuan (2019-2023)

Research Coordinators

Ms Lucia Yeo Yunwei
Ms Nurhafizah Binte Mohd Zambri (2019)

TA Members (Data Team)

Ms Chue Su Xin, Joanna (2019-2022)	Dr Lim Hong Huay (Consultant, 2019-2021)
Ms Jamie Gan Jia Min	Mr Don Jeremiah Hanford Pereira (2021-2024)
Ms Ho Hui Sheng Deborah (2022-2023)	Ms Yusliana Binte Misran
Ms Lee Qing (2021-2023)	

Administration

Ms Koh Huijia (2020-2023)
Ms Lim Ann Chi

Acknowledgements

First and foremost, we would like to express our special thanks and gratitude to the late Associate Professor Lim Sok Bee, Senior Mentor and Senior Consultant, Community Services (KKH DCD). Her mentorship and guidance were instrumental in both the pilot and national implementation of the ECHO Framework. Her leadership and vision served as a guiding beacon, allowing the team to work through multiple challenges, to bring the holistic outcomes we want for our future generations.

The national implementation of the ECHO Framework from 2019 to 2024 would not have been possible without the strong support from Early Childhood Development Agency and the Ministry of Social and Family Development, which funded the implementation across 17 more EI centres in Singapore.

We would like to acknowledge the various Social Service Agencies and their EI centres for the active collaboration and partnership during the national implementation. They are:

- Autism Association (Singapore)
  - Eden Children's Centre
- Autism Resource Centre (Singapore)
  - WeCAN EIP
- AWWA Ltd
  - EIC @ Fernvale
  - EIC @ Napiri
  - EIC @ Kim Keat
  - EIC @ Hougang
- Canossaville Children & Community Services
  - Canossaville EIPIC
- Cerebral Palsy Alliance Singapore
  - EIPIC

- Fei Yue Community Services
  - EIPIC – Jurong East
  - EIPIC – Wellington Circle
  - EIPIC – Upper Thomson
- Metta Welfare Association
  - Metta PreSchool @ Punggol
- Rainbow Centre, Singapore
  - EIP (Margaret Drive)
  - EIP (Yishun Park)
- SPD - Building Bridges EIPIC Centres
  - SPD Ability Centre in Tiong Bahru
  - SPD@Bedok
  - SPD@Jurong East
  - SPD@Tampines

The strong and visionary leadership from each Social Service Agency helped provide the direction and support for their EI staff to effectively implement the ECHO Framework in various implementation phases according to readiness and resources. We would like to highlight the excellent work by all the key competency drivers (i.e., Core Team) in being open and jointly developing training and coaching materials, streamlining operating procedures, etc., for their EI centres.

At the Department of Child Development – KK Women's and Children's Hospital, we would like to thank Clinical Associate Professor Lourdes Mary Daniel, Head and Senior Consultant, for her advisory role and on-going support in the national implementation.

We would like to specially mention Ms Louise Clarke who although has retired after the pilot of the ECHO Framework (2014 to 2017), continued to provide advice to the ECHO Technical Assistance Team

during the national implementation. We would also like to thank Associate Professor Chong Wan Har, Department of Psychology and Child & Human Development, National Institute of Education, for her guidance in developing a methodology for evaluating the national implementation, and her support in conducting focus group discussions during the national implementation of the ECHO Framework.

Lastly, we would like to acknowledge the development of Project ECHO (2014 to 2017) under the leadership of Clinical Associate Professor Winnie Goh Hwee Suat, Dr Lim Hong Huay, Ms Louise Clarke, Ms Agatha Tan Mui Neo and Ms Low Hwee San. Project ECHO was piloted in four Thye Hua Kwan Moral Charities (THK) EI centres, in partnership with Lien Foundation, Department of Child Development – KK Women's and Children's Hospital, and Child Development Unit – National University Hospital. We would also like to acknowledge the following contributors: Ms Christina Melody Kasprzak and Ms Dorothy Katherine Gillaspy from the Early Childhood Technical Assistance Centre, and Dr Robin McWilliam (Purveyor and Principal of Routines-Based Early Intervention [RBEI], McWilliam Consulting). The nine manuals published then provided the foundation for the national implementation.

The EI sector has grown in capability and expertise since the EIPIC Baseline Study in 2010. The ECHO Practice Guide marks a significant milestone of the national implementation of ECHO Framework. Collaboratively, we can continue to grow, innovate and share best EI practices to better support our children and their families.

Dr Ellen Tay, MBBS, MMed (Paeds) MRCPCP (UK)
Consultant
Department of Child Development, KKH

Dr Teoh Wei Qin, PhD
Principal Speech Therapist
Department of Child Development, KKH

About the ECHO Practice Guide

Chief editors: Dr Teoh Wei Qin, Ms Sharlynn Neam Sze Yuen
Editors: Dr Lim Chun Yi, Ms Chong Hwee Min
Co-editors (Case Study): Ms Nataline Ng Huai Kuan, Ms Daisy Tan Qiaoling
Contributors: ECHO TA members

Purpose
The Early Childhood Holistic Outcomes (ECHO) Framework is a service framework and outcome measurement system. The framework aims to align practices with recommended early intervention (EI) best practices and track the longitudinal functional outcomes of children under three Global Child Outcomes (GCOs) across EI centres in Singapore.

The ECHO Practice Guide is developed to guide EI staff in implementing the ECHO Framework, more specifically the GCO Process. It aims to support users in understanding the GCO Process and relating it to the work that they do to ensure successful implementation. The guide is relevant for the following users:

EI Professionals, Allied Health Professionals, Social Workers
This guide encourages a deeper understanding of the GCO Process. It serves as a resource to implement the key steps of the GCO Process.

Coaches/Supervisors
This guide provides resources to support coachees in developing critical clinical skills to be competent in conducting quality functional assessments.

Leadership
This guide provides information on recommended practices to be considered when developing operational workflows within EI centres to ensure the sustainability of the ECHO Framework.

Structure and Use of the ECHO Practice Guide
The guide is organised into 3 sections, complete with resources and case studies for reference.
- Chapters 1-3: Development and Implementation of the ECHO Framework
- Chapters 4-9: The GCO Process
- Chapters 10-11: Towards Sustainability

Users new to the GCO Process are encouraged to follow the flow of chapters. Those who are already practicing the GCO Process can refer to specific chapters or appendices as necessary. Links are incorporated in the electronic copy to support navigation within and across chapters.

In this guide, many ECHO-related terms will be introduced. Of note are 2 key terms widely used and would be referred simply as follows:

- **ECHO:** Early Childhood Holistic Outcomes
- **GCO/3 GCOs:** Global Child Outcome/Three Global Child Outcomes

"Practice isn't the thing you do once you're good. It's the thing you do that makes you good."
– Malcolm Gladwell

SECTION I

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DEVELOPMENT AND IMPLEMENTATION OF THE ECHO FRAMEWORK

CHAPTER 1

Background of the ECHO Framework

Chapter 1 provides a background to the international movement towards inclusion and functional outcomes, and the development of the early intervention landscape in Singapore from 2007 to the present. It also recounts the brief history and the pilot of the ECHO Framework from 2014 to 2017. The chapter ends by summarising the key developments of the national implementation of the ECHO Framework from 2019 to 2024.

1.1   International Movement towards Inclusion and Functional Outcomes

Early intervention (EI) in Singapore has traditionally been dominated by a Medical-Rehabilitation model (World Health Organization [WHO], 1980). Services based on this model focus on remediation of deficits in specific developmental domains (e.g., fine motor, language) and require highly skilled and specialised personnel who often work in silos.

The ECHO Framework, based on the Ecological-Habilitation model (Björck-Åkesson, et al., 2010; WHO, 2001), focuses instead on improving functioning and child outcomes. It aims to maximise the child's strengths and uses the expertise of transdisciplinary teams, with inputs from families, to support the inclusion of children with developmental needs and their families, to enable them to lead meaningful lives in the community. This is in line with key international developments summarised below.

United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)

Singapore signed the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) on 30 November 2012 (Disabled People's Association Singapore [DPA], 2015). This signified a commitment to "ensure that persons with disabilities have equal rights and freedom as everybody else" (DPA, 2005, p. 6), and came into effect in Singapore on 18 August 2013. The Convention highlights how children with disabilities have the same rights as other children, including that of access to appropriate support such as EI and early childhood (EC) education.

Publications of International Practice Guidelines

A.   United States of America

In April 2014, the Division for Early Childhood of the Council for Exceptional Children published a set of recommended practices for practitioners in EI and EC special education. These guidelines, as well as the subsequent publications, highlight evidence-based practices that lead to better outcomes for young children with disabilities, their families and the personnel who serve them.

B. Australia

In April 2016, the Early Childhood Intervention Australia (ECIA) published 'National Guidelines on Best Practice in Early Childhood Intervention'. These guidelines provide a "framework for universal and equitable high-quality ECI based on best practices for children with disability and/or developmental delay" (ECIA, 2016, p. 5).

1.2   Early Intervention in Singapore: Changing Needs

Early intervention services first emerged in Singapore in 1983 when the Singapore Association of Retarded Citizens (now known as the *Movement for the Intellectually Disabled of Singapore*) started a programme for young children with special needs. The programme was subsequently named Early Intervention Programme for Infants and Children (EIPIC). In 2003, the Ministry of Social and Family Development (MSF) led the development of the EI sector in Singapore and there was a rapid increase in the number of EI centres (Poon et al., 2021). Key milestones in identifying the changing needs of the EI landscape from 2007 to the present are summarised below.

EIPIC Baseline Study (2010)

In 2010, the National Council of Social Services (NCSS) and the Department of Child Development of KK Women's and Children's Hospital (KKH DCD) conducted the EIPIC Baseline Study.

Significant findings include:
- Families of children attending EIPIC were experiencing high levels of stress
- There were varying standards of practice amongst EI service providers

Recommendations suggested improvements to three areas:

1
———————
Systems

- Strengthen case management and support for caregivers from the point of diagnosis to post-EI services.
- Strengthen, develop and implement standardised functional assessment tools for evaluation and service planning.
- Continue to address issues contributing to the delay in early detection and wait time for EI services.

2
———————
Standard and Quality of Service

- Develop more specific guidelines using evidence-based practices to ensure delivery of high-quality EI service in areas such as caregiver support and transdisciplinary practices.
- Encourage EI professionals (including allied health professionals [AHPs]) to join professional bodies that help monitor practice standards.

3
_____
Manpower

- Develop a set of core training for professional staff of EI centres that is compulsory for all new EI professionals to ensure high-level standard of practice.
- Improve the remuneration package, working conditions, professional recognition, and career prospects of EI teachers to reduce staff turnover.
- Guide and encourage EI centres to hire therapy aides/social work assistants to help with administrative work and allow professional staff to have more time for intervention.

EIPIC Consultancy Project (2011-2019)

This project began in response to the EIPIC Baseline Study. Its aim was to build the capability of EI professionals through consultation, training and coaching. This initiative was funded by the MSF. Figure 1-1 depicts the timeline of the EIPIC Consultancy Project.

Figure 1-1. _Timeline of EIPIC Consultancy Project._

2011 – 2015	2016 – 2017	2019
The project provided consultation and training to EIPIC service providers to improve the quality of EIPIC services by building ground capability, setting practice guidelines, and emphasising evidence-based practices in the areas of family-centred practices, naturalistic intervention, and transdisciplinary work.	The project trained practitioners at selected newly opened EIPIC centres, instilling workflow processes that focused on five EI pillars. Refer to **Chapter 2** for information about the five pillars.	The project published a handbook titled _EIPIC Consultancy Recommended Practices_ that served as a guide for service providers to apply evidence-based principles and practices. This handbook, a consolidated effort between the EIPIC Consultancy Project and various EI service providers, is the first set of guidelines for the EI sector in Singapore.

The Enabling Masterplans (2007 to present)

The Enabling Masterplan charts the roadmap for programmes and services in the disability sector and is reviewed every 5 years. It serves as a national guide for Singapore to build a more inclusive society in which persons with disabilities are empowered and enabled to realise their true potential through support in the daily aspects of living and across their various life stages (MSF, n.d.) (see Table 1-1).

Table 1-1. *The Enabling Masterplans.*

First Enabling Masterplan
Introduced in 2007 with the aim of greater inclusion of persons with disabilities. It addressed critical areas in education, EI, and employment (MSF, n.d.).

Second Enabling Masterplan
Addressed needs of persons with disabilities and their caregivers and EI was identified as one of the focus areas. Recommendations were put forth to work towards a landscape where children with developmental needs are detected early and have timely access to effective family-centred EI services based on four strategic thrusts (MSF, n.d.).

Establish an early detection network

- Early detection touch points comprising primary healthcare professionals, childcare, preschools and family service centres in the community
- Ensure early referral for intervention for medically at-risk infants diagnosed at hospital level

Enable access to more EI services

- Enhance network of community-based early intervention and family support
- Enhance current EI services

Promote family involvement

- Equip caregivers to become active partners in EI who are able to make informed decisions about priorities and be empowered with intervention strategies

Establish a framework for service quality and effectiveness

- Establish an advisory panel to advise on matters relating to standards and professionalism of EI
- Identify best practices for EI and localise appropriate standards
- Devise shared framework of excellence for optimal service delivery and set standards for each core component
- Develop specific plans or networking to help EIPIC centres improve the standards of EI professionals for various disability types
- Develop and proliferate adoption of common standards and best practices
- Develop a framework for long-term monitoring of child and family outcomes

Enabling Masterplan 2030
Sought for Singapore to be an inclusive society in 2030. Three strategic themes were defined:

- Strategic Theme I: Strengthen support for lifelong learning in a fast-changing economy
- Strategic Theme II: Enable persons with disabilities to live independently
- Strategic Theme III: Create physical and social environments that are inclusive to all

Specifically for EI, the two recommendations are:

- Expand EI services to better support children with developmental needs.
- Increase opportunities for children with developmental needs to grow, learn and play alongside their typically developing peers.

1.3 Pilot of the ECHO Framework (2014-2017)

The development of the ECHO Framework began in 2014 in response to the international movement towards inclusivity and functional outcomes, and changing needs of the EI landscape in Singapore.

It sought to specifically address the following needs:
- A service framework to ensure high-quality EI service, and guide planning and resource allocation
- An outcome measurement system for programme evaluation and accountability

To enhance the capability of EI professionals, AHPs and social workers, and in turn, the impact on the service quality, the framework sought to align practices with recommended EI practices. Concurrently, it aimed to track the longitudinal functional outcomes of children under 3 GCOs put forth by the Early Childhood Technical Assistance (ECTA) Center (n.d.). This is achieved through a holistic and authentic approach where evidence of a child's functioning is recorded through a multi-source and multi-context assessment process at least once a year. This functional approach to assessment is known as the GCO Process. At the same time, family inputs are gathered for a holistic understanding of the child's and family's functioning, participation, and quality of life.

The underpinning principles and theoretical conceptualisation of the ECHO Framework will be elaborated in *Chapter 2*.

The ECHO Framework was piloted in four Thye Hwa Kuan Moral Charities (THK) EI centres from 2014-2017, funded by the Lien Foundation. The pilot was led by a multi-disciplinary Technical Assistance (TA) team from KKH DCD, in collaboration with the Child Development Unit of National University Hospital (NUH CDU) and THK. Team members included developmental paediatricians, psychologists, occupational therapists, speech and language therapists, and EI educators. The TA team engaged Christina Melody Kasprzak and Dorothy Katherine Gillaspy, consultants from the ECTA Center in USA and Dr Robin McWilliam in the development of the ECHO Framework.

The successful pilot led to the national implementation of the ECHO Framework, specifically the GCO Process, across 17 more EI centres from 2019 to 2024. Refer to Figure 1-2 for the logic model for the national implementation of ECHO Framework.

The implementation was funded by the MSF and the Early Childhood Development Agency (ECDA). In addition, a new TA team was formed, led by KKH and Community Psychology Hub, with support from NUH. The next section summarises the key developments of the national implementation of the ECHO Framework.

Figure 1-2. *Logic Model for the National Implementation of the ECHO Framework.*

ECHO Framework Logic Model (Functional Outcome Measurement Systems [FOMS]) 2019-2024

| Inputs	Activities	Outputs	Short – Medium Term Outcomes		Impact
Leadership and EI professionals, AHPs, SWs @ EI centres Partners: Families, other preschool professionals Time Training resources Funding	Global Child Outcome (GCO) Process	Functional Age Estimates (FAEs) under the 3 GCOs GCO Summary Functional Goals EI professionals/AHPs/SWs trained Key senior staff coached	EI team has holistic understanding of children's functioning, leading to functional intervention planning	Children's outcomes improve	EI team has holistic understanding of children's participation in school and home routines, and improved quality of life
EI practices aligned with the five EI Pillars			Families engaged and empowered	Families' outcomes improve[1]	*Increased opportunities for family's participation in home and community routines, and improved quality of life

Key Contextual Factors and Assumptions	
• Varying child development knowledge and experience in EI practitioners • EI centres' readiness to integrate the 5 EI Pillars into internal processes	• SSA's leadership and organisation factors such as culture, styles and capacities affecting adoption of change

1.4 National Implementation of the ECHO Framework (2019-2024)

The national implementation of the ECHO Framework was guided by the Implementation Science Framework (Fixsen et al., 2015) which consists of three Implementation Drivers. The structural components and activities in each Implementation Driver needed to facilitate and enable the success of a new programme are described next.

Competency Drivers: Build capability of coaches across EI centres through selection, training and coaching. These coaches have supervisory roles and are trained and coached on the GCO Process. They form the core team of EI centres who train and coach EI professionals, AHPs and social workers on the GCO Process to achieve high fidelity.
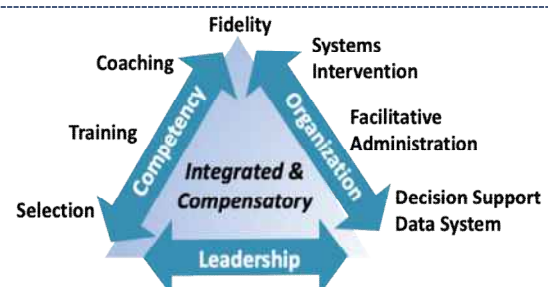
Note. Adapted from "Implementation Science" by D. L. Fixsen et al., in J. D. Wright (Ed.), *in International Encyclopedia of the Social and Behavioral Sciences* (2nd Ed., Vol. 11, p. 699), 2015, Elsevier.

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[1] *The national implementation of the ECHO Framework focused on installing the GCO Process to track child outcomes; family outcomes were tracked separately by SSAs using in-house survey.*
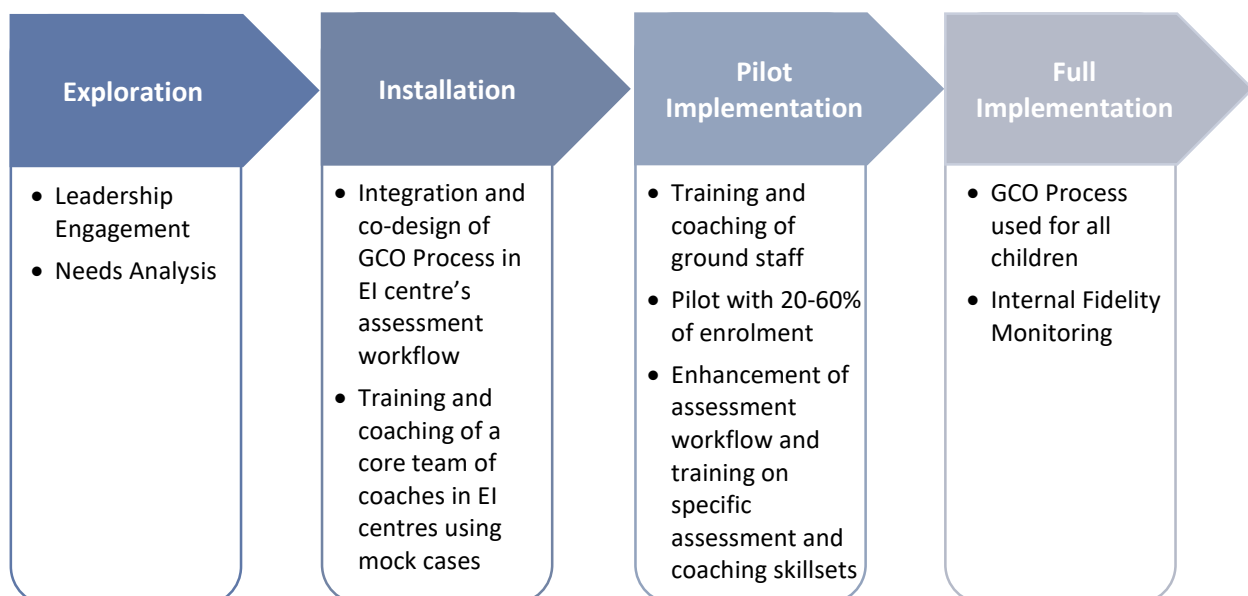
> **Organisation Drivers**: Operational and data gathering procedures are aligned with the principles of the ECHO Framework. A data feedback loop is in place to drive data-driven decisions and for continuous improvement.
>
> **Leadership Drivers:** Adaptive and technical leadership are encouraged to ensure successful implementation of the GCO Process.

Staging the Implementation

The ECHO Framework, specifically the GCO Process, was implemented across 17 EI centres in stages. Figure 1-3 describes the different implementation stages, and key elements and milestones involved at each stage. Close collaboration with the EI centres as well as ECDA augmented the adoption of the framework through the stages.

Figure 1-3. *Implementation Stages, Key Elements and Milestones for Each Stage.*

Exploration	Installation	Pilot Implementation	Full Implementation
• Leadership Engagement • Needs Analysis	• Integration and co-design of GCO Process in EI centre's assessment workflow • Training and coaching of a core team of coaches in EI centres using mock cases	• Training and coaching of ground staff • Pilot with 20-60% of enrolment • Enhancement of assessment workflow and training on specific assessment and coaching skillsets	• GCO Process used for all children • Internal Fidelity Monitoring

Development of and Enhancements to the ECHO Resources

For the ECHO Framework to remain relevant and sustainable, there were regular touch points with the coaches and EI professionals, AHPs and social workers through surveys and focus group discussions. The valuable data gathered contributed to 1) Enhancements in the GCO Process, and 2) The Development of a Community of Practices. New resources were also created. Figure 1-4 describes the key outputs.

Figure 1-4. *Key Developments in the GCO Process Enhancements, Community of Practice, and New Resources.*

Key Outputs
GCO Process Enhancements • GCO Entry Meeting (v2) and resources • GCO Review Meeting (v2) and resources • GCO Process Guidelines • GCO Working and Meeting Record (v5) **Community of Practice** • Inaugural Coffee & Collaboration Session (June 2023) • Competency Drivers Facilitators (Recruitment and selection of staff, Training, Coaching)	**New Resources** • Functional Goals *(Chapter 8)* To enhance skills in writing functional goals using Purpose-Context-Action-Theme (PCAT) format, with tips on crafting short-term objectives. Frequently asked questions and coaching samples on common goal errors are also included • Coaching Guide *(Chapter 10)* To support supervisors and coaches in supporting EI professionals in the GCO Process with reference to competency indicators and coaching tasks

Towards Sustainability

An *Internal Fidelity Monitoring Protocol* was developed and introduced upon full Implementation of the ECHO Framework. The purpose is to encourage EI centres to take ownership and independently monitor fidelity and sustainability of the GCO Process in their centres. This will be further elaborated in **Chapter 11**.

There was also collaboration with the National Institute of Early Childhood Development (NIEC) to develop course content to ensure that newer EI professionals will continue to be trained in the ECHO Framework beyond full implementation. These courses are:

- An asynchronous pre-service online course titled "Introduction to the ECHO Framework" for all new EI professionals.
- A three-part lecture series with case discussions on the ECHO Framework in the Assessment, Evaluation and Programming module as part of the Specialist Diploma in Early Childhood Intervention (Special Needs).

The next chapter will elaborate on the underpinning principles and theoretical conceptualisation of the ECHO Framework.

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CHAPTER 2

Theoretical Principles of the ECHO Framework

Chapter 2 provides an overview of the principles of early intervention that forms the theoretical basis of the ECHO Framework. It also introduces the system framework from which the ECHO Framework was adapted. The chapter ends by focusing on the accountability component of the ECHO Framework and introducing the functional outcomes measurement system.

2.1 Theoretical Principles of Early Intervention

The Second Enabling Masterplan 2012-2016 (Ministry of Social and Family Development [MSF], p. 28) highlighted the need to "establish a framework for service quality and effectiveness" in early intervention (EI). This includes developing a framework for long-term monitoring of child and family outcomes. Hence, the development of the ECHO Framework began.
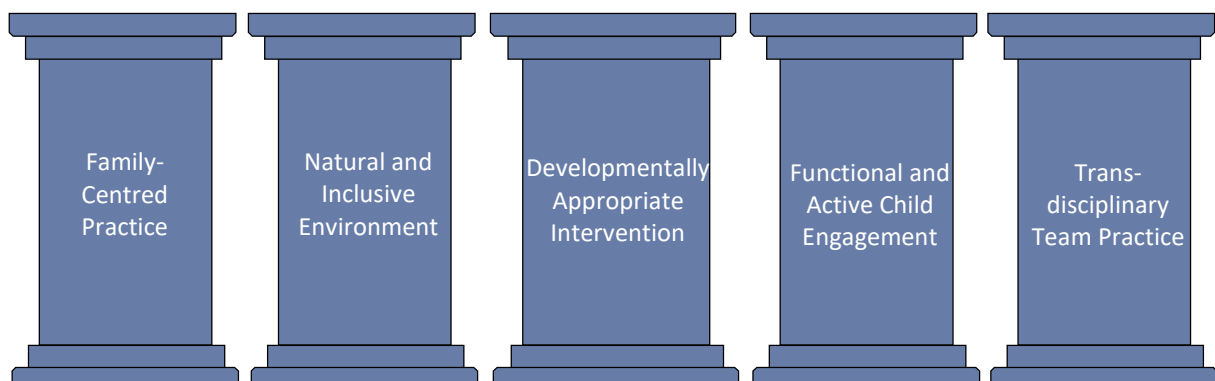
The ECHO Framework was developed based on key early intervention principles. They include:

1	2	3	4
The Five Early Intervention Pillars	Functional Approach to Assessment	The Linked System	Outcomes-Based Approach

(1) The Five Early Intervention Pillars

From 2011 to 2017, the Service and Development Management Division of MSF commissioned an 'EIPIC Consultancy Team' to build the capacity of EI service providers in Singapore through consultation, training, and coaching. The EIPIC Consultancy Team published the first practice guidelines titled *EIPIC Consultancy Recommended Practices for Early Intervention in Singapore* and highlighted five EI pillars that should be put into practice (Soong et al., 2019) (see Figure 2-1).

Figure 2-1. *The Five EI Pillars.*

| Family-Centred Practice | Natural and Inclusive Environment | Developmentally Appropriate Intervention | Functional and Active Child Engagement | Trans-disciplinary Team Practice |

The five EI pillars are aligned with internationally recommended EI practice guidelines (Division for Early Childhood, 2014) and research literature (Dunst & Bruder, 1999; Dunst & Trivette, 2009; Schertz et al., 2011; Shelden & Rush, 2013), and "will lead to optimal outcomes for the child and their family" when understood and applied (Soong et al., 2019, p.1). The ECHO Framework is built on the foundation of these five pillars as elaborated in Table 2-1.

Table 2-1. *Application of EI Pillars in the ECHO Framework.*

The Five EI Pillars	Application of EI Pillars in the ECHO Framework
Family-Centred Practice	Family-Centred Practice is a particular set of beliefs, principles, values, and practices for supporting and strengthening family capacity to enhance and promote child development and learning (Dunst, 2002). In the ECHO Framework, families are recognised as experts of their child. Service providers work collaboratively with families to understand their needs and enable them to make informed decisions about the support they will receive.
Natural and Inclusive Environments	Natural routines allow more learning opportunities for children to learn functional skills that will enable them to do the things that they need to do in their daily lives. In the ECHO Framework, assessments are conducted within the natural environments of the children and that includes their homes, schools, EI centres and the communities.
Developmentally Appropriate Intervention	Children are more motivated and interested when engaged in activities appropriate to their level of development. In the ECHO Framework, assessment and intervention include activities and materials that are pitched at children's current level of development to increase their motivation and interest.
Functional and Active Child Engagement	Children are internally motivated to learn when they are actively engaged in activities that they are interested in. In the ECHO Framework, emphasis is placed on assessment and goal planning that focuses on their strengths, interests and preferences to promote participation and active learning within natural routines.
Transdisciplinary Team Practice	This practice occurs when one consistent professional from the team plays the role of a key worker, works closely with the family and a team of professionals to address the unique needs of the child and family. In the ECHO Framework, the key worker works with the other EI professionals, allied health professionals (AHPs) and/or social workers (SWs) in the team. They regularly share and engage in exchanges of expertise, skills and information to provide holistic and effective intervention for the children. The key worker then takes the role of a consistent professional working closely with the family.

(2) A Functional Approach to Assessment

There has been a shift in the EI landscape towards a functional approach when conducting assessments of children (Bagnato et al., 2010). All the five EI pillars form the basis of a functional approach to assessment. This will be referred to as 'functional assessment' for the rest of this guide.

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*Definition: **Functional***

The word 'functional' means "using skills in everyday activities to accomplish things that are meaningful to the person".

(Soong et al., 2019, p. 16)

The first step in planning for intervention is to conduct good observations using a functional approach. What the children do or say should be recorded objectively and clearly without making assumptions about the children's abilities.

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*Definition: **Functional Assessment***

"... the assessment of the child's level of functioning in a natural context such as home, childcare, preschool, EI centre, school and community".
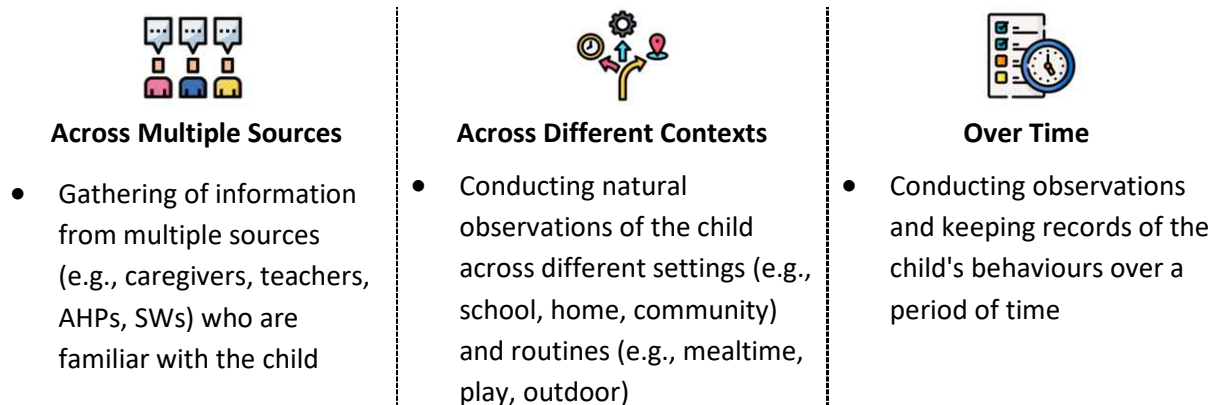
(Soong et al., 2019, p. 16)

To learn more about the key indicators of a functional assessment, please read Chapter 3 of *Functional Assessment* of *EIPIC Consultancy Recommended Practices for Early Intervention in Singapore: EIPIC Consultancy Recommended Practices* (Soong et al., 2019).

Functional Assessment in the Context of the ECHO Framework

There are three key aspects of functional assessment that are important for the fidelity of the ECHO Framework as shown in Figure 2-2.

Figure 2-2. *Key Aspects of Functional Assessment.*

Across Multiple Sources

- Gathering of information from multiple sources (e.g., caregivers, teachers, AHPs, SWs) who are familiar with the child

Across Different Contexts

- Conducting natural observations of the child across different settings (e.g., school, home, community) and routines (e.g., mealtime, play, outdoor)

Over Time

- Conducting observations and keeping records of the child's behaviours over a period of time

A good functional assessment will allow practitioners to:

Gain a holistic understanding of the children's current level of functioning (strengths, weaknesses, needs) and their participation in daily routines

Set appropriate goals and plan for intervention

Monitor the children's progress and document the impact and outcomes of the EI programme

In summary, functional assessment encourages the setting of appropriate functional goals that can lead to functional outcomes for the children and the families. These functional outcomes can also be used to monitor the progress of the children over time.

(3) The Linked System

The ECHO Framework also uses a linked system where assessment is linked to intervention (Bagnato et al., 2010). In the ECHO Framework, the information obtained during assessment can be directly used to formulate goals. The goals are then used to direct intervention efforts. Subsequently, the intervention can be evaluated and/or monitored for effectiveness.

There are four linked activities in ECHO (see Figure 2-3).

Figure 2-3. *Four Activity Components in the ECHO Framework.*
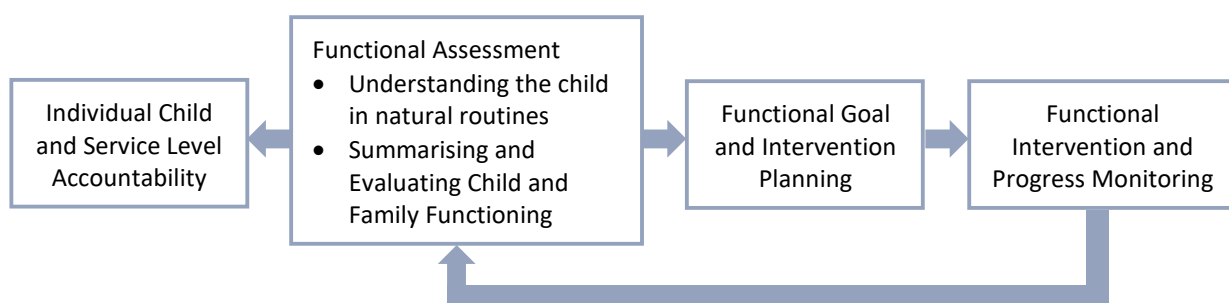
The system starts with functional assessment when the child enters the service. This includes understanding the child in natural routines, followed by the summarising and evaluation of the child's and family's functioning. Goals and intervention are then planned and delivered. Thereafter, child progress and effectiveness of services are monitored as part of accountability. For children who continue to receive services, there is a continuous loop from functional assessment to intervention, and back to assessment for progress monitoring. The data obtained from the evaluation of the children's and families' functioning over two time points can be used for child and programme accountability.

(3) Outcomes-Based Approach

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*Definition: **Outcome***

"...a benefit experienced as a result of services provided to children and families".

(Early Childhood Outcomes Centre, 2005, p. 2)

The ECHO Framework focuses on monitoring child and family outcomes.

It is important to note that outcomes are different from outputs.

| Outputs	Outcomes
• Refer to the results of services and supports received. Examples of outputs include service satisfaction, how much service was provided and improvements in assessment test scores.	• Focus on the value and difference made, that is, the overall benefit experienced after receiving the service.

In the context of EI, outcomes refer to the benefits that children and families experience in their daily lives as a result of receiving EI services. By using an outcomes-based approach, EI services focus on providing services that lead to functional child outcomes through helping the children improve their skills and behaviours.

2.2 Adaptation of the System Framework

The ECHO Framework is a service framework adapted from the 'System Framework' by the Early Childhood Technical Assistance (ECTA) Center in the United States to support the monitoring of outcomes and service quality in the EI sector in Singapore.

The system framework is a conceptual framework for high-quality state early intervention and early childhood special education systems (ECTA Center, 2015; Kasprzak et al., 2020). It identifies six interrelated components of a state system that are critical in providing effective services for children with disabilities and their families. The six components are governance, finance, personnel/workforce, data system, accountability and quality improvement, and quality standards (see Figure 2-4).

Figure 2-4. *A System Framework for Building High-Quality EI and Preschool Special Education Programmes.*
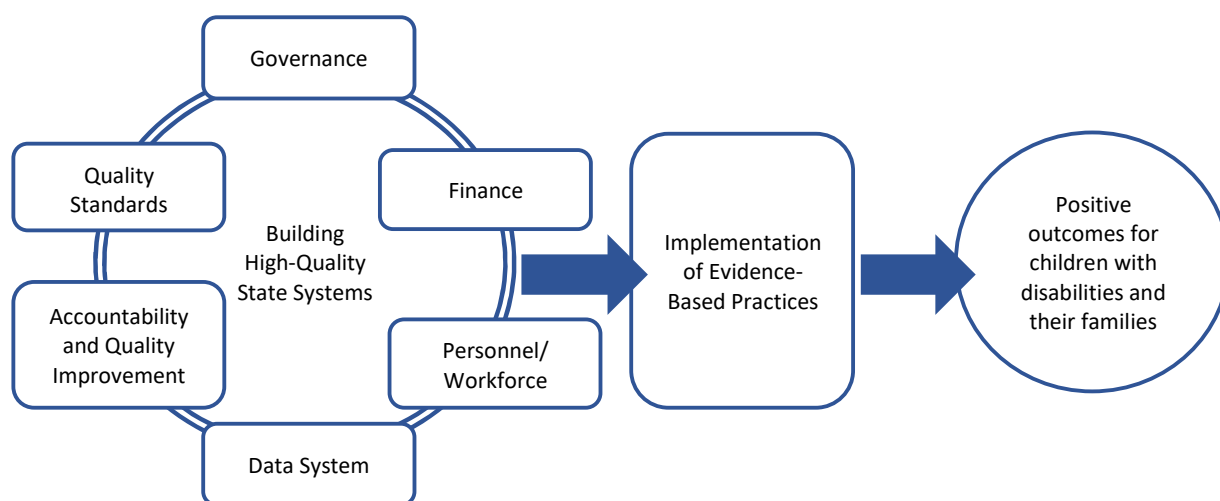
Note. From "A State System Framework for High-Quality Early Intervention and Early Childhood Special Education" by C. Kaspzrak et al., 2020, *Topics in Early Childhood Special Education, 40*(2), p. 101. Copyright 2020 by Sage Publishing.

These six components are essential for EI programmes to deliver high quality service, based on the implementation of evidence-based practices, to achieve positive outcomes for children with disabilities and their families. Table 2-2 illustrates what these components mean as part of the ECHO Framework.

Table 2-2. *Components of the ECHO Framework*

System Framework Components	How the Components are Reflected in the ECHO Framework
Governance	Governance is foundational to an EI system because it addresses the critical functions of authority and accountability. Good governance includes a vision, legal foundations, administrative structures, leadership and performance management that guide decisions and provide directions for quality EI services. Throughout implementation, the ECHO Technical Assistance team worked closely with the governing agency, Early Childhood Development Agency, which also engages the EI centres on reporting and progress monitoring as part of governance.
Finance	Finance is also foundational to an EI system's ability to function. Components of finance include finance planning process and forecasting, fiscal data, procurement, resource allocation, use of funds and disbursement, and monitoring and accountability of funds and resources based on the outcomes data. The infrastructure of effective EI services can only be sustained with sufficient funds and appropriate resource allocation, and this continues to require good planning and balance in resource allocation.

System Framework Components	How the Components are Reflected in the ECHO Framework
Personnel/ Workforce	The quality of EI service depends highly on the knowledge and skills of the personnels who provide the service. The ECHO Framework aims to enhance capability of EI professionals, AHPs and SWs, by aligning practices with evidenced-based EI recommendations. It also ensures that the EI staff take a functional approach to assessment and goal setting. EI programmes should set up training and coaching systems to ensure that high-quality services are delivered. Personnels within the organisation who are more highly experienced can be tasked to coach and monitor newly recruited practitioners to ensure that quality standards are maintained.
Data System	EI programmes should have a data system that includes collecting, analysing and reporting quality and reliable data for informed decision-making. In addition to tracking the basic demographics of children and families, the data system also captures and analyses results of the functional child and family outcomes data and fidelity data. These data are used to track if practices are delivered as intended, as part of process and quality improvements. Through this approach, functional outcome and trajectory data are collected and they are useful for appropriate governance and financing of EI programmes.
Accountability and Quality Improvement	EI services are accountable for improving outcomes for children and families. Programmes must have systems to collect data for accountability to facilitate quality improvement and improved outcomes. The ECHO Framework includes a functional outcome measurement system that monitors the outcomes of children and families. The data from the framework is used to ensure that EI services are contributing to positive outcomes for children and families. The data is also used to guide decisions in improving the quality of EI services.
Quality Standards	EI programmes should have both child-level and programme-level standards. These standards are important as they guide EI programmes in providing quality services that support children's learning and development. Child standards refer to guidelines or developmental milestones that describe what children are expected to know and be able to do. The ECHO Framework has developed a functional Age Expectations Reference that describes functional behaviours observed and expected in typically developing Singaporean children aged 0 to 7 years. Programme standards refer to expectations of a high-quality EI programme that is evidence-based and contributes to positive outcomes for children and families. In Singapore, the 'EIPIC Consultancy Recommended Practices for Early Intervention in Singapore' describes the expectations of a good quality EI programme (Soong et al., 2019).

The current implementation of the ECHO Framework focuses on the accountability component of the system framework. It includes a functional outcome measurement system that monitors the outcomes of children and families. **Chapter 3** will further elaborate on the functional outcome measurement system.

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CHAPTER 3

Outcome Measurement System

Chapter 3 introduces the Functional Outcome Measurement System, the component of the ECHO Framework that supports accountability. It also provides a description of the 3 GCOs which are defined and scoped for the ECHO Framework, and implemented from 2019 to 2024. This is followed by an introduction of functional age estimates and the ECHO Age Expectation Reference – a locally developed reference for EI professionals, allied health professionals and social workers. Both resources are to be used by these professionals to understand functional behaviours of children at each age band, and inform goal setting. The chapter ends with an invitation to EI sector leaders and partners to put in place a family outcomes measurement system in order for EI programmes in Singapore to remain relevant and effective.

3.1   Functional Outcome Measurement System (FOMS)

The ECHO Framework is developed as a service framework to enhance capability of early intervention (EI) professionals, allied health professionals (AHPs) and social workers who form the transdisciplinary teams, by aligning practices with recommended EI practices. This is supported by a Functional Outcome Measurement System (FOMS) which consists of the Child Outcome Measurement System (COMS) and the Family Experiences and Outcomes Measurement System (FEOMS)[2]. Refer to Figure 3-1 for the components of FOMS.

Figure 3-1. *Components of the Functional Outcome Measurement System.*

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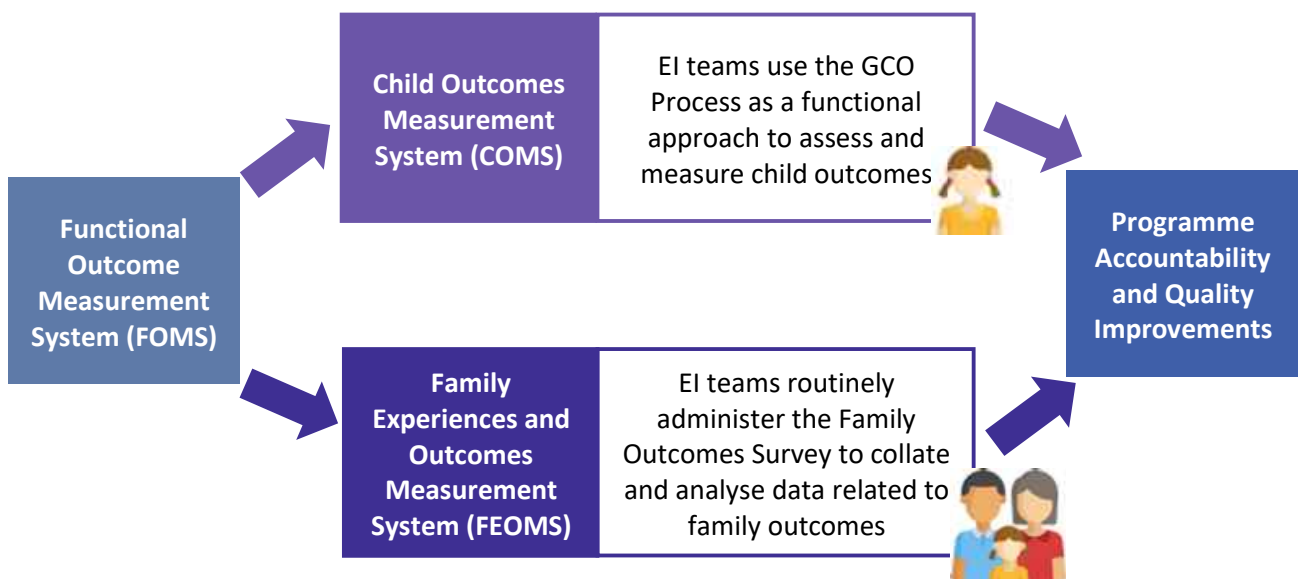
[2] *The national implementation of the ECHO Framework focused installing the GCO Process to track child outcomes; family outcomes were tracked separately by SSAs using in-house survey.*

As shown in Figure 3-1, the COMS and FEOMS each have specific processes and tools to measure child and family outcomes. The GCO Process is used to measure child outcomes whilst tools like the Family Outcome Survey are used to collect family outcomes under the FEOMS. After collecting information from both child and family, the EI team uses this information to set goals and plan interventions. This then provides the foundation for functional early intervention. Both the child and family outcomes data are used for programme accountability and ongoing quality improvement initiatives.

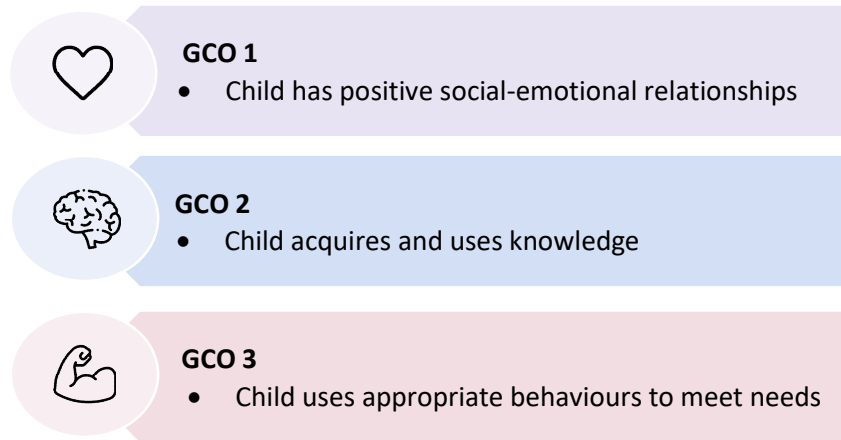## 3.2   Benefits of the Global Child Outcomes Process

The GCO Process emphasises using a functional approach in assessing children. Table 3-1 lists the benefits of GCO Process.

Table 3-1. *Benefits of the GCO Process.*

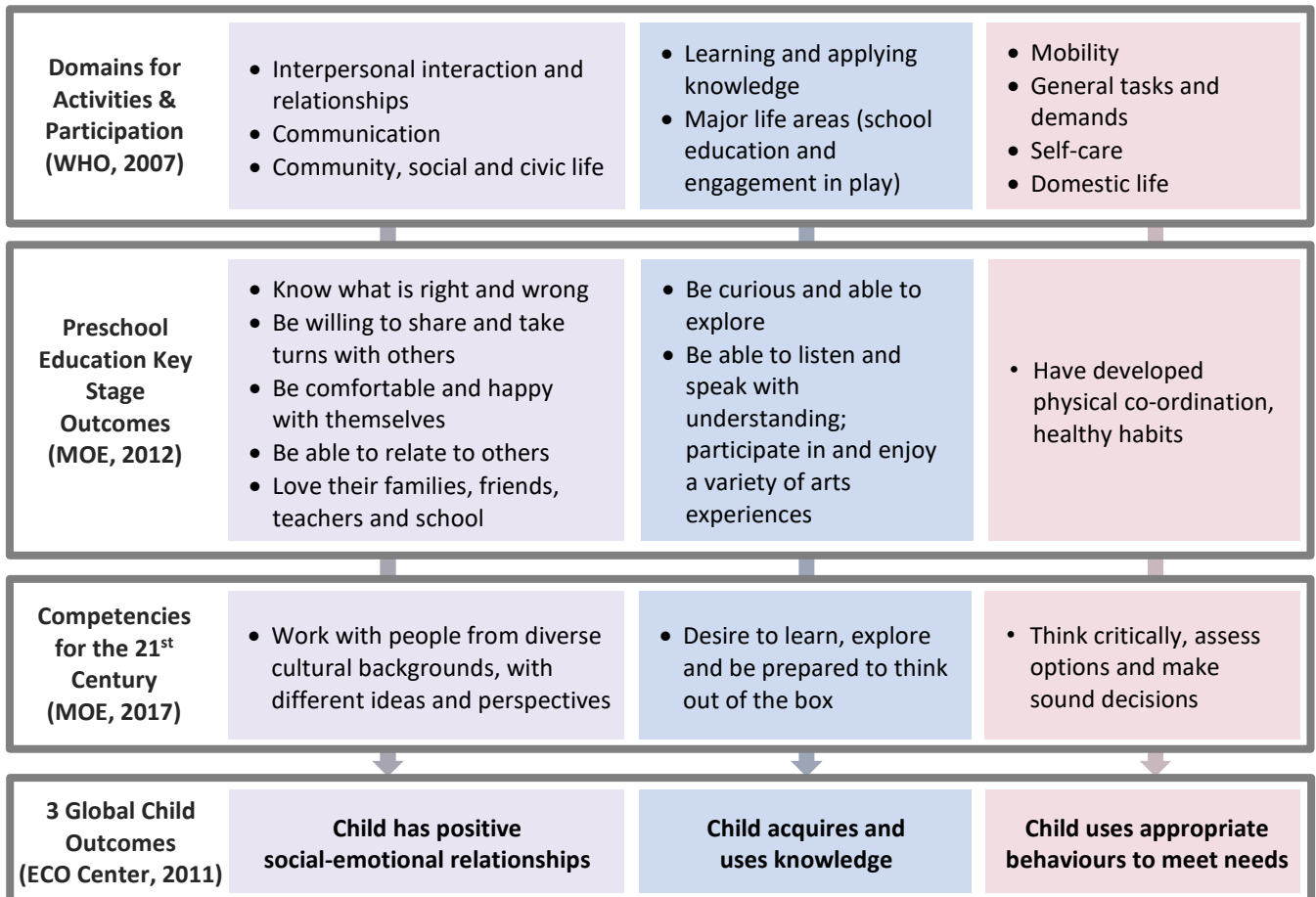|	
Benefits for the specific child and family	• Families can gain a deeper understanding of their child's current level of functioning in daily routines and activities. • Families and the transdisciplinary team can have a common understanding of the child's level of functioning. This can enhance their collaboration to select appropriate functional goals that are within the child's zone of proximal development (ZPD; Vygotsky, 1978).
Benefits for the service providers at the team level	• All EI professionals/AHPs/social workers working with the child and families can share an understanding of the child's level of functioning. • This supports the development of goals and strategies that can be generalised to the home and in school, which can also build on transdisciplinary practices.
Benefits for the service providers at an organisational level	• Service providers can place the child in the most appropriate groups or classes based on the child's level of functioning. • They can also make decisions about the child's next school placement and/or service required. • Service providers can track the outcomes of different profiles of children and use the information to plan and improve its services.
Benefits for programme planners and funders	• Data on child outcomes can demonstrate results to all stakeholders at a national level. • Using this information, stakeholders can assess the effectiveness of programmes and determine if they are improving outcomes for children and their families. They can also better identify and allocate resources to improve EI programmes.

In the ECHO Framework, functional child outcomes are presented as the 3 GCOs (see Figure 3-2).

Figure 3-2. *The 3 GCOs.*

GCO 1
- Child has positive social-emotional relationships

GCO 2
- Child acquires and uses knowledge

GCO 3
- Child uses appropriate behaviours to meet needs

The 3 GCOs were first developed and used in the United States National Child Outcomes Measurement System recommended by the Early Childhood Outcomes (ECO) Center (2011). It was later adapted for the ECHO Framework, after aligning with Singapore's Ministry of Education's (MOE) desired outcomes for education, and the domains for activities and participation under the World Health Organization's International Classification of Functioning, Disability and Health for Children and Youth (WHO ICF-CY) (see Figure 3-3).

Figure 3-3. *Alignment of 3 GCOs with WHO ICF-CY and Singapore's Desired Education Outcomes.*

Domains for Activities & Participation (WHO, 2007)	• Interpersonal interaction and relationships • Communication • Community, social and civic life	• Learning and applying knowledge • Major life areas (school education and engagement in play)	• Mobility • General tasks and demands • Self-care • Domestic life
Preschool Education Key Stage Outcomes (MOE, 2012)	• Know what is right and wrong • Be willing to share and take turns with others • Be comfortable and happy with themselves • Be able to relate to others • Love their families, friends, teachers and school	• Be curious and able to explore • Be able to listen and speak with understanding; participate in and enjoy a variety of arts experiences	• Have developed physical co-ordination, healthy habits
Competencies for the 21st Century (MOE, 2017)	• Work with people from diverse cultural backgrounds, with different ideas and perspectives	• Desire to learn, explore and be prepared to think out of the box	• Think critically, assess options and make sound decisions
3 Global Child Outcomes (ECO Center, 2011)	**Child has positive social-emotional relationships**	**Child acquires and uses knowledge**	**Child uses appropriate behaviours to meet needs**

3.3   The 3 GCOs Themes and Threads

The 3 GCOs encompass functional skills and behaviours that are meaningful for a child's participation in everyday routines. According to the Early Childhood Technical Assistance (ECTA) Center (n.d., Breadth of the Three Child Outcomes section, para.4), they "cut across developmental domains to represent the integrated nature of how children develop, learn, and thrive. By focusing on these outcomes, the transdisciplinary teams can develop targeted interventions and support to address specific areas of need. The 3 GCOs allow for consistent and objective assessment to describe and measure children's functional skills and behaviours across settings and situations.

While every effort was made for the list of themes and threads to be as comprehensive as possible, it is important to note that the list is not exhaustive. In addition, these themes and threads are not intended to be used as part of a checklist.

GCO 1: Positive Social-Emotional Relationships

GCO 1 focuses on how children build positive social-emotional relationships with other children and adults in their lives. This includes behaviours such as relating appropriately with others, responding to and expressing emotions, as well as following the rules of social interaction.

Interactions of children with other people in their lives form the basis of their learning and development across developmental domains. Children become confident and competent learners through their social relationships. Observations of the quality of these social relationships and interactions provide information about how children get along with others, communicate, cooperate and self-regulate around others, all of which are important social skills.

As shown in Table 3-2, three themes best represent GCO 1. Each has related threads representing various functional skills necessary for children to achieve meaningful outcomes in GCO 1.

Table 3-2. *GCO 1 Themes and Threads.*

| GCO 1: CHILDREN HAVE POSITIVE SOCIAL-EMOTIONAL RELATIONSHIPS		
Themes — GCO 1.1 **RELATING TO OTHERS**	GCO 1.2 **RESPONDING TO AND EXPRESSING EMOTIONS**	GCO 1.3 **FOLLOWING SOCIAL RULES OF SOCIAL INTERACTION**
Threads — 1.1.1 Initiating interaction 1.1.2 Responding to interaction initiated by others 1.1.3 Maintaining interaction 1.1.4 Negotiating social problems 1.1.5 Sharing socially	1.2.1 Responding to emotions and feelings of others 1.2.2 Expressing negative emotions 1.2.3 Expressing positive emotions	1.3.1 Waiting in a queue in a social context 1.3.2 Participating in rule-based games 1.3.3 Following unwritten social rules or expectations

GCO 2: Acquisition and Use of Knowledge

GCO 2 focuses on how children acquire and use knowledge and skills to function in their everyday lives. This includes behaviours such as understanding concepts, being aware of their environment and demonstrating appropriate play skills. For older children, this would also include early literacy and numeracy skills.

The word 'knowledge' used in this outcome does not only refer to facts or information possessed by children. More importantly, this outcome focuses on the cognitive process of using their existing knowledge to participate in routines and activities, and generating new knowledge and understanding. A child may have certain knowledge but may not be actively using it to make sense of the world or solve problems.

For example, a child may know how to sing a song about rainbow and name the different colours. However, the child may not know that the stationery corner in the classroom has colour pencils that can be used to colour a picture of a rainbow in a specific sequence.
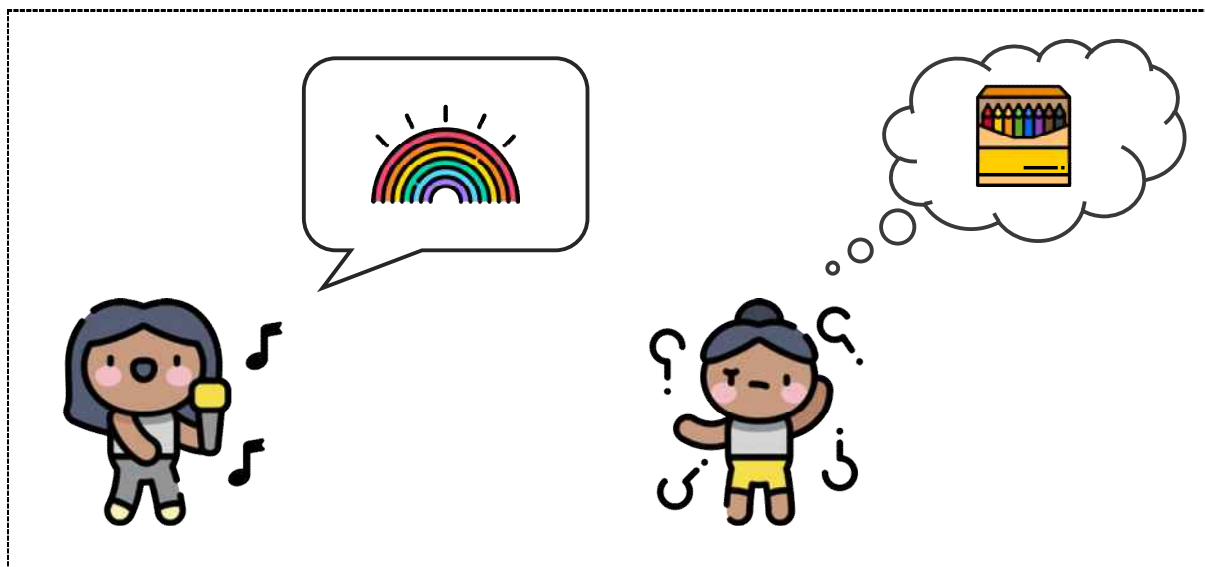
The cognitive process of using knowledge to achieve functional outcomes involves attention, perception, memory, sequencing and more. Through observation of the amount of information children possess and how they use this information, more can be understood about their functional levels and general cognitive abilities. The themes and threads that can be observed under GCO 2 are elaborated in Table 3-3.

Table 3-3. *GCO 2 Themes and Threads.*

	GCO 2: CHILDREN ACQUIRE AND USE KNOWLEDGE		
Themes	**GCO 2.1 UNDERSTANDING (CONCEPTS/WORDS/ SYMBOLS) AND LITERACY**	**GCO 2.2 AWARENESS AND UNDERSTANDING OF THE ENVIRONMENT**	**GCO 2.3 PLAY**
Threads	2.1.1 Understanding and/or using physical attributes 2.1.2 Understanding and/or using qualitative concepts 2.1.3 Understanding and/or using quantitative concepts or numeracy 2.1.4 Understanding and/or using spatial or temporal relations 2.1.5 Discriminating and categorizing objects based on categories 2.1.6 Discriminating and categorizing objects based on functions 2.1.7 Understanding and/or using words for a variety of purposes 2.1.8 Understanding and/or using literacy 2.1.9 Understanding and/or responding to directions or requests from others which may be in a sequence	2.2.1 Being aware of different environments or contexts 2.2.2 Being aware of placement of own belongings, objects or people in the environment 2.2.3 Interacting with print (e.g., books, signs) 2.2.4 Using objects for learning 2.2.5 Solving problems cognitively	2.3.1 Using objects or toys (miniatures/ representations of real objects) when playing 2.3.2 Using objects as a substitution for the real objects during play 2.3.3 Using actions to represent objects/actions during play 2.3.4 Engaging in pretend play alone, pretend play with others, role play, sequential scenarios or fantasy play

GCO 3: Appropriate Behaviour to Meet Needs

GCO 3 focuses on how children use appropriate behaviours to meet their needs independently in daily activities. This includes behaviours such as taking care of their own needs, participating in activities of daily living and leisure, as well as being able to navigate their environment safely.

The development of some of these behaviours are based on physical maturation. Some are dependent on sociological and cultural expectations of behaviour and development, individual values and aspirations, and could be a result of interactions between genetic and environmental factors. For example, when and how a child learns to feed him/herself is based on physical maturation (motor development), as well as family influences and/or cultural expectations. For children with

developmental disabilities, some require assistive devices such as a wheelchair or a modified spoon to get their needs met and to care for themselves.

Through observation on how children meet their own needs and participate in daily routines and activities, including the larger the environment, more can be understood about their functional level. The themes and threads that can be observed under GCO 3 are elaborated in Table 3-4.

Table 3-4. *GCO 3 Themes and Threads*

GCO 3: CHILDREN USE APPROPRIATE BEHAVIOUR TO MEET NEEDS		
Themes	**GCO 3.1** **TAKING CARE OF/** **MEETING NEEDS**	**GCO 3.2** **PARTICIPATION/** **INDEPENDENCE IN ADL** **AND LEISURE ACTIVITIES**	**GCO 3.3** **NAVIGATING THE** **ENVIRONMENT AND** **OVERCOMING OBSTACLES**
Threads	3.1.1 Getting needs met 3.1.2 Getting help or permission	3.2.1 Participating in eating or drinking (including use and care of objects) 3.2.2 Participating in toileting (including use and care of objects) 3.2.3 Participating in bathing (including use and care of objects) 3.2.4 Participating in dressing or grooming (including use and care of objects) 3.2.5 Participating in brushing teeth (including use and care of objects) 3.2.6 Participating in leisure activities which are pleasurable to the child and are entertaining, (including use and care of objects)	3.3.1 Accessing or navigating the environment (getting from place to place) 3.3.2 Being aware of potentially dangerous situations in school, at home or in the community 3.3.3 Overcoming obstacles or demonstrating problem-solving abilities when navigating obstacles in the environment

For detailed information on all the GCO themes and threads, refer to *Appendix 3.6.1: GCO Themes and Threads*.

Key Points

The 3 GCOs cover functional skills and behaviours that cut across developmental domains in an integrated way, and are indicative of how children develop, learn and thrive naturally.

The 3 GCOs are:
- GCO 1: Positive Social-Emotional Relationships
- GCO 2: Acquisition and Use of Knowledge
- GCO 3: Appropriate Behaviour to Meet Needs

3.4   Functional Age Estimates

The GCO Process requires the EI professionals, AHPs and/or SWs to document and report functional child outcomes through determination of Functional Age Estimates (FAEs). An FAE is the age estimate (in the form of an age band) that best represents a child's current level of functioning in one of the GCOs. For example, if it is decided that a child has an FAE of 13-18 months in GCO 1, it means that the child is currently functioning at a level similar to typically developing children between 13 and 18 months of age in GCO 1.

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*Definition: **Functional Age Estimate***

*An age estimate (in the form of an age band) that best represents
a child's current level of functioning in one of the GCOs.*

The FAEs determined can form the baseline profile of the children, from which the EI team can use to set functional goals. Interventions that follow will then be targeted at an appropriate level based on the goals set. The baseline profile will likely change in subsequent GCO Processes, and the progress of the child could be monitored when FAEs across two or more time points are available. This is helpful especially when there is a change in the child's (rate of) progress which might require more in-depth study.

The FAEs derived are then converted into GCO Ratings. The GCO Rating is a categorical rating scale ranging from 1 to 20 that describes the size of the difference between the children's functional age and chronological age. The rating also corresponds to the percentage delay in the children's functioning. A GCO Rating of 1 represents a child's functional performance that is highly different from his/her age-expected performance; a GCO Rating of 20 represents a child's functional performance that is on par with typically developing peers. The GCO Ratings may be used to track children's progress to their age-expected performance, and as the entry criteria for EI sub-programmes.

To determine the FAEs that best represent the child's level of functioning in each GCO, the EI team first needs to understand the behaviours expected of children at different ages of typical development. One of the key resources used when determining children's FAEs is the ECHO Age Expectations (AE) Reference.

ECHO AE Reference

The ECHO AE Reference describes a range of behaviours that are observed in typically developing children aged 0 to 7 years. The behaviours are categorised into the 3 GCOs and span across 10 different age bands. By comparing a child's behaviours to those described in the ECHO AE Reference, practitioners can decide which age band best represents the child's level of functioning at that point in time.

The first six age bands consist of 6-month intervals (i.e., 0-6 months, followed by 7-12 months, and so on) as shown in Figure 3-4. This is because children typically develop quickly within the first three years of life.

Figure 3-4. *The first six age bands in the ECHO AE Reference.*

0–6 months	7–12 months	13–18 months	19–24 months	25–30 months	31–36 months

The next four age bands between 3 to 7 years are divided into 12-month intervals (i.e., 37-48 months, followed by 49-60 months, and so on) as shown in Figure 3-5.

Figure 3-5. *The remaining four age bands in the ECHO AE Reference.*

37–48months	49–60 months	61–72 months	73–84months

For the complete ECHO AE Reference, refer to ***Appendix 3.6.2: ECHO AE Reference***.

The ECHO AE Reference was first developed during the pilot implementation of the ECHO Framework by ECHO TA and practitioners at Thye Hua Kwan Moral Charities' EI centres. They referred to a variety of published materials on child development and the 3 GCOs to compile behaviours across the 10 age bands that are reflective of the local contexts. The reference was later reviewed by a panel of local experts in the field of child development.

The behaviours listed in the reference are not exhaustive. Therefore, the ECHO AE Reference should not be used as a checklist when evaluating the functioning level of children. Instead, as the name implies, it is a reference to provide a snapshot of some behaviours shown by typically developing children in Singapore. It is crucial to have an in-depth understanding of child development while using this reference, and to note that there is variability in the emergence of developmental skills and behaviours in typically developing children.

There are nine further 'bridging' age bands developed to support the original 10 age bands. This allows a finer discrimination of the children's functioning levels during assessments, and will be elaborated in ***Chapter 7***.

When the ECHO AE Reference is used together with other child development resources during the GCO Process, the most accurate FAEs that represent the children's functioning levels can be derived, which leads to setting of appropriate intervention goals.

3.5   Family Outcomes

The goal of early intervention is to enable families to provide care for their children and to have the resources to participate in desired family and community activities (ECTA Center, n.d.).

Under the ECHO Framework, families are recognised as important partners in the journey. Therefore, with child outcomes monitored in EI programmes, the framework suggests a system for evaluating family outcomes (FOs) should be considered to support the goal.

One way of measuring FOs is to evaluate how helpful the caregiver perceives the EI services to be. This can be a stronger indicator of child and family outcomes than simply measuring how satisfied caregivers are with the service (Bailey et al., 2008; Waschl et al., 2021). Currently, FOs are not tracked consistently across the EI centres which use various forms of survey to track family satisfaction and/or outcomes. The following segment provides an overview of FOs and ways to measure them.

Measuring Family Outcomes

The ECO Center has proposed five FOs to be measured:

1   Families understand their child's strengths, abilities, and special needs

2   Families know their rights and advocate effectively for their child

3   Families help their child develop and learn

4   Families have support systems

5   Families access desired services, programmes, and activities in their community

(ECO Center, 2005, pp. 3-5)

To cater to the EI landscape in Singapore, the ECHO Framework has summarised and proposed integrating the 5 FOs into 3 FOs in view of relevance.

Families understand their child's strengths, abilities and special needs

Families help their child develop and learn

Families know how to communicate their child's needs to others, and access relevant services and support
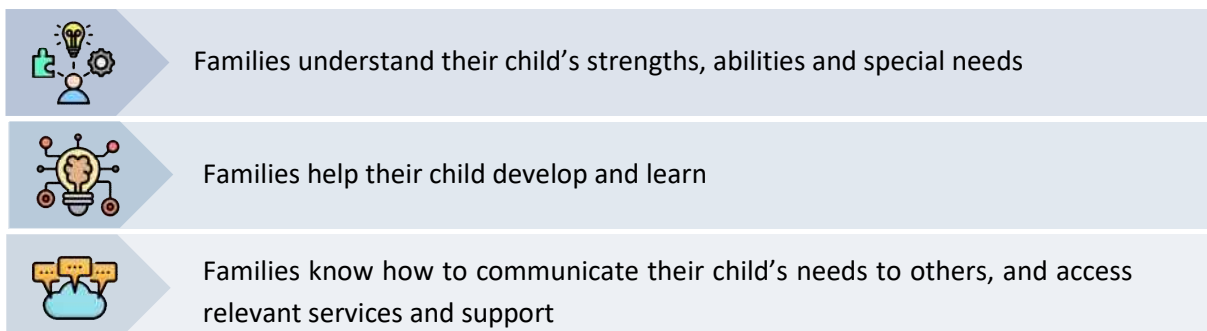
There are many questionnaires and tools that have been developed to measure different aspects of EI service delivery and to track family outcomes. One of them is the Family Outcome Survey-Revised (FOS-R). It has been validated locally by Poon et al. (2011), and is used to measure family outcomes.

Invitation to EI Sector Leaders and Stakeholders in the Alignment of Family Outcomes

To enhance the effectiveness of EI services in Singapore, it is important to identify relevant FOs to be monitored. Currently, EI centres may have different focuses when working with families. It is recommended for EI sector leaders to collaborate with various EI sector stakeholders to develop and implement policies, structures, and practices that promote shared decision making between the transdisciplinary teams and families. Once the key FOs are identified, programmes or interventions can be better designed and monitored.

Resources Needed

It is essential to review existing work processes and roles that will meet the FOs identified. EI centres will require sufficient and capable manpower to work with all families, not just those with complex needs or highly stressed families. It is thus critical to build the capability and capacity of EI professionals, AHPs and social workers to work with families and have the knowledge to carry out analysis and management of the data.

The following chapters will describe the Child Outcomes Measurement System (COMS), and specifically detail how the GCO Process is to be conducted.

3.6   Appendices

3.6.1   GCO Themes and Threads

3.6.2   ECHO AE Reference

3.7   References

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SECTION II

□□□

THE GCO PROCESS

CHAPTER 4

Recording and Classifying Behaviours into the 3 GCOs

Children demonstrate functional performance behaviours when they engage in activities relating to the 3 GCOs in their natural routines. These functional performance behaviours are recorded in the form of behaviour descriptions (BDs) as part of the GCO Process. A range of BDs from the 3 GCOs can allow the team to understand the child's level of functioning, and later inform the setting of appropriate intervention goals. This chapter discusses functional performance behaviours, how to record them as BDs and other types of behaviours that children may exhibit.

4.1   Functional Performance Behaviours

To be successful in their daily settings and achieve functional outcomes, it is important for children to be able to:
- Get along with others through positive social-emotional relationships (GCO 1)
- Continue to learn new things by acquiring and using knowledge (GCO 2)
- Meet their needs in an appropriate way (GCO 3)

Definition: ***Functional Performance Behaviours***

Functional performance behaviours are skills and behaviours that a child does in his/her natural environment (e.g., at home, at school, at the playground) and can be classified into one of the 3 GCOs.

A functional performance behaviour may involve the use of many associated discrete, domain-based skills. Some examples are shown in Table 4-1.

Table 4-1. *Examples of Functional Performance Behaviours and Possible Associated Discrete Skills.*

Functional Performance Behaviours	Discrete, Domain-based Skills	Main GCO
Child says, "5 apples" when he sees a card with a picture of 5 apples while playing a memory card game with his peer during free play.	• Knows numbers • Uses 2-word phrases	GCO 2 Children acquire and use knowledge
Child uses his thumb and index finger to pick up crackers, places them in his mouth, chews and swallows them after his teacher pours out crackers into his bowl during snack time.	• Uses a pincer grasp to pick up a tiny object • Chews and swallows solids • Is aware of the environment/ materials	GCO 3 Children use appropriate behaviour to meet needs

Child smiles at his mother and says, "Yes!" when she asks, "Do you want to play with your brother?" during playtime at the park.	- Understands mother's question - Responds to mother with single words - Establishes eye contact with mother - Directs positive expressions (smile) to others	GCO 1 Children have positive social emotional relationships

4.2   Behaviour Descriptions

The GCO Process involves recording observations of children's behaviours as behaviour descriptions (BDs).

Definition: ***Behaviour Descriptions***

Behaviour Descriptions are written statements that record observations of the children's behaviours during:
- *Routines at the early intervention (EI) centre (School BDs)*
- *Routines at home and in the community (Home BDs)*

An example of a BD is: *Maria says, "Thank you" to Ryan (classmate) when he gives her a spade during sand play at the playground.*

The BDs are collected across contexts, from different sources (e.g., different professionals, parents) and over time to paint a picture of the children's skills and abilities. Behaviours recorded during routines at the EI centres are called 'School BDs', while behaviours recorded during routines at homes and in the community are called 'Home BDs'.

The BDs must:
(1) Be written in Action-Trigger-Context (ATC) format
(2) Be clear and pass the 'Telephone Test' (i.e., have good clarity)

(1) Action-Trigger-Context

The three components of the ATC format are briefly described in Table 4-2.

Table 4-2. *Description and Example of ATC Components.*

	Action	**Trigger**	**Context**
Description	Describes what the child says and/or does in response to the trigger.	Describes what the child is responding to in the external environment.	Describes the routine/ activity. (If applicable, add information on the place, people and material used)
Example	*Maria says, "Thank you" to Ryan (classmate)*	*when he gives her a spade*	*during sand play at the playground.*

The following sections provide more details and tips for each component.

Format: Action

'Action' describes what the child says and/or does in response to a trigger. Verbs such as 'says' and 'takes' are written in present tense to capture the moment that action is happening.

Key considerations:

WHAT? What exactly is the child doing or saying?

HOW? How is the child performing the action? (e.g., how is the child communicating: using verbal, gestures or Augmentative and Alternative Communication [AAC] devices?)

When the 'Action' is well written, the child's behaviour is clearly described and understood by readers. This information is important in helping readers understand the child's abilities. This would also inform the child's intervention goals by considering what other 'Actions' the child will need to become more functional in his/her life.

	☒ Avoid	☑ Do
A. Write clear actions, avoid 'non-action' ➡	Avoid stating what the child is not doing and/or saying (i.e., non-action). *Example* *Jessie **cannot spell and write her name correctly** when her teacher asks her to write her name on the board during circle time.*	State what the child is doing. *Example* *Jessie **writes her name using all the correct letters in incorrect sequence (i.e., Jeisse)** when her teacher asks her to write her name during circle time.*
B. Use specific words, avoid vague ones ➡	Avoid using vague words such as those listed in Table 4-3. These do not describe specifically what the child is doing and/or saying.	Use specific words instead so that readers know exactly what the child is doing and/or saying.

Table 4-3. *Examples of Vague Words.*

Example of Vague Words	Why it is Unclear	What can be Used Instead
Knows	Not an observable behaviour	Sees, touches, etc.
Non-verbal	Does not describe how the child can communicate using non-verbal means	Smiles, looks, points, etc.
Participates	Does not describe how the child participates	Sings, draws, claps hands, etc.
Pretends	If used alone, may not describe what the child is doing/saying. The use of this word is acceptable only if there is added description of the child's actions.	Pretends to cook by stirring the 'soup' using a spoon, etc.
Responds	Does not describe how the child responds	Laughs, looks, says, etc.
Transits	Does not describe how the child makes the transition between activities or locations	Walks, keeps, etc.
Turn-taking	It will be more helpful to elaborate on the child's actions to accurately represent their proficiency in taking turns, such as, whether they are able to take turns for the entire activity, how many turns, or if not taking turns, what they are doing instead.	Waits, observes, moves the game token, takes 5 turns, takes turns for the entire game, etc.

✗ **Avoid**	☑ **Do**
Avoid making assumptions about what the child thinks and feels.	State what was observed.

C. *State what was observed, avoid making assumptions* ➡

Example

> ***Jane was very angry*** *when her peer snatched the ball from her hands during circle time in EI centre.*

Example

> ***Jane shouted, "Hey! That's mine!" and stomped her foot*** *when her peer snatched the ball from her hands during circle time in EI centre.*

💡 **Tip for writing 'Action' relating to maintenance of interaction**
To maintain interactions with others, children are expected to initiate *and* respond (see GCO 1.1.3). There are two possible ways to present this information in a BD:

Option 1: Use brackets to include what was being said	Option 2: State the number of exchanges in the BD
*John says, "I'm planting" as he inserts the stick into the ground vertically, and carries on a conversation with Teacher Diana **(Tr Diana: "What are you planting?", John: "I'm planting a garden", Tr Diana: "What kind of garden?", John: "A green, green garden")** when he sees her looking at him during outdoor playground time.*	*Mary says, "Being silly!" when Teacher Jane asks, "What is the funniest thing in the world?", and **continues conversation for another 3 exchanges (asking & responding to questions)** during book sharing routine.*

Format: Trigger

'Trigger' describes what the child is responding to in the external environment (e.g., what the child sees or hears that leads to the action, and the level of facilitation and support such as prompting by others). Time-related words such as 'when' and 'after', are used to show that the trigger and action happen in a sequence.

Key consideration:

WHAT? What is making the child do the action?

When the 'Trigger' is well written, it helps readers understand what the child is responding to in relation to a specific GCO and theme (i.e., what is the trigger that makes the child show a functional

behaviour). It can also help differentiate between functional performance behaviours and other types of behaviours (see Section 4.4).

Well-identified 'Triggers' can be used in the planning for intervention. The team can provide similar triggers as the ones identified, for the child to repeat desired behaviours, or explore other triggers for the child to demonstrate other functional performance behaviours in the next zone of proximal development.

	☒ Avoid	☑ Do
A. Write observable triggers, avoid making assumptions on internal triggers	Avoid making assumptions about the triggers or writing internal triggers that are not observable (e.g., bodily functions such as feeling hungry, tired or the need to go to the toilet). *Example* *Mary looks into her snack box and scoops up some rice pops before putting it into her mouth **when she is hungry** during snack time.*	Write observable triggers. *Example* *Mary looks into her snack box and scoops up some rice pops before putting it into her mouth **when she sees the rice pops in her snack box** during snack time.*
B. Provide enough details to link action and trigger clearly	Avoid writing BDs where the triggers do not seem to explain the actions. *Example* *Chloe looks at mum and asks, "Where she hurt?" when she picks up the toy syringe after dropping it on the sofa during playtime at home.*	Include some details to explain how the actions and triggers are related. *Example* *Chloe looks at mum and asks, "Where she hurt?" **when mum asks, "Can you check yang meh meh?" (toy sheep)** during pretend play (doctor consultation) at home.*

Format: Context

Context minimally describes the routine/activity and the setting in which the behaviour occurs. More details on the setting, people and materials that are related to the routine/activity are provided where necessary. For example,

- During outdoor play (routine) at the playground (setting)
- During art and craft activity (routine) with crayons (material) at EI centre (setting)
- While shopping at the supermarket (routine/setting) with Mummy (person)

Key considerations:
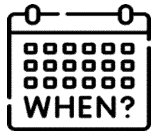
WHEN?	When is the action taking place (which routine/activity)?
WHERE?	Where is the child performing the action (which setting/place)?
WHAT?	What other conditions are necessary for this behaviour to happen (e.g., people, materials)?

'Context' provides specific information on what is necessary for the same action/behaviour to happen again. This is important for setting intervention goals because:

- Similar contexts can be provided to encourage the child to repeat the action/ behaviour, and/or
- Different contexts can be provided to encourage the child to generalise the same action/ behaviour across a variety of situations.

Tip for Writing 'Context'

If additional information about the 'Context' is already mentioned within the 'Action' or 'Trigger', it does not have to be repeated when writing the 'Context'.
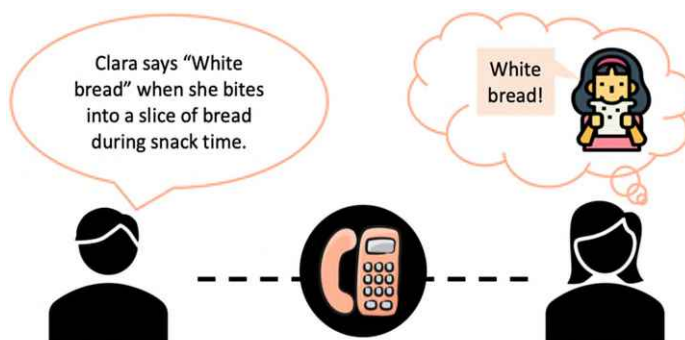
Mary takes out her wallet and taps her EZ-link card on the reader when she sees the EZ-link reader on the bus during her travel from home to grandmother's house.

In the BD example above, additional information on the 'Context' is already found in the 'Trigger' (i.e., *sees the EZ-link reader on the bus*). Hence, it does not need to be repeated.

(2) Clarity - the 'Telephone Test'

Write BDs as clearly as possible. A good way to check whether a BD has good clarity is to see if it passes the 'Telephone Test'. Adapted from *Signposts* (Hudson et al., 2003), the 'Telephone Test' is a method of evaluating whether a behaviour description is clear and specific.

Imagine that someone is describing a child's behaviour to another person over the telephone. To pass the 'Telephone Test', the person on the other end of the phone should be able to develop a clear image of what the child is doing/saying (i.e., can visualise the child's behaviour) just by listening to the details in the description.

> Clara says "White bread" when she bites into a slice of bread during snack time.

> White bread!

This means that if someone reads the BD and is able to visualise the scenario described or even re-enact the exact situation, the BD is considered to have passed the 'Telephone Test'.

A series of clearly written and significant BDs can accurately represent the child's level of functioning, which helps in identifying appropriate intervention goals.

Key Points

- BDs are written in the ATC format.
- BDs need to have adequate clarity to pass the 'Telephone Test'.
- Each component of the BD is important to understand the child's behaviour and its trigger in that specific context. This information, when written clearly, can help readers understand the child's current level of functioning and later be useful for goal setting.

Tip for Recording use of Assistive Aids and Devices

Some children will require the use of assistive aid and devices (e.g., hearing aids, Kaye Walker, AAC systems). Observations of the child requiring specific assistive aids or devices needs to be recorded.

BD Example 1	BD Example 2
*John pushes the **Kaye Walker** with 2 hands and walks from the classroom to the music room when teacher says, 'Let's go to the music room now' during transition time along the corridor in EI centre.*	*Matt smiles and answers, 'Yes I want' when his friend asks if he wants to play with Lego blocks during playtime at the EI centre while wearing his **hearing aids**.*

☞ Please refer to Practice Exercises 1 and 2 under Section 4.6 for more practice on BDs writing.

4.3   GCO Classification

After functional performance behaviours are recorded as BDs, the next step is to classify the BDs into the GCOs. By classifying the BDs into the most appropriate GCO themes or threads, the team can better understand the child's current level of functioning in each GCO.

Key considerations:

WHAT?	• What does this BD tell me about the child's functioning?
	• What is the main GCO classification the writer wishes to highlight about this child when writing this BD (i.e., what is the purpose for writing the BD)?

Table 4-4 shows some examples of BDs being classified into the most appropriate GCO themes and threads.

Table 4-4. *Examples of GCO Themes and Threads Classification.*

BDs	GCO Theme and Thread Classification
Child stops playing with the puzzle, looks up and stares at his peer when the peer started crying loudly during free play at arrival time.	1.2.1 Responding to emotions and feelings of others
Child waits in line quietly with Mummy when queuing up to order a "Happy Meal" at the fast-food restaurant during an outing at the mall.	1.3.1 Waiting in a queue in a social context
Child points to the dark clouds in the sky and says, "Teacher, it is going to rain!" when she looks up into the sky while riding her push car during PE at the playground.	2.2.1 Being aware of different environment or context
Child pours imaginary drink from a toy kettle into a toy cup, and from the toy cup to a toy pot, while saying, "Shhh" (pouring sound) when she sees the cooking set toys on the mat during free play at arrival time.	2.3.3 Using actions to represent objects/ actions during play
Child squeezes toothpaste on the toothbrush, brushes his teeth, spits out toothpaste into the sink, and gargles mouth with water before spitting it out when mum says, "Time to brush teeth" in the toilet before bedtime	3.2.5 Participating in brushing teeth (including use and care of objects)
Child hops and skips with arms stretched out without hitting his peers when he sees his friends running around with peers at the playground during outdoor play.	3.3.1 Accessing or navigating the environment (getting from place to place)

Emphasise 1 Main GCO Theme

Each BD should ideally emphasise one main GCO theme, with no more than 2 themes. Refer to *Appendix 3.6.1: GCO Themes and Threads* for more information on each theme.

If more than two GCO themes are identified, consider:
- What is the purpose of the BD?
- Is the BD clear in expressing this GCO theme?
- Does the BD need to be rephrased or split into different BDs?

Table 4-5. *Examples of BDs Phrased Differently for Different GCO Themes.*

Activity/Routine	Possible Behaviour Descriptions	Focus of the Behaviour
Child plays a memory card game with a peer during free play.	Child smiles widely, points to his peer and says, "You 5 apples, me also 5 apples" after his peer takes a turn, when playing a memory card game during free play.	GCO 1.2 – Responding to and Expressing Emotions (Smiles widely)
	Child says, "5 apples" when he sees a card with a picture of 5 apples while playing a memory card game with his peer during free play.	GCO 2.1 – Understanding and Literacy (Identifies number of objects and object name in the picture with 5 apples when he sees the picture on the cards)
Child requests for crayon from her teacher during art and craft.	Child says, "Teacher I want crayon" when she sees her teacher walking towards her, while colouring a picture of a car during art and craft.	GCO 3.1 – Taking care of/meeting needs (Tells teacher what she wants)
	Child replies, "blue crayon" when her teacher asks her which colour crayon she wants, during art and craft.	GCO 2.1 – Understanding and literacy (Knows colour of crayon)
Child greets her mother in the morning after waking up.	Child rolls out of bed, goes up to her mother and hugs her, saying, "Good morning mama", when she sees her mother enter the room after waking up in the morning.	GCO 1.1 – Relating to others (Initiates greeting and hugging mother)
	Child tells her mother, "Dark, dark sky, got thunder" when she sees the dark sky outside the window after waking up in the morning.	GCO 2.1 – Understanding and literacy (awareness of the weather, uses words to describe it "dark, sky, thunder")

Tips for Classifying Specific GCO Threads

GCO 1.3.3 vs GCO 2.2.1

Social rules or expectations (GCO 1.3.3) imply that other people are considered or involved. They guide how the child interacts with and/or around others without explicit instructions. In most cases, it can and should be differentiated from behaviours that demonstrate knowledge of the environment and things in it (GCO 2.2.1). The latter may happen without clear interactions with the people in the environment and usually involve familiar routines and the knowledge that comes with them.

Carl steps to the side of the train door and waits for passengers to alight before he boards the train when he sees the train door open during travel time to school.	The main classification for this BD is GCO 2.2.1. Carl shows awareness and knowledge of the environment and expected behaviour on the train platform (familiar routine), i.e., passengers waiting to enter the train should stand aside to allow other passengers to alight.
Carl whispers to his mother, "Mama, the lift is so smelly" after they enter a crowded lift in the mall during shopping time.	The main classification for this BD is GCO 1.3.3. Carl interacts with his mother in a way that follows unwritten social rules and considers others around him. However, this BD can also be classified under GCO 2.2.1 as it demonstrates Carl's awareness of his environment and the people around him.

GCO 3.2

Participation/Independence in Activities of Daily Living (ADL) and Leisure Activities

Not all behaviours related to ADLs are automatically classified in GCO 3.2.

Johnny walks to the cupboard, takes out his shorts and gives it to Dad *when Dad says "Go get your shorts from the cupboard" after shower time at home.*	The main classification for this BD is GCO 2.1 as Johnny's actions demonstrate an understanding of instructions.
Johnny takes the shorts out of his cupboard, puts it on and zips it by himself *when Dad says, "Go get your shorts from the cupboard" after shower time at home.*	This BD can be classified under GCO 3.2 as Johnny participates and demonstrates independence in the ADL task.

Tip for Classifying BDs Involving Imitation

If the BD involves 'imitation', it is important to consider the purpose and each individual component of the BD. If it is still difficult to classify the BD, see if it needs to be rewritten more clearly (refer to *Key Considerations* under *Section 4.3 GCO Classification*).

	Considerations	BD Examples
Scenario 1 Child imitates a peer	Is the child imitating the peer to respond to them or trying to initiate interaction (GCO 1)? →	*Child laughs and imitates peer A to put a tissue paper on his head when he sees peer A doing the same action during snack time in school.*
	Is the child showing awareness of people and the environment (GCO 2.2)? →	*Child raises his hand when he sees his peers raise their hands after the teacher asks, "Who wants to play?" during circle time in class.*
Scenario 2 Child imitates on command	Is the child just responding to directions or requests from the teacher (GCO 2.1.9)? • This would not be considered under GCO 1 as the response is not social in nature. →	*Child gives peer B a pat on the back when his teacher tells him, "Look Jay, peer B is crying, come and give him a pat like me" and shows him how to pat peer B during playtime in class.*
Scenario 3 Child imitates words/songs /actions from video (e.g., delayed imitation or scripted phrases)	Is the action directed at another person for the purpose of sharing interest with the person? (GCO 1.1)? →	*Child turns to his mother (seated beside him) to give her a hug when he watches a cartoon video of a boy giving a hug to his mother during leisure time at home.*
	Is the action showing how the child expresses emotions (GCO 1.2)? →	*Child shakes his hips and turns to smile widely at his teacher when he sees the cartoon character in a video shaking its hips to the 'Hokey Pokey' song during circle time in school.*
	Does the action show how the child understands and uses words for a variety of purposes (GCO 2.1.7)? Did a word or situation trigger the child to associate other words/concepts he knows or can use? →	*Child sees the number '3' on a book about fishes and then says "Number 3! I know… 3, 2, 1 Rocket, blast off!" when reading during leisure time in the EI centre.*
	Is the action simply pleasurable and entertaining to the child during a leisure activity (GCO 3.2.6)? →	*Child sings and dances to the lyrics and actions of the 'Baby Shark' video while watching the video during leisure time at home.*

📠 Please refer to Practice Exercises 3 to 6 under Section 4.6 for more practice on BDs and GCO Classification.

> **Key Points**
> - BDs depicting functional performance behaviours can be classified into one of the 3 GCOs.
> - Ideally, each BD should be classified into 1 main GCO theme.
> - The way the BD is written is important for its classification.

4.4   Other Types of Behaviours

It is also helpful to note that children may sometimes show other types of behaviours apart from functional performance behaviours. They include:
- Capacity behaviours
- Challenging behaviours

Table 4-6. *Summary of the Three Main Types of Behaviours.*

Functional Performance Behaviours	Capacity Behaviours	Challenging Behaviours

• Behaviours that the child does in his natural environment
• Depict children using skills in an integrated manner, which are generalised across contexts and situations
• Classified under the 3 GCOs
	• Isolated behaviours or discrete skills that occur during non-naturalistic routines (e.g., behaviours elicited during testing situations)
	• Have not been generalised across a variety of natural routines in daily lives
		• Defined by Smith & Fox (2003, p.6) as "any repeated pattern of behaviour... that interferes with or is at risk of interfering with:
		  ○ the child's optimal learning
		  ○ engagement in pro-social interactions with peers and adults", and/or
		  ○ compromises safety

As seen in Table 4-6, functional performance behaviours depict the child using skills in an integrated manner to achieve functional outcomes and can be classified under the 3 GCOs.

Capacity and challenging behaviours are not classified under the 3 GCOs. Nonetheless, it is still important to take note of these behaviours as they can inform goal setting and/or intervention planning. They can also be recorded with the 'ATC' components introduced earlier in *Section 4.2: Behaviour Descriptions*.

Capacity Behaviours

Definition: ***Capacity Behaviours***

Isolated behaviours or discrete skills that occur during non-naturalistic routines (e.g., behaviours elicited during testing situations). They have not yet been generalised across a variety of natural routines in daily lives.

Key pointers to consider when deciding whether a behaviour is a capacity behaviour:

	There is intention to test in formal or informal situations • E.g., Asking a child to spell his name in the middle of snack time
	There is frequent use of WH questions and the interaction with child discontinues after a response is generated • E.g., Asking a child, "Where is your eyes? Ears? Nose? Mouth?" when the child is playing at the playground, then walks off after the child has answered the questions
	Not all instances of adults asking questions imply that the child's response is a capacity behaviour • E.g., When reading a book about fruits during circle time, the teacher asks a child and his peers about their favourite fruit and point out who likes the same kinds of fruit

When deciding to record a capacity behaviour, it is important to ask whether this behaviour or skill has the potential to be developed into a functional performance behaviour if it is done in a natural routine/activity. Capacity behaviours are recorded for intervention planning and informs the intervention team on skills the child currently has that can help him/her to achieve functional performance behaviours under the 3 GCOs. Table 4-7 lists some examples for reference.

Table 4-7. *Examples of how Capacity Behaviours can Inform Intervention.*

Current Level of Functioning	Capacity Behaviour	Focus for Intervention
Mary pretends to cry using her hand actions when she sees her peer who is seated beside her crying loudly during playtime in class. *Note: Mary notices her peers expressing negative feeling but does not know how to respond appropriately.*	Mary can identify the feeling 'sad' and pats the picture of the boy when shown a picture of a sad boy and asked, "How is this boy feeling" during individual speech therapy session.	It is helpful for Mary to identify feelings of others in a social situation and learn how to respond appropriately to the feelings of others around her so that she can notice and offer help/comfort to peers who are in distress. This relates to functional outcomes in GCO 1.

Kate clenches her hand on the zipper on her bag to pull it when her teacher tells her, "Open your bag and take out your water bottle" during arrival time in class. *Note: Kate is aware that she is to open her bag next, but does not have the skill to do so yet.*	Kate holds the zip while the teacher holds her (Kate's) thumb and index finger to grasp the zipper and physically guides Kate to pull the zipper in the correct motion to unzip her bag.	It is helpful for Kate to practice zipping up her bag with no more assistance than required. It may start off with the teacher physically prompting Kate to use her thumb and index finger to grasp the zipper first as Kate is able to 'pull' with her arm strength based on the functional BD. This relates to GCO 3.

It is important to note that assessment tools such as standardised assessments and criterion-reference assessments are often designed to yield information of a domain skill of the child. Additionally, information obtained from these tools is often collected within a tested environment or situation that is not naturalistic. Therefore, most assessment tools do not capture how the child integrates and uses domain skills to participate in daily routines and activities and achieve functional outcomes in the 3 GCOs.

While these assessment tools can provide valuable information on domain skills that are precursors to functional performance behaviours, it is useful to understand the child's functional performance behaviours in natural routines and activities instead. Table 4-8 illustrates how a domain skill can be mapped into the 3 GCOs when functional performance behaviours are observed.

Table 4-8. *Mapping of Domain Skills into the 3 GCOs.*

Discrete Domain Skill (Precursor)	Observing Functional Performance Behaviours in Natural Routines	Global Child Outcomes
Expressive language ability is assessed to be at 2-3 word phrase level on a criterion referenced assessment tool	How does the child talk with his/her peers during playtime?	GCO 1
	How does the child learn and use language during lesson activities?	GCO 2
	How does the child express his/her needs during mealtime?	GCO 3

**Tips for Behaviours Relating to Literacy Skills
(Capacity or Functional Performance Behaviours)**

Lisa blends 'h-a-t' sounds and says, 'Hat' when she reads the word on the whiteboard during phonics class.

Lisa points to 's' on the word 'sun' when the teacher asks her, 'Where is the /s/ sound during phonics class.

Behaviours relating to literacy skills are considered functional if they are a part of a meaningful/ naturalistic routine (e.g., copying spelling list from board). These behaviours tell us how the child is applying his/her literacy knowledge <u>independently</u> to participate in everyday classroom routines.

On the other hand, behaviours as a result of direct testing (e.g., testing letter recognition, awareness of phonics sounds) are considered capacity behaviours. Such behaviours have the potential to become functional when applied in meaningful/naturalistic routines.

Michael points to the food package and says, 'Mummy, this is the /p/ sound' when he sees the letter 'p' on the food package during mealtime.

Michael says the 'last sound' when the teacher asks, 'Where is the /g/ sound in bag?' during phonics class.

Challenging Behaviours

Definition: **Challenging Behaviours**
"Any repeated pattern of behaviour… that interferes with or is at risk of interfering with:
- *the child's optimal learning*
- *engagement in pro-social interactions with peers and adults, and/or*
- *compromises safety*

(Smith & Fox, 2003, p.6)

Some types of challenging behaviours could include:

Extremely aggressive acting out behaviours	Intensely withdrawn behaviours	Repetitive behaviours	Self-stimulatory behaviours	Self-injurious behaviours

Table 4-9 shows some possible challenging behaviours and the associated considerations.

Table 4-9. *Possible Challenging Behaviours.*

Types	Possible Challenging Behaviours	Considerations
Aggressive acting out	Child **picks up sticks and throws** at peer **repeatedly** when peer squats beside him during outdoor play.	This behaviour seems atypical in intensity, especially when the peer has not provoked the child, and compromises safety of those involved. If the child is unable to stop the behaviour even after instruction and support, or if the behaviour increases in intensity or frequency, it is considered challenging and should be recorded for further intervention.
Intensely withdrawn	Child sits in corner of classroom for **3 consecutive weeks, ignores** social initiations by teachers and peers and **does not engage** in any activities or materials presented to him.	This behaviour has been happening for 3 weeks. It is atypical in duration and frequency and interferes with engagement in pro-social interactions and optimal learning. It is considered challenging and needs to be addressed.
Repetitive or self-stimulatory	Child (**5 years old**) flaps his hands **repeatedly and incessantly** and **looks away** when the teacher brings balloons into the classroom and tries to give one to him during free play.	This behaviour occurs at an intense level that interferes with engagement in pro-social interactions.
Self-injurious	Child **bangs his head** against the table **repeatedly** when the teacher asks him to complete an activity.	This behaviour is atypical in intensity, and compromises safety. It is considered challenging and should be addressed.

Key pointers to consider when recording challenging behaviour:

Consider and record the intensity, frequency and duration according to contexts
- E.g., A child who hits his/her peers when they snatch his/her toy once or twice versus a child who frequently hits his/her peers whenever they touch his/her belongings daily or several times a week

Consider the child's ability based on their age and condition
- E.g., A nonverbal child whose developmental age is 18 months lies on the floor and screams when he/she is told "no" versus a verbal child at 48 months who does the same

When deciding to record any challenging behaviour, it is important to ask whether the behaviour interferes with the child achieving functional outcomes and is something that the EI team and caregivers want to address. Challenging behaviours that interfere with the child achieving functional outcomes should be recorded for goal setting and intervention planning, so that they can be reduced and/or replaced. Refer to Table 4-10 for an example.

Table 4-10. *Example of how Challenging Behaviour can Inform Intervention.*

Challenging Behaviour	Focus of Intervention
Ava screams and hits her peers on the face whenever the peers beside her cry loudly or shout in class. • Frequency: Almost daily • Intensity: Screams very loudly and hits peers hard on the face • Duration: Screams for about 5 minutes until she is moved to a quiet corner	Ava is very sensitive to loud sounds and does not know how to respond appropriately whenever she hears her peers cry loudly or shout. Intervention should be focused on helping her learn a more appropriate way of getting her own needs met (which in turn would result in functional performance behaviour), such as moving away when she hears a peer crying loudly or shouting and asking her teacher for help.

4.5   BD Checklist

The BD Checklist (refer **Appendix 4.7.1**) is used to evaluate the quality of functional performance BDs. Refer to **Chapter 10** on use of the BD Checklist for fidelity purposes.

The BD Checklist is also a helpful tool for both the BD writers and coaches to identify specific areas of strengths and weaknesses in the writing and classification of high-quality BDs.

A high-quality BD should achieve all the following components in the checklist:

Significance	→	The BD best reflects the child's current level of functioning/FAE
Syntax	→	The BD includes an action, trigger, and context
Clarity	→	The BD is clearly written and easily understood by the reader and passed the telephone test
Behaviour Classification	→	The BD accurately describes a Functional Performance Behaviour
GCO/Theme Classification	→	The BD is classified under the most appropriate GCO theme and thread

Do note that these components do not have to be rated in sequence. Refer to Table 4-11 for examples on how to rate a BD using the BD Checklist.

Table 4-11. *Examples on how to use the BD Checklist.*

Example 1	Amy (4 years old) with a provisional diagnosis of Global Developmental Delay, speaks consistently in short sentences when interacting with others. Both her FAEs for GCO 1 and GCO 3 are 31-36 months.
	BD: *Amy waves her hands when her teacher greets her "Good morning" during arrival time in school.*
	Classification by BD writer: GCO 3.1
Criteria	**Ratings and Comments** *Criteria achieved = '1', Else = '0'*
Significance:	Score = 0 Amy is able to communicate consistently in short sentences. Hence, this BD is not a significant one as it is likely a behaviour that does not represent her current level of functioning (e.g., she is already able to respond to others socially in short sentences).
Syntax:	Score = 1 **Action** (Amy replies "Hello"), **Trigger** (Teacher greets her "Good morning") and **Context** (during arrival time in school) are present.
Clarity:	Score = 1 The BD is clear enough for the reader to enact the scenario in mind.
Behaviour Classification:	Score = 1 The BD is a functional performance behaviour as it occurs spontaneously in a natural context (e.g., greetings in school during arrival time).
GCO/Theme Classification:	GCO 1: Score = 0 (incorrect for not classifying under GCO 1) GCO 2: Score = 1 (correct for not classifying under GCO 2) GCO 3: Score = 0 (incorrect for classifying under GCO 3) This BD demonstrates Amy's response towards a social initiation (greeting) from her teacher, not how she indicates her needs and wants (GCO 3.1), and hence, should be classified under GCO 1.1 instead.

Example 2	Adam (30 months old) with a provisional diagnosis of Autism Spectrum Disorder, is non-verbal and usually uses actions and physical means (e.g., pulling others by the hand) to indicate his needs and wants. Both his FAEs for GCO 1 and 3 are 7-12 months.
	BD: *Adam walks to his teacher, pulls her by the hand towards his bag on the table and places her hand on the zip of his bag after he tried to open his bag by tugging at the zip (but could not unzip his bag) during snack time in school.*
	Classification by BD writer: GCO 1.1

Criteria	**Ratings and Comments** ***Criteria achieved = '1', Else = '0'**
Significance:	Score = 1 This BD is significant as it reflects Adam's current level of communication (i.e., he is non-verbal and indicates his needs and wants via actions and physical means).
Syntax:	Score = 1 ***Action*** (Adam walks to his teacher, pulls her by the hand towards his bag on the table and places her hand on the zip of his bag), ***Trigger*** (he tried to open his bag by tugging at the zip [but could not unzip his bag]) and ***Context*** (during snack time in school) are present.
Clarity:	Score = 1 The BD is clear enough for the reader to enact the scenario in mind.
Behaviour Classification:	Score = 1 The BD is a functional performance behaviour as it occurs spontaneously in a natural context (e.g., unzipping his bag to get his snack box during snack time in school).
GCO/Theme Classification:	GCO 1: Score = 0 (incorrect for classifying under GCO 1) GCO 2: Score = 1 (correct for not classifying under GCO 2) GCO 3: Score = 0 (incorrect for not classifying under GCO 3) This BD demonstrates Adam's requesting help from his teacher to unzip his bag, not how he initiates social interaction with others (GCO 1.1), and hence, should be classified under GCO 3.1.

Evaluating Capacity and/or Challenging Behaviours

These behaviours are not rated using the BD Checklist. However, if writers wish to evaluate written records of capacity and challenging behaviours, they may consider using some similar components such as 'ATC' and 'clarity' to ensure that the description of capacity and challenging behaviours are clear and well-written.

> It is important to note that some behaviours may require more details (e.g., describing the intensity and frequency of the challenging behaviours).

Writers can also consider how important the capacity or challenging behaviour is for intervention.

4.6 　 Practice Exercises

It is crucial to record functional performance behaviours in the form of high-quality BDs. Go through the practice exercises below to practice identifying and writing high-quality BDs.

The subsequent chapters will provide more details on how BDs are collected during the GCO Process, both at home and in school.

Refer to ***Appendix 4.2: Answers to Practice Exercises*** for the suggested answers for all the practice exercises.

Practice Exercise 1: Understanding Action-Trigger-Context

Which of the behaviours listed below have Action-Trigger-Context (ATC) in them?
1. Child holds a pencil in his right hand with a palmar grasp during work time.
2. Child wipes his mouth using a handkerchief after he finishes drinking his milk during mealtime at home.
3. Child does zips but not buttons.
4. Child points to the cardboard police car and says, "Big police car" when his teacher shows the cardboard police car to the class and asks, "What is this?" during circle time.
5. Child says, "Mama, raining", "Mama, windy".

Practice Exercise 2: Understanding of clarity of BD using the 'Telephone Test'

Which of the behaviours listed below pass the "Telephone Test"?
1. Child does not sing the 'Goodbye' song when all her classmates are singing the 'Goodbye' song during dismissal.
2. Child says, "OK!" and walks to the board to erase the drawings on it when her teacher says, "D, please help me to erase the drawings on the board" after the class finished singing a song during circle time in school.
3. Child participates in dancing with teachers and peers during song and dance time.
4. Child was furious after his peer says, "Don't disturb me" during art and craft.
5. Child cries, points at his peer and screams, "He take my one!" when his peer snatches away his toy car during free play in school.

Practice Exercise 3: Understanding of GCO Theme Classification

Classify the list of behaviours into the appropriate GCO theme.
1. Child looks at her peer briefly and says, "Ok, let's swing together" when her peer climbs onto the platform swing which the child is sitting on during free play at the gym.
2. Child takes the chair, climbs up and stands on the chair to take a piece of candy when he sees the candy container on the shelf after playtime at home.
3. Child keeps all the blocks into the box and puts it on the shelf when her teacher says, "Time to pack up! We are going to have snack!" during transition from free play to snack time in EI centre.
4. Child points to his peer and says, "Wet" when he sees his peer spill water on himself while drinking during snack time.
5. Child points to the 'YouTube' icon (on his mother's phone) and says, "Play song please" when he sees his mother's phone on the coffee table during free time at home.
6. Child says, "Thank you" to his peer when his peer gives him a spade during sand play at the playground.

Practice Exercise 4: Understanding of Classification of GCO 1 Threads

Classify the list of behaviours into the appropriate GCO1 Thread.
1. Child says, 'Yesterday I went to the zoo with papa and mama', and continues to respond appropriately for at least two cycles (e.g., "We went in the morning" when his teacher asked when he visited the zoo, and "We saw the lions, zebras and elephants" when his teacher asked what he saw at the zoo) when his teacher asked him, "What did you do over the weekend?" during snack time in EI centre.
2. Child stops playing with the puzzle, looks up and stares at his peer when his peer cries loudly during free play at arrival time in EI centre.
3. Child raises both hands, smiles and exclaims, "Yay!" after completing the station game during outdoor activities in EI centre.
4. Child comes out of his bedroom on his own and asks aloud, "Mummy, where are you?" when he wakes up in the morning at home.

5. Child looks at the teacher, points to his peer's foot and says, "Ah" when he sees a plaster on his peer's foot during circle time in EI centre.

6. Child holds his mother's hand and stands in line quietly with her when queuing up to order a 'Happy Meal' at the fast-food restaurant during an outing at the mall.

7. Child screams loudly, "Noooo!" and drops his body to the floor when his mother tells him it's time to go home after looking at toys in a shop during outing time at the mall.

8. Child says, "Don't take my red car, take the green car" when his peer tries to take the red car in his hand during playtime in EI centre.

9. Child picks up a toy block from his pile of blocks, passes it to his peer and says, "You want? Give you." when he sees his peer standing next to him quietly during free play at arrival time.

10. Child runs over to hug and kiss her mother when she sees her mother extend her arms towards her while standing at the entrance of the EI centre during dismissal time.

11. Child says, "You miss your turn!" when her sister throws the dice and lands the token on the "Miss-a-Turn" square when playing a game of Monopoly during play time at home.

Practice Exercise 5: Understanding of Classification of GCO 2 Threads

Classify the list of behaviours into the appropriate GCO2 Thread.

1. Child says to his mother, "Wet wet!" when he spills soup on his shorts during lunch time at home.

2. Child uses his fingers to dig out the play dough, presses it in his hand and says, "Why so soft?" when his teacher passes him a tub of play dough during sensory play in EI centre.

3. Child asks Teacher A, "Where is Teacher B going?" when he sees Teacher B carry her bag and step out of the classroom during playtime.

4. Child says to his peer, "Take cloth to wipe" when he sees his peer spilling water on the table during snack time in EI centre.

5. Child presses both palms together and gestures a swimming action in the air while saying, "Swim", when he hears his teacher say, "Fishes swim in water" during free play in EI centre.

6. Child lifts his cup up to his teacher and says, "See! A little bit left only" when he looks into his cup of water after drinking from it during snack time in EI centre.

7. Child says, "Up" and lifts the scarf in his hands upwards when the music therapist sings a song during music and movement activity in class.

8. Child uses a marker and ruler to draw lines on the whiteboard after his teacher tells him that he can draw on the board during free play at arrival time in EI centre.

9. Child points to the dark clouds in the sky and says, "Teacher, it is going to rain!" when she looks up to the sky while riding her push car during PE at the playground.

10. Child raises her hand and says to her teacher, "I am the police!" after she has put on a police cap and vest during dramatic playtime in EI centre.

11. Child picks up a large plastic fish and swings it at his peer while saying, "I fight you with my sword" when he sees his peer walks towards him during free play in EI centre

Practice Exercise 6: Understanding of Classification of GCO 3 Threads

Classify the list of behaviours into the appropriate GCO3 Thread.

1. Child puts his shoes on his feet and straps the velcro straps tightly when Grandma says, "Wear shoes!" when it is time to leave for the EI centre in the morning.

2. Child pulls his towel off the rack after his mother finishes rinsing his body and tells him, "Dry yourself" during shower time at home.

3. Child takes a step to the side of his peer and leans forward to watch his teacher demonstrate the steps of making a cup of milo drink when his peer steps in front of him and blocks his view during a self-help lesson in EI centre.

4. Child sways her body in a rhythmic pattern (from left to right) together with her peer when they watch the cartoon characters dancing in the iPad video-clip during leisure time in EI centre.

5. Child raises his arms towards Grandma and says, "Bao bao" ('carry me' in Chinese) when he hears a loud thunder during bedtime at home.

6. Child says to her teacher, "Teacher, help me!" when she tries rubbing paint off her hands (but the paint does not come off) during hand washing after art and craft time in EI centre.

7. Child says out loud from the top of the slide, "Excuse me, move away! I will crash you!" when she sees a little boy seated at the bottom of the slide during outdoor play at the playground.

8. Child hops and skips with arms stretched out when he sees his peers running about at the playground during outdoor play in EI centre.

4.7   Appendices

4.7.1   BD Checklist

4.7.2   Answers to Practice Exercises

4.8   References

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Smith, B. J. & Fox, L. (2003). *Systems of Service Delivery: A Synthesis of Evidence Relevant to Young Children at Risk of or Who Have Challenging Behavior.* http://ohiofamilyrights.com/Reports/Special-Reports-Page-4/Systems-of-Service-Delivery-A-Synthesis-of-Evidence-Relevant-to-Young.pdf

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CHAPTER 5

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The GCO Process

This chapter provides an overview of the GCO Process, a functional approach to assessment, under the ECHO Framework. It outlines two key features of the GCO Process and the types of GCO Process. Thereafter, Chapters 6, 7 and 9 will provide the details and key steps in the GCO Process essential for practice.

5.1 Overview of The GCO Process

The GCO Process is a collaborative, summative and evaluative assessment process used by EI teams to document and report functional outcomes for children receiving early intervention services. The EI team comprises the teacher, occupational therapist, speech and language therapist, physiotherapist, psychologist and/or social worker.

The GCO Process consists of two key features as shown in Figure 5-1:
- Understanding the child in natural routines
- Evaluation and summary of child profile

Figure 5-1. *The GCO Process under the ECHO Framework.*
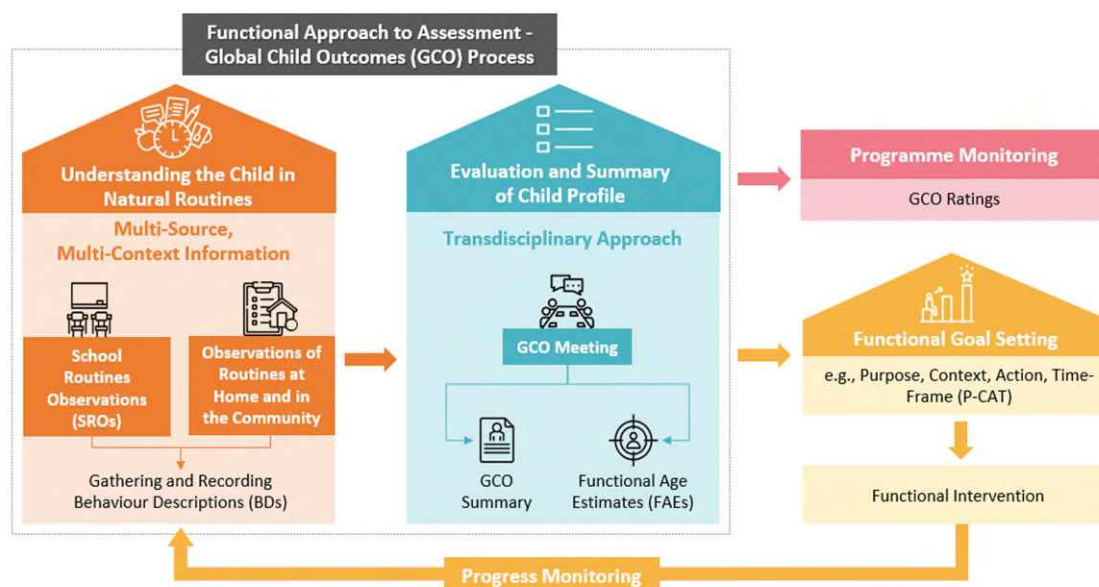
Understanding the Child in Natural Routines

The GCO Process starts when the early intervention (EI) team observes and collects information about the child's functional performance behaviours as Behaviour Descriptions (BDs). The BDs are collected

across different routines and contexts via the School Routines Observation (SRO) and observations of routines at home and in the community.

Evaluation and Summary of Child Profile

Once a sufficient variety of BDs across the 3 GCOs has been collected, the EI team convenes a GCO Meeting. During this meeting, the team discusses and summarises the child's functional profile, and determines the Functional Age Estimates (FAEs) that best represent the child's functioning in the 3 GCOs. After the GCO Meeting, a qualitative summary of the child's functional profile, called the GCO Summary, is finalised and shared with the caregivers.

After the GCO Process: Functional Goal Setting, Functional Intervention and Progress Monitoring

The FAEs and GCO Summary are used by the EI team and caregivers, to set functional goals for the child's Individualised Education Plan (IEP) as part of intervention planning. Setting of functional goals is covered in *Chapter 8*.

In the next 12 months, the child's progress across the 3 GCOs and functional goals is monitored by the EI team and caregivers (where appropriate). When it is time to re-evaluate the child's profile, usually on an annual basis, the next GCO Process commences.

5.2 Types of GCO Processes

There are three types of GCO Processes – Entry, Review and Exit. Each GCO Process should take no more than 10 weeks to complete.

With reference to Figure 5-2, the GCO Entry Process must take place within the first 10 weeks of a child's enrolment into the EI centre. Outputs from the GCO Entry Process (i.e., FAEs and GCO Summary) helps the EI team to set functional goals for the child's first IEP and plan for intervention.

Figure 5-2. *Timeline of the GCO Processes*
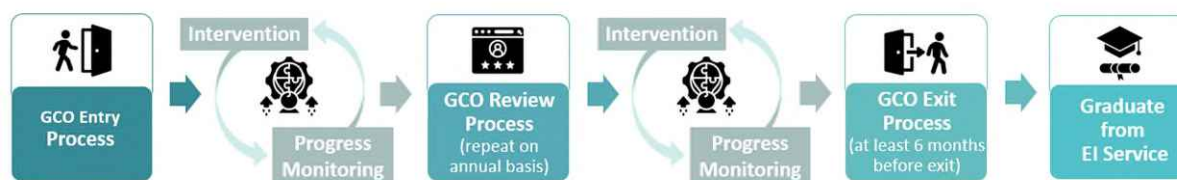
At the end of each intervention and progress monitoring period which usually lasts a year, the EI team evaluates the child's progress as part of the GCO Review Process. During this period, the EI team reviews the child's progress for the functional goals and the 3 GCOs. At the end of the GCO Review Process, the child's FAEs (and GCO Summary where applicable) are updated. The EI team uses the FAEs (and GCO Summary where applicable) from the GCO Review Process to revise or set new functional goals for the next IEP and plan for intervention.

This entire sequence of events (i.e., the GCO Process followed by intervention) typically occurs on a yearly basis. The final GCO Process – the GCO Exit Process – occurs in the year the child exits the EI programme. Refer to ECDA's Data Submission Guidelines for details on when each GCO Process is to be conducted.

5.3   Guidelines for the GCO Process

There are similarities and slight variations in the three GCO Processes. A summary of the guidelines can be found in ***Appendix 5.4.1: Guidelines for the GCO Process***. It is recommended for the EI team to always refer to the latest guidelines for the GCO Process.

5.4   Appendices

5.4.1   Guidelines for the GCO Process

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CHAPTER 6

Understanding the Child in Natural Routines

This chapter details how behaviour descriptions are collected during natural routines in school, at home and in the community to support the understanding of the child's level of functioning. This happens in the first few weeks of the GCO Process.

6.1   School Routines Observation

School Routines Observation (SRO) is a method of observing and recording Behaviour Descriptions (BDs) about a child's current level of functioning in early intervention (EI) centre-based routines and activities. This forms the bulk of information collected to understand the child in their natural routines, apart from information collected from the home and community as shown in Figure 6-1.

Figure 6-1. *The GCO Process.*
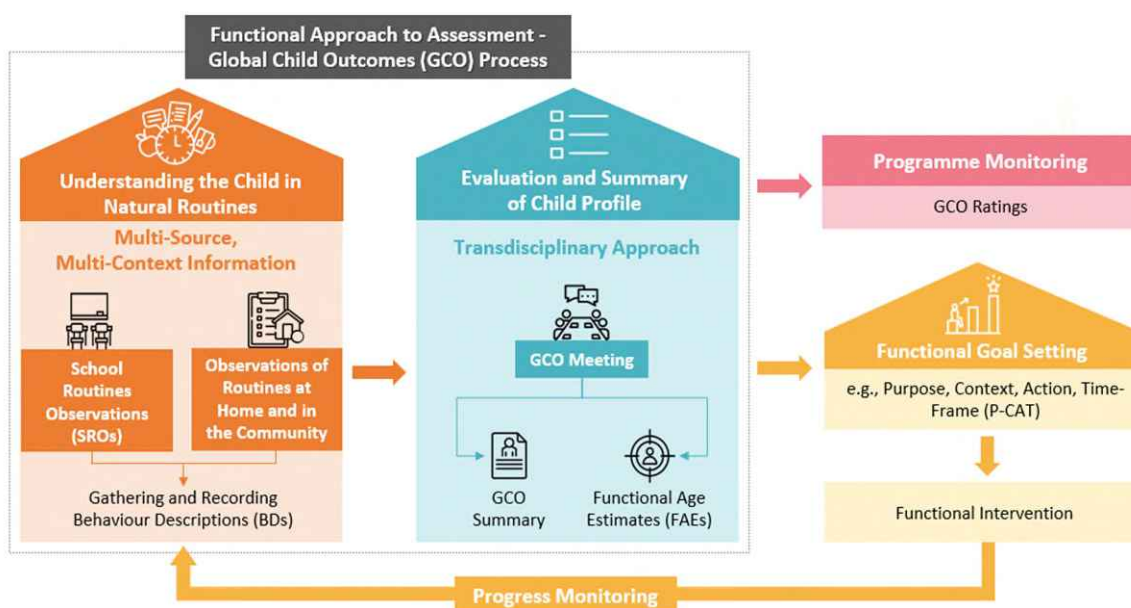
Before conducting the SRO, the EI team needs to plan who to conduct the SRO, when to conduct the SRO and what information to collect. The guidelines for consideration are described below.

Who Should Conduct SRO

All members of the EI team (e.g., EI teacher, allied health professionals and social workers) supporting the child can observe and record functional performance behaviours of the child. This ensures that the BDs are from multiple sources.

In practice, it may not be feasible for each team member to observe every EI centre-based routine and activity. Instead, the EI team ensures a variety of centre-based routines and activities are observed across the four main categories of routines (i.e., indoor, outdoor, play and self-care). To be efficient, the EI team may allocate different professionals to observe different routines.

When to Conduct SRO

SROs are conducted across a variety of classroom routines and activities during the designated functional assessment period.

If the SROs are conducted for a newly enrolled child (i.e., GCO Entry Process), observations are conducted within the first 10 weeks of the child's enrolment to gather a comprehensive and holistic picture of the child's level of functioning across routines and activities in the EI centre.

If the SROs are conducted to monitor the progress of an existing child in the EI centre (i.e., GCO Review/Exit Process), SROs are conducted before the GCO Review/Exit Meeting. Refer to *Chapter 9* for more information.

How to Conduct SRO

Here are some methods for conducting SRO:

Continuous Recording

The practitioner takes on the role of an observer by being a 'fly on the wall', and does not participate in the classroom activities or interact with the class. This can happen during the whole duration of the routine or part of the routine. The practitioner records all significant behaviours observed during the period without being part of the action.

Intermittent Snapshots of Observations

The practitioner conducting the class observes and captures significant behaviours that occur spontaneously (e.g., a teacher conducting an art and craft activity with the class observes a child showing significant functional performance behaviour in seeking help appropriately). The observations can be recorded quickly, such as on a notepad.

Video Recordings

Video recordings can be a helpful alternative to live observations. This is especially so for the practitioner who has to interact with the class and is unable to observe a child at the same time.

Interviewing Other Staff on What was Observed

Other practitioners can be interviewed about how the child typically behaves during class routines and activities. Refer to *Appendix 6.5.1: Functional Assessment - Prompts and Pointers* for some questions that practitioners can ask during the interview. It is important to ask for information on the 'Action', 'Trigger' and 'Context' (ATC) so that the observations can be written down as BDs in ATC format.

Preparation for the SRO

Step 1: Review existing information about the child and consider what is already known.

Reviewing existing information such as the child's diagnosis, skills or behaviours from official reports and sources helps team members formulate an initial understanding of the child's skills and behaviours in the 3 GCOs. Information can be obtained from:

- Referral forms (e.g., diagnosis, age, presenting symptoms)
- Intake screening (e.g., level of functioning data collected during screening)
- Caregiver questionnaire completed at enrolment (e.g., child's interest, home participation, caregiver's concerns)
- Any other documents such as past assessment reports.

It is to be noted that while these data provide some information about the child, they only provide an initial impression of the child for the EI team to be sharper in their observations during SRO. Ultimately, it is the team's assessment in the following weeks that determines the functional level, and the eventual functional age estimates (FAEs) of the child.

If the child has been receiving intervention in the EI centre, the EI team must consider the child's previous FAEs and review the child's progress monitoring notes. Refer to **Chapter 9** for more information on progress monitoring.

Step 2: Refer to the 3 GCOs and child development resources, and be familiar with some possible functional performance behaviours that may be observed from this child.

Practitioners should be familiar with:

The 3 GCOs
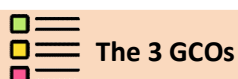
- This allows the team to focus the observations on functional performance behaviours that relate to social-emotional relationships, acquisition of knowledge and/or meeting needs. Refer to **Appendix 6.5.1: Functional Assessment – Prompts and Pointers** for some additional tips when considering functional performance behaviours in the 3 GCOs across routines.

Child Development Resources

- These provides information about skills that children should typically have at any given stage of development.
- Being equipped with typical child development knowledge will provide practitioners with a better understanding of developmental gaps and delays the children may have, which will help in the planning of activities and materials to be used during functional assessment.

Step 3: Prepare activities/materials that are suitable for the child's chronological and/or estimated functional age. Think about possible responses he/she may have and be ready to adapt and adjust the activities/materials as necessary.

If, by this stage, the child's functional age has not been determined, practitioners can:

- Prepare activities and materials relating to the child's chronological age first
- Plan how they can adapt the materials based on the child's responses next

Any information about the child's previous functional age band (i.e., FAE) and progress may allow the practitioners to have some idea of where to start. Practitioners may select activities and materials for routines that are suitable for that functional age range and the next age band to assess learned or emerging skills.

By thinking of possible responses before the activities are offered, the practitioners may also be more alert to identify significant behaviours during the observations, and more ready to adapt the activities as necessary.

During SRO

The practitioner should observe and record BDs that are relevant to the child's level of functioning and engagement. Observations can initially be captured as notes but will eventually have to be written clearly as BDs in the ATC format introduced earlier in **Chapter 4**. Refer to **Appendix 6.5.2: SRO form** for a sample template.

Key Considerations During SRO

There are some key principles to guide practitioners when they conduct SROs.

Key Principle 1: Engagement

The child's best possible performance occurs when he/she is meaningfully engaged and participating in a routine. Engagement is the interaction between the child's interests, motivation, habits, developmental level, skills and abilities, and the environment. The level of engagement is often demonstrated by the amount of time that the child spends being involved in the activity.

Children learn best when they are actively engaged with their environment, people (adults and peers) and materials (McWilliam & Bailey, 1992; Casey & McWilliam, 2008). As such, consider:

- The child's interest, attention and enjoyment of the activity
- The child's engagement with adults, peers and/or materials during the activity
- The duration in which the child participates in the activity

Key Principle 2: Functional Performance

Practitioners should focus on observing and recording functional performance behaviours (i.e., BDs) relating to the 3 GCOs.

Consider:
- Whether the behaviour is a functional performance behaviour, or another type of behaviour*
- The type of routine and activity

Note: Practitioners can still note down important challenging or capacity behaviours especially if they are to be considered for functional goal planning. However, it is important to differentiate these behaviours from functional performance behaviours. Refer to **Chapter 4** on the different types of behaviours.

Key Principle 3: Independence

The child should be allowed to demonstrate his/her behaviours independently as much as possible. If prompts are given, it should be no more than what the child needs. This is so that the recorded BDs can accurately reflect his/her current level of functioning.

Any prompts given should be part of natural interaction and usually serve as triggers to actions that reflect functional performance behaviour.

Consider:
- Whether the behaviour is done independently, and if not, ensure that the child is given no more help than what is needed.

E.g., A teacher asks a child to indicate his choice of toy by showing him 2 different toys. Instead of immediately prompting the child to point, the teacher waits and observes what the child will do independently and only prompts if necessary.

Key Principle 4: Significance

It is possible for a child to demonstrate many behaviours within a short time frame, but it is not necessary to record all behaviours observed during SRO. Instead, record significant functional performance behaviours in relation to the overall functioning of the child.

E.g., For a child with hemiparetic cerebral palsy, mobility during transition from one area to another is a significant behaviour to observe. However, for a child with no physical disability and is independent in his/her mobility, a significant behaviour to observe may be how the child navigates/overcomes obstacles during playground time.

During the SRO, the child may exhibit some functional performance behaviours that are significant in relation to the child's profile, but only seen once or on rare occasions. These may be behaviours that are emerging. It is important to still record these behaviours, but practitioners should take note of the frequency and contexts in which they happen.

On the flipside, when a child consistently demonstrates higher level skills, some functional performance behaviours which used to be deemed significant may not be considered significant at the time of the latest observation.

E.g., Most of the time, the child can greet others and initiate conversation when grandparents pick him up from school (e.g., "Hello grandpa, how are you today? See my art and craft!"). There was one occasion when the child waved to grandma when she was picking him up from school. This action would not be a very significant behaviour to note.

Recording significant functional performance behaviours will assist the team in determining FAEs that best represent the child's functional level during the GCO Meeting.

Consider whether:

- The behaviour reflects the child's current skills level
- The behaviour reflects a skill that the child has mastered some time back or at an earlier age
- The behaviour is done independently (see earlier section on Independence)

Summary of Key Principles

An easy way to remember these key principles when conducting SRO is to remember the acronym '**FIEStar**':

F	Is the child's behaviour representative of the child's **Functioning**?
I	Is the child **Independent** or given no more help than needed?
E	Is the child **Engaged** with the environment, adults, peers and/or materials?
STAR	Achieved all the above = **Significant (STAR)** BD!

Tips for observing significant behaviours in children with high support/complex needs

Children with high support/complex needs due to severe developmental delay and/or medical condition may present with the following:

- Sensory, cognitive, communication, motor, social-emotional and health care issues
- Atypical responses to sound, touch, sight and other stimuli
- Self-stimulatory behaviour
- Limited purposeful movement and responses
- Difficulty establishing and maintaining an alert biobehavioural state

(Christensen et al., 2002)

To observe and record significant behaviours demonstrated by these children, consider breaking down their skills and behaviours. These are some pointers to consider when preparing for SRO.

Existing information (e.g., caregiver reports from intake interview), which may provide insights on:

- Child's response behaviours (i.e., reflexively or intentionally when exposed to a stimuli);
- Biobehavioural state (i.e., alertness and attention ranging from deeply asleep to crying/agitated);
- Preferences and reinforcers (i.e., stimuli, activities that the child enjoys) across home and community routines; and
- Physical and social environment (opportunities in everyday routines where the child can interact or respond).

(Christensen et al., 2002)

Child development resources on functional performance behaviours for the lower age bands (i.e., 0-6 months, 7-12 months)

- Discuss within the team where the child's likely level of functioning is at. This will assist the team, especially new EI practitioners, in observing and recording functional performance more accurately.

After conducting initial observations across specific routines and activities, practitioners are to use that information to guide further observations (e.g., how the child responds to interactions with people and toys, communicate basic needs and wants, and participate in everyday routines).

For more information on how to plan for assessment for children with high support needs, these are some helpful resources:

- Promoting Learning Through Active Interaction: A Guide to Early Communication with Young Children Who Have Multiple Disabilities (Klein et al., 2000)
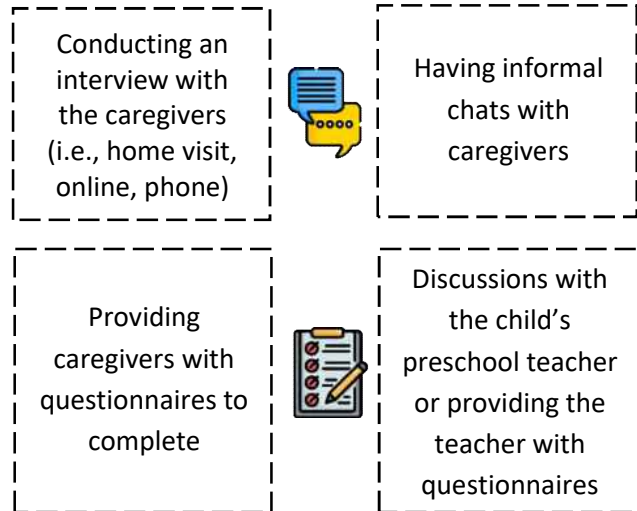- Every Move Counts: Sensory-Based Communication Techniques (Korsten et al., 1993)

After the SRO

The BDs gathered by the various EI team members are to be consolidated in the GCO Working and Meeting Record (GCOWMR). These will be reviewed together with the information from routines at home and in the community.

6.2 Information from Routines at Home and in the Community

Information about the child's functioning at home and in the community is gathered as part of family-centred practice. The information, together with those collected from SRO, contributes to the building of a comprehensive understanding of the child's strengths, weaknesses and level of functioning in various contexts.

The boxes on the right are some possible ways of collecting information about routines at home and in the community (non-exhaustive).

Conducting an interview with the caregivers (i.e., home visit, online, phone)	Having informal chats with caregivers
Providing caregivers with questionnaires to complete	Discussions with the child's preschool teacher or providing the teacher with questionnaires

Similar to the information collected from SROs, these information are to be written as BDs but are termed 'home BDs'.

The next section describes how an interview can be conducted with caregivers to collect home BDs.

Interview with Caregivers

Conducting an interview with caregivers is useful for building rapport and helps the EI team to understand the routines, roles, and culture of the child and family. In addition, the interview also allows caregivers to share their concerns and intervention priorities for the child.

A good interview yields an accurate picture of how the child engages in his or her natural environments. It provides insights on:

What everyone else does during the routine	What the child says and does	How the child participates	How independent the child is
Whether the child interacts with peers or adults	What knowledge the child has	How the child uses the knowledge	The family's satisfaction with the routines

(McWIlliam, 2010)

Table 6-1 suggests how the interview with caregivers can be structured to facilitate the collection and recording of information (e.g., home BDs, parent's concerns and priorities). It provides a guide on what may be done before, during and after the home interview.

Table 6-1. *Structuring the Interview with Caregivers.*

BEFORE	**Prepare the Caregiver** • Arrange an interview time and date with the caregiver • Inform them on the purpose and duration of the interview • Discuss if other carers should be present **Plan for the Interview** • Gather materials that may be needed, including any questionnaire that the caregivers may have completed ahead of time • Arrange for a colleague to be a note-taker so that the interviewer can focus on conducting the interview • Read up on child development milestones, including the skills that a child of the chronological age may develop or are developing. Consider possible functional performance behaviours in specific routines (refer to ***Appendix 6.5.1: Functional Assessment - Prompts & Pointers***). • Consider practising with a colleague prior if practitioner is new to interviewing caregivers
DURING	**How to Start the Interview** • Explain the purpose and duration of the interview • Prioritise 2-3 routines to discuss • Consider caregivers' main concerns and routines/skills unobservable at the EI centre • Thereafter, continue to find out about other routines as relevant and if time permits Throughout the interview, collect detailed and relevant information • Keep in mind the format of BDs (i.e., ATC) and ask specific questions to clarify them • Consider what is significant to record **Tips when Conducting the Interview:** • Be genuine and informal, avoid using jargons • Use non-verbals to affirm and show empathy/comprehension • Ask open-ended questions, e.g., "Tell me more…" **Practice Active and Reflective Listening:** • Empathise • Summarise • Paraphrase **How to End the Interview** • Summarise what has been discussed, including the family's concerns and priorities • Provide brief information on what the family can expect next
AFTER	**Collate Information** • Use the information from the interview to write down significant home BDs, caregiver's concerns and priorities. • Record the home BDs in the GCOWMR.

6.3   The GCO Working and Meeting Record

The GCO Working and Meeting Record (GCOWMR) is a team document to consolidate information for the GCO Meeting. It is an Excel workbook designed to capture the following information:

- Child details (e.g., child's demographics, child and family information)
- Significant school and home BDs and their respective GCO Classifications
- Inference statements* and key BD examples selected
- FAEs for the GCOs
- Focus of intervention and goals

** Inference statements are succinct descriptions of the child's patterns of behaviours based on the significant functional performance BDs collected (refer to **Chapter 7**).*

Refer to **Appendix 6.5.4: GCOWMR v5 User Guide** on the use of GCOWMR.

After recording the BDs in the GCOWMR, the EI team should check if sufficient BDs have been collected by considering the BDs' GCO classifications, contexts, sources, quality and significance. There should be adequate BDs to reflect the child's functioning across the 3 GCOs, while meeting the minimal requirement of BDs (refer to **Appendix 5.4.1: Guidelines for the GCO Process**). Otherwise, the team should schedule more observations to ensure those criteria are met.

6.4   GCO Process: Entry, Review and Exit

GCO Entry Process

The GCO Entry Process starts when a child is newly enrolled in the EI centre. Figure 6-2 shows the workflow.

GCO Review/Exit Process

In the collection of information, there are some differences between the GCO Entry Process and the GCO Review/Exit Process, specifically in the quantity, types and collection methods of 'school BDs' and 'home BDs'. Refer to **Chapter 9** for more information.

Figure 6-2. *Understanding the Child in Natural Routines During the GCO Entry Process.*
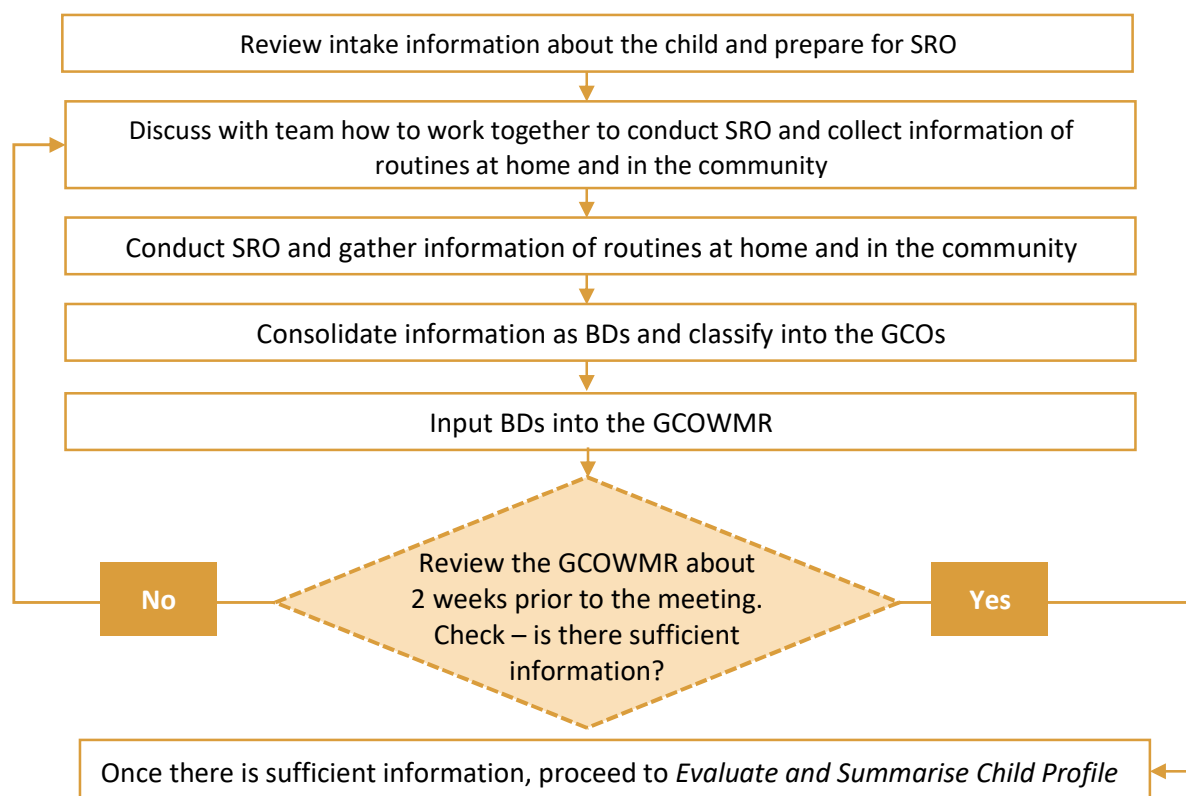
After high-quality BDs are collected to understand the child in his/her natural routines, the next step for the EI team is to evaluate and summarise the child's profile. This will be explained in **Chapter 7**.

6.5   Appendices

6.5.1   Functional Assessment: Prompts & Pointers

- o   Routines in school

- o   Routines at home and in the community

6.5.2   SRO Form

6.5.3   GCO Working and Meeting Record (v5)

6.5.4   GCOWMR (v5) User Guide

6.6   References

Casey, A. M., & McWilliam, R. A. (2008). Graphical feedback to increase teachers' use of incidental teaching. *Journal of Early Intervention, 30*(3), 251–268. https://doi.org/10.1177/1053815108319038

Christensen, K. A., Mandell, C. J., & Davis, A. B. (2002). *Assessment for program planning: Creating individualized learning profiles (ILP) for young children with multiple, intensive special needs*. Young Exceptional Child: Monograph Series No. 4.

Klein, M.D., Chen, D., & Haney, M. (2000). *Promoting Learning Through Active Interaction: A Guide to Early Communication with Young Children Who Have Multiple Disabilities.* Paul H. Brookes Publishing Co., Inc.

Korsten, J.E., Dunn, D.K., Foss, T.V., & Francke, M.K. (1993). *Every Move Counts: Sensory-Based Communication Techniques*. Therapy Skill Builders.

McWilliam, R. A. (2010). *Routines-Based Early Intervention Supporting Young Children and Their Families.* Baltimore: Paul H. Brookes Publishing Co., Inc.

McWilliam, R. A., & Bailey, D. B. (1992). Promoting engagement and mastery. In D. B. Bailey & M. Wolery (Eds.), *Teaching infants and preschoolers with disabilities* (2nd ed., pp. 229–256). Merrill.

CHAPTER 7

Evaluation and Summary of Child Profile

After the early intervention team collects significant behaviour descriptions about the child's current functioning in his/her natural routines, it evaluates and summarises the child's profile through a GCO Meeting. This chapter describes:

- *Outputs of a GCO Meeting which includes Functional Age Estimates and GCO Summary*
- *Steps to derive Functional Age Estimates*
- *The roles and responsibilities of the early intervention team during a GCO Meeting*

It will also highlight how a GCO Entry Meeting is conducted.

7.1   GCO Meeting

The GCO Meeting is a platform for the EI team to discuss, evaluate and summarise a child's profile. The outputs are the child's functional age estimates (FAEs) and GCO Summary across the 3 GCOs as shown in Figure 7-1. These outputs become inputs for setting functional goals. The progress of the child in the each of the GCOs are monitored yearly for the child receiving early intervention (EI) at an EI centre.

Figure 7-3. *The GCO Process.*
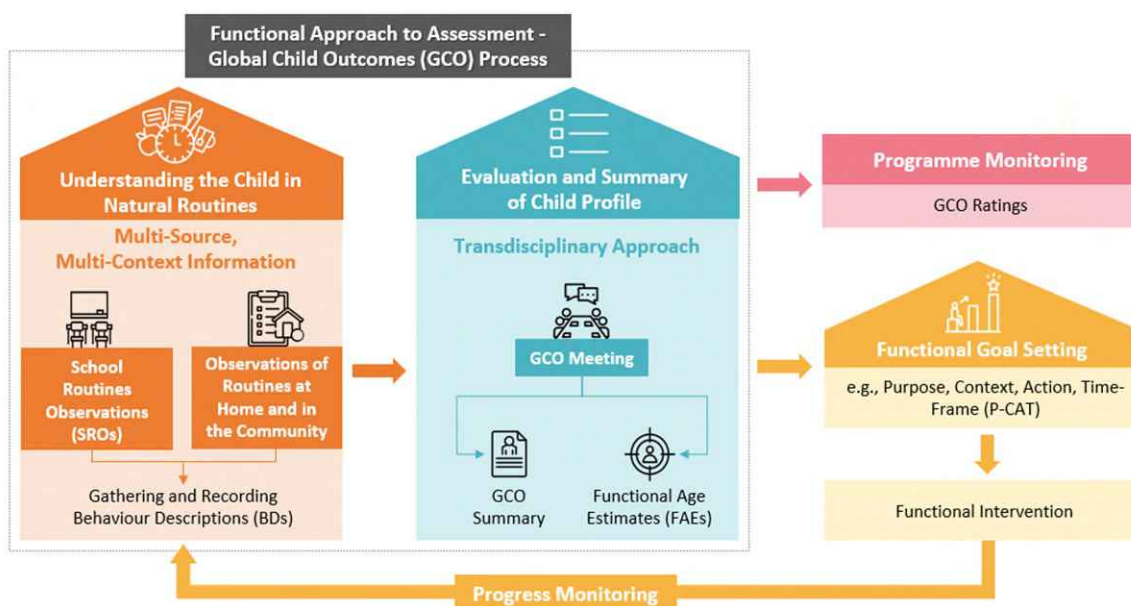
Outputs of GCO Meeting

Functional Age Estimates (FAEs)

As introduced in Chapter 3, an FAE is the age estimate (in the form of an age band) agreed upon by the EI team when evaluating the functioning of the child in each GCO. The selection of the most representative FAE for each GCO occurs at two time points.

Before the GCO Meeting	During the GCO Meeting
Individual team members independently decide the child's FAE for each GCO, based on the collated behaviour descriptions (BDs). The FAEs should be submitted to the GCO Leader at least one day before the GCO Meeting.	Team members consider all the evidence and agree on the FAE that best describes the child's functioning in each GCO.

GCO Summary

A GCO Summary is a qualitative narrative that paints a holistic picture of a child's functioning in all 3 GCOs. It allows the professionals supporting the child and the caregivers to have a shared understanding of the child's level of functioning. This encourages engagement of the caregivers in setting of goals and progress updates.

A GCO Summary has three key characteristics:

1. Describes the child's patterns of behaviours succinctly from a **holistic** and **functional** perspective.

- Includes information from multiple sources and multiple contexts (e.g., supporting BDs from school and home)
- Covers all 3 GCOs and the relevant themes/threads
- Focuses on the child's strengths

2. **Individualised** for the child.

- Includes information and specific BDs that are unique to the child and his/her family

3. **Clear** and easily understood by the family.

- Written in a manner that is easy to understand and free of jargon

Format of a GCO Summary

GCO Summary

GCO 1
- Inference statements
- BD examples

GCO 2
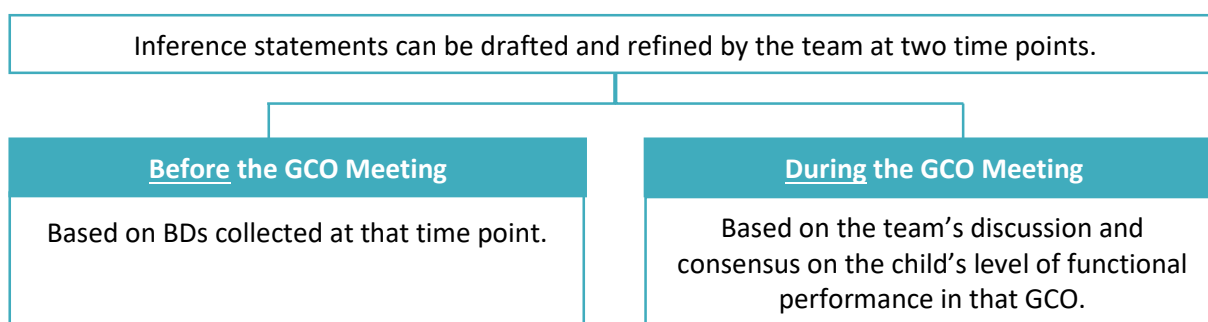- Inference statements
- BD examples

GCO 3
- Inference statements
- BD examples

A complete GCO Summary presents the 3 GCOs in sequence – GCO 1 and its respective themes (i.e., GCO 1.1, 1.2, 1.3), followed by GCO 2 and GCO 3.

It is made up of inference statements describing the child's level of functioning in the relevant GCO themes/threads. Each inference statement is supported by at least 1 to 2 significant BDs.

Overall, each GCO should be supported by BDs in different settings. You can find an example in **Appendix 7.5.1: Samples of GCO Summary**.

Inference statements are succinct descriptions of the child's patterns of behaviours based on the significant functional performance BDs collected.

Inference statements can be drafted and refined by the team at two time points.	
Before the GCO Meeting	**During the GCO Meeting**
Based on BDs collected at that time point.	Based on the team's discussion and consensus on the child's level of functional performance in that GCO.

Writing of inference statements can be a shared effort amongst members in the EI team. More information about how to write inference statements is explained in the upcoming section **Steps to Derive FAEs (Step 2)**.

Inference statements are finalised after the team's discussion and agreement during the GCO Meeting. The consolidated inferences statements and selected BDs will then form the child's GCO Summary.
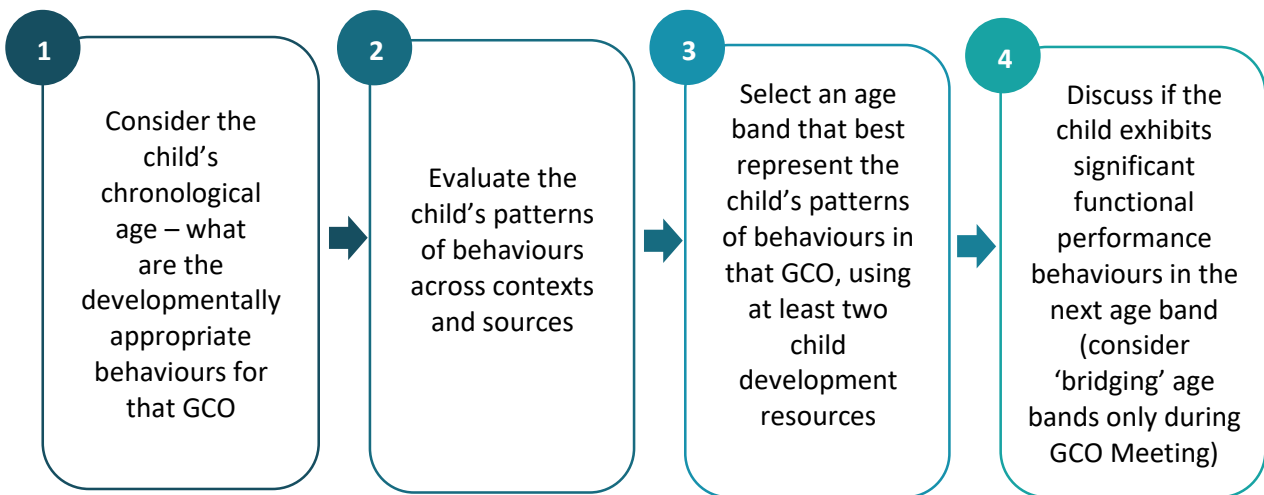
Where relevant, pertinent information such as capacity behaviours or domain-based skills could also be integrated to reflect their potential to be developed into functional performance behaviours.

Steps to Derive FAEs

A variety of significant BDs across GCO themes and threads are recorded in the GCOMWR before the team initiates the steps to derive FAEs. If there is an insufficient number or variety of BDs, the GCO Leader is responsible for informing the EI team to gather more significant BDs prior to the GCO Meeting.

Figure 7-2 shows the steps to evaluate and summarise assessment information for determining FAEs before/during the GCO Meetings.

Figure 7-2. *Steps to Derive FAEs.*

1	2	3	4
Consider the child's chronological age – what are the developmentally appropriate behaviours for that GCO	Evaluate the child's patterns of behaviours across contexts and sources	Select an age band that best represent the child's patterns of behaviours in that GCO, using at least two child development resources	Discuss if the child exhibits significant functional performance behaviours in the next age band (consider 'bridging' age bands only during GCO Meeting)

There are additional pointers for each step which can be used to guide individual members in their preparation for the meetings. These pointers are elaborated next.

1	**Consider the child's chronological age – what are the developmentally appropriate behaviours for that GCO?**
	• Be aware of the functional performance behaviours expected of a child at his/her chronological age for the GCO. Refer to at least two child development resources.

Examples of Guiding Questions	**Examples of Justification Statements**
• Does this child look like/present as a typically developing XX-month-old in this GCO? • What are the expected functional performance behaviours of a X-year-old child?	• "This child is 18 months old. I expect him to be able to… in GCO 1." • "Based on the ECHO AE Reference, a child who is 5 years old is able to… in GCO 3."

2	**Evaluate the child's patterns of behaviours across contexts and sources**

- Look at significant BDs and group similar behaviours within the same GCO themes/threads.
- Consider how often the behaviours occur across the different routines/activities (e.g., play time, snack time) and settings (e.g., home, EI centre), based on the sources of information (e.g., inputs from team members, caregivers).
- Consider the level of independence at which the child demonstrates the behaviours
- Use words that can describe the frequency of behaviours. Some examples include:
  - For learned skills: often, usually, all the time, etc.
  - For emerging skills: sometimes, occasionally, beginning to, starting to, etc.
- Write inference statements based on the format below:

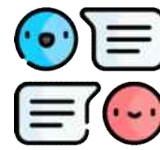> Child _____(frequency)_____(behaviour/action) by _____ (example of actions from BDs), __(setting)___.
>
> E.g., "Andy *often expresses positive emotions by smiling, laughing and clapping his hands, both at home and at the EI centre.*"

- Note down BDs that were referenced to formulate the inference statement, as they can be used to justify the inference statements.

Examples of Guiding Questions	**Examples of Justification Statements**
- How consistently/frequently is he/she displaying the skill/behaviour? (patterns of behaviour) - How independent is his/her performance? - What supports/accommodations are needed? - What is his/her level of engagement in those situations?	Analyse consistency of behaviour and highlight discrepancies across settings: - "*He demonstrated some behaviours that reflect the next age band, as shown in this BD... However, these behaviours were observed once or twice and only in school but not at home. He might not have shown sufficient significant behaviours to justify the next age band.*" Analyse level of independence: - "*He often initiates, responds and maintains interaction with familiar adults. However, he usually does so only when the topic is of interest to him, or when adults follow his lead (support/ accommodation needed).*"

	Integrating capacity behaviours and relate them to functional performance behaviours:
	• *"He was able to imitate building a train, bridge and wall using blocks during the (formal) assessment for motor skills, but he does not spontaneously play with blocks constructively when they are made available during free play. He often just lines them up based on colours and this is shown by BD…"*

3	Select an age band that best represent the child's patterns of behaviours in that GCO, using at least two child development resources
	• Based on the patterns of behaviours analysed in Step 2, refer to the ECHO AE Reference to determine which age band the child is likely presenting at for that GCO.
	• Refer to a second child development resource that shows similar behaviours which should be represented by the same/similar age band.
	• The ECHO AE Reference and child development resources should not be used as a checklist. Instead, look for similarities in the overall patterns of behaviours across both resources, and then compare it to the child's patterns of behaviours represented by the BDs and inference statements (if available).

Examples of Guiding Questions	**Examples of Justification Statements**
• Which age band does the child exhibit most behaviours in for the GCO based on the references? Is the child performing most of the skills expected of that age band? • How frequently/independently is the child exhibiting the behaviours?	• "Drawing reference from the ECHO AE Reference and Mary Sheridan[3], a 3-year-old child is expected to perform XYZ, which he does demonstrate frequently by…" • "He shows XYZ in different routines. This is consistent with the expected profile of a child described by the North Dakota Developmental Milestones[4]."

When Steps 1 to 3 are done before the GCO Meeting, the FAEs and inference statements are still considered provisional, and would only be finalised after the meeting.

---

[3] From Birth to Five Years: Children's Developmental Progress (Sheridan, 2007)
[4] ND Early Childhood Outcomes Process Age Expectation Developmental Milestones (North Dakota, 2008)

During the GCO Meeting, team members go through Steps 1 to 3 to justify their individual FAEs with specific evidence (i.e., BDs). When the team has agreed on an FAE that best represents the child's level of functioning for the GCO, proceed to Step 4.

4

> **Discuss if the child exhibits significant functional performance behaviours in the next age band (consider 'bridging' age bands only <u>during</u> the GCO Meeting).**
>
> - Discuss whether the child has functional performance behaviours in the next age band.
> - If there are functional performance behaviours observed to be in the next age band, consider:
>   - o Consistency/frequency of these behaviour across settings
>   - o Level of independence (support/accommodations needed or given)
>   - o Whether the BDs are representative of the age band
> - If the behaviours are deemed to be 'emerging',
>   - o The team can select the 'bridging' age band. Figure 7-3 shows the 'bridging' age bands which allows a finer discrimination of the child's functioning for the GCO.
> - If the child does not have any functional performance behaviours in the next age band,
>   - o The team's FAE will remain as the one selected in Step 3.

Figure 7-3. *The 19 Possible Age Bands.*
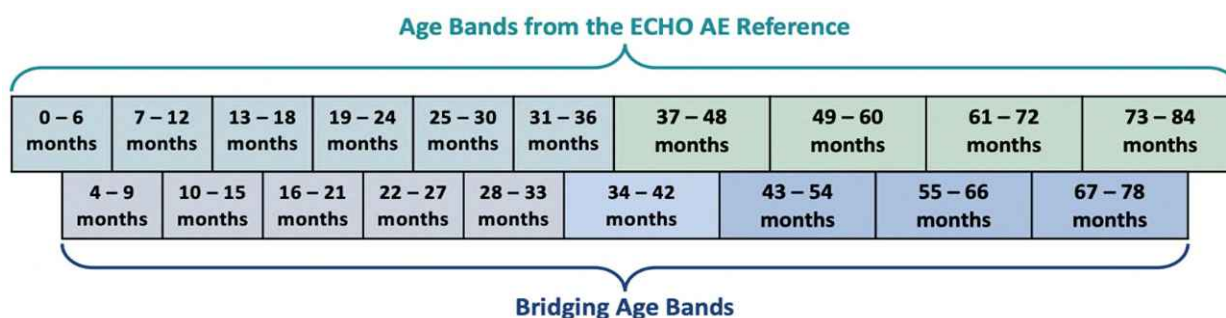
The team uses the FAE and GCO Summary to briefly summarise the child's strength, concerns and focus for intervention before concluding the GCO Meeting and proceeding to goal formulation. Therefore, it is important that each team member contributes by knowing their role and responsibilities for a successful and efficient GCO Meeting.

7.2   Roles and Responsibilities in GCO Meetings

The composition of team members participating in the GCO Meeting is largely dependent on the child's needs, manpower availability and the organisation's operational infrastructure. It is recommended to have at least 2 team members who work closely with the child and family to be involved in any GCO Meeting.

Before any GCO Meeting, a team member is appointed as the GCO Leader. The GCO Leader leads, keeps the meeting on track and facilitates discussion. The other EI team members may take on roles such as note taking and timekeeping, assigned by the GCO Leader. This helps to ensure an efficient and collaborative teaming process.

All members must be aware of their roles and responsibilities before, during and after a GCO Meeting. These are elaborated in Table 7-1.

Table 7-1. *Roles and Responsibilities of Team Members for GCO Meetings.*

	All Team Members (Including GCO Leader)	GCO Leader
Before GCO Meeting	• Review the GCOWMR to ensure that sufficient BDs are collected across the relevant GCO themes/threads and across different contexts • Review all relevant information collected on the child (e.g., BDs, assessment results, routines at home and in the community) to derive individual FAEs (and inference statements) • Submit individual FAEs to GCO Leader at least 1 day before the GCO Meeting • Prepare key points that justify the FAEs and bring them for discussion during the GCO Meeting	• Compiles individual FAEs from each team member
During GCO Meeting *Additional responsibilities such as note taker and timekeeper may be allocated to specific team members*	• Bring relevant information for discussion (e.g., BDs, relevant child's work, child development resources, assessment results) • Contribute actively to discussions by sharing findings/observations • Agree on the child's strengths, concerns and focus for intervention	• Leads discussion and facilitates equal contributions from the team members • Summarises and probes for supporting evidence to reach a consensus on the FAEs
After GCO Meeting	• Help to review and finalise GCO Summary	• Finalises FAEs and GCO Summary after meeting with caregivers

The team members may either continue with planning of functional goals immediately after the GCO Meeting or at a different allocated time.

In general, there are three key aspects to an efficient and successful GCO Meeting:

| 1 Preparation and Beginning | 2 GCO Meeting-Specific Process | 3 Team Process and Consensus |

These key aspects will be elaborated in the next section based on the GCO Entry Meeting. They correspond to and can be evaluated using the GCO Meeting Checklist, which can be utilised for training, coaching and fidelity monitoring to ensure that the team has an efficient and high-quality meeting.

The next section will focus on the steps for a GCO Entry Meeting and illustrate how the key aspects can guide the flow of meeting.

7.3   GCO Entry Meeting

The GCO Entry Meeting is conducted within 10 weeks of the child's enrolment, before the formulation of the functional goals for the child's Individualised Educational Plan (IEP). It is scheduled after the EI team has collected sufficient significant BDs and recorded them in the GCOWMR.

There are two ways to conduct the GCO Entry Meeting. Table 7-2 provides a comparison of both flows.

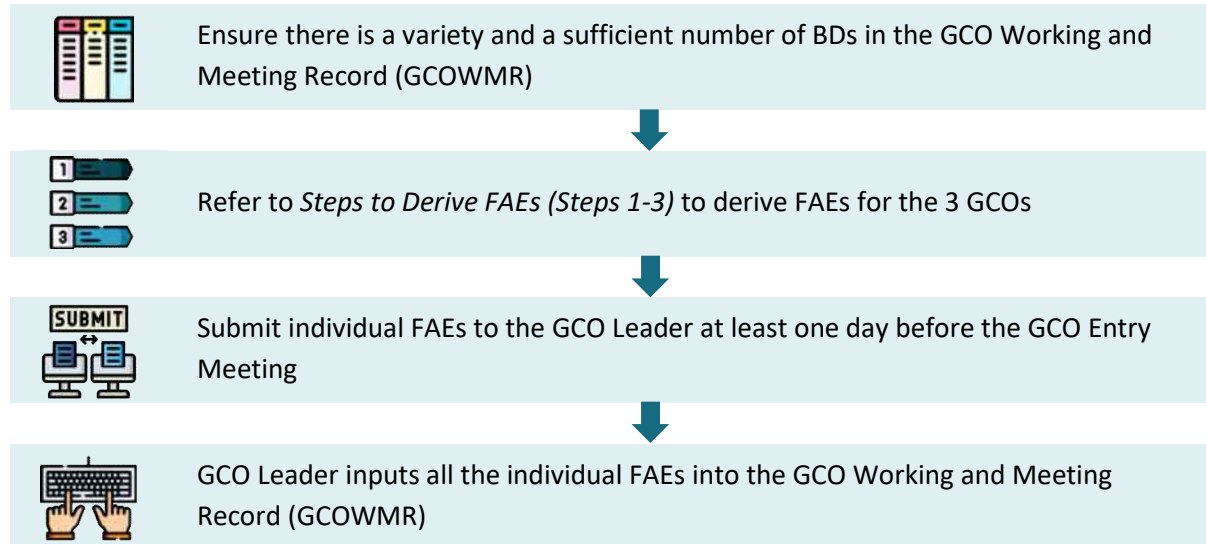**Table 7-2.** *Comparison of GCO Entry Meeting (v1) and (v2).*

	GCO Entry Meeting (v1)	**GCO Entry Meeting (v2)**
Structure of Discussion	Team discusses the child's functioning in the GCO first, then states the FAE and discusses evidence to justify the FAE.	Team states FAE first and uses evidence from the GCO themes and threads to justify the FAE, building the child's functional profile at the same time.
Recommended Users	Recommended as the default GCO Entry Meeting flow so that teams cover all relevant GCO themes and threads to have a clear picture of the child's functional profile.	Recommended for teams with experienced members who are very familiar with functional performance behaviours, GCO themes and threads, as well as key concepts in the GCO Process.

The flows differ in how the child's functional profile is being built (i.e., whether the team discuss the child's patterns of behaviours before or as part of the FAE discussion). The underlying principles that the team considers when discussing the FAEs remain the same and have been covered in the section *Steps to Derive FAEs (Steps 1-4)*. The quality and quantity of evidence presented in the meeting also do not differ.

The GCO Entry Meeting (v1) flow is used as the basis to illustrate the meeting flow below. Refer to **Appendix 7.5.3: GCO Entry Meeting (v2) Flowchart** for the other version.

Before the GCO Entry Meeting

The steps each member takes before the GCO Entry Meeting is outlined below.

	Ensure there is a variety and a sufficient number of BDs in the GCO Working and Meeting Record (GCOWMR)
	Refer to *Steps to Derive FAEs (Steps 1-3)* to derive FAEs for the 3 GCOs
	Submit individual FAEs to the GCO Leader at least one day before the GCO Entry Meeting
	GCO Leader inputs all the individual FAEs into the GCO Working and Meeting Record (GCOWMR)

During the GCO Entry Meeting

Here, the three key aspects of the GCO Entry Meeting will be elaborated with reference to the GCO Meeting Checklist (Entry). The corresponding items in the GCO Meeting Checklist are highlighted in the box on the right with rationale included. While using the checklist, it is important to refer to **Appendix 7.5.5: GCOM Rating Alignment for SSAs (Entry)** to also understand the rating considerations for each criterion.
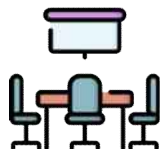
Key Aspect 1: Preparation and Beginning

Before Meeting

GCO Leader collates and records each team member's individual FAEs in the GCOWMR	**1.2** This ensures that all team members had independently decided on the FAEs for each of the 3 GCOs based on all BDs collected.

Select a conducive and private place to conduct the meeting

1.1
This ensures that the meeting can be conducted efficiently and confidentially. Ongoing documentation during the meeting ensures that discussions and updates are captured.

Start of Meeting

GCO Leader/any appointed member:

- Verbally states the child's full name and a second unique identifier (e.g., date of birth)

- Brings documents related to the child, e.g., BDs in GCOWMR, standardised assessment forms, any other feedback (caregivers, teachers, preschool)

- Highlights child's chronological age and diagnosis/medical condition, explained clearly in easy-to-understand terms to ensure that the team understands the information and how it may impact on the child's functioning

1.3
This ensures that discussions are objective and can be supported by documented observations.

1.4
This ensures that all team members are discussing the same child and have brought the correct documents related to that specific child.

1.5
This ensures that all team members consider child's chronological age when discussing the FAEs and the possible impact of diagnosis/medical condition on the child's functioning. Have brought the correct documents related to that specific child.

Discuss the child's and family's background. The depth of information on the child's background will be at the team's discretion. Areas to mention may include the following and/or any changes to them:

- Family composition
- Financial stressors/issues (e.g., high-risk families?)
- General 'feel' of the family (e.g., keen to work with the centre?) / Update of family and centre working relationship
- Main caregiver
- Child's school (e.g., preschool or childcare)
- Other services received

1.6
This supports family-centred practice and provides contextual factors surrounding the child's functioning and behaviours.

Having set the scene for the meeting, the team proceeds to discuss the child's functioning based on the GCO. **Key Aspect 2** focuses on the following for each of the 3 GCOs:
- Drafting and/or refining the inference statements
- Coming to a team consensus for the FAE
- Identifying the appropriate focus for intervention

Key Aspect 2: GCO Meeting-Specific Process
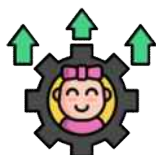
Establish child's current level of functioning in GCO 1:
- Discuss the functional performance behaviours demonstrated by the child for GCO 1 by considering the relevant GCO themes and threads

- This discussion is supported by at least 3 significant functional performance BDs per GCO theme

- The BD evidence are from multi sources and multi contexts

- The GCO Leader (or any team member) asks guiding questions to enrich the discussion

- If the team has drafted inference statements before the GCO Meeting
  - Share, discuss and refine the information based on the BDs discussed

- If inference statements have not been drafted
  - Initiate formulating the statements based on *Step 2* under the section *Steps to Derive FAEs*

2.1 *This ensures that the team's discussion leads to a holistic picture of the child's functioning for the GCO. By considering all three themes, the discussion can present the full range of strengths, challenges, and functioning across all aspects of the GCO.*

2.3 *This ensures that team members consider all relevant threads to have a holistic understanding of the child's level of functioning within each GCO theme.*

2.2 *This ensures that the discussion of the child's functioning in each GCO is objective and based on BDs as evidence. BDs should be in ATC format as each component of ATC would provide specific details for the team to consider the child holistically.*

2.4 *This ensures that the child's behaviours are considered across settings to obtain a consistent and holistic picture of the child's current level of functioning.*

2.5 *This ensures that observations from people who interact with the child are reflected and discussed. This helps the team develop a holistic picture of the child's current stage of development.*

The team discusses functional performance behaviours primarily

- If capacity behaviours or domain-based skills are mentioned, they should be integrated but still differentiated from functional performance behaviours

2.6

This ensures that the emphasis is placed on functional performance in everyday routines. If there are domain-based skills/capacity behaviours mentioned to support emerging skills, they should be discussed to provide an insight to the child's potential even though they do not change the child's FAEs.

Discuss which FAE best represents the child's level of functioning in GCO 1.

2.7

This ensures that the team has a shared and objective understanding of what is age-expected by referring to 2 or more child development resources.

The GCO Leader presents the individual FAEs submitted by the team members. Members take turn to justify their FAE or support another member's FAE using other child development resources alongside the ECHO AE Reference. This corresponds with *Step 3* described in *Steps to Derive FAEs.*

- Make sure specific BD evidence are used as evidence

- If there are 2 or more FAEs presented, it is recommended to start the discussion using the higher or mid-range FAE

  o This allows a more efficient discussion as it can be assumed that other team members would have agreed with the lowest age band

- If team members have the same FAE, they can value-add to the discussion by stating *new* points, or at least mention their agreement with what has been shared

Once the team has selected an FAE that represents the child's level of functioning,

- Consider whether the child exhibits significant functional behaviours in the next higher age band, using functional performance BD examples to support. This corresponds to **Step 4** described in **Steps to Derive FAEs.**

- To facilitate discussion, the GCO Leader can ask the three questions listed in Figure 7-4.

The team repeats the above for GCO 2 and GCO 3 until the team agrees on FAEs for all GCOs.

2.8

This ensures that all team members consider frequently exhibited behaviours across all contexts instead of general impressions to support their FAEs.

2.9

This ensures that evidence and justifications from all team members have been heard, understood and assimilated to reach a FAE that best describes the child's functioning.

The team then considers if there are any challenging behaviours.

2.10

This ensures that any challenging behaviours are addressed and goals can be set to reduce these behaviours.

Summarise the child's strengths and concerns, and identify appropriate focus for intervention for each GCO.

- This can be done after discussion for each GCO or after all 3 GCOs have been discussed.

2.11

This ensures the team agrees on the overall profile of the child, including strengths and concerns, and uses this information to consider the areas to focus for intervention.

Figure 7-4. *Decision-Making Process to Reach Consensus on the Team's FAE for each GCO.*
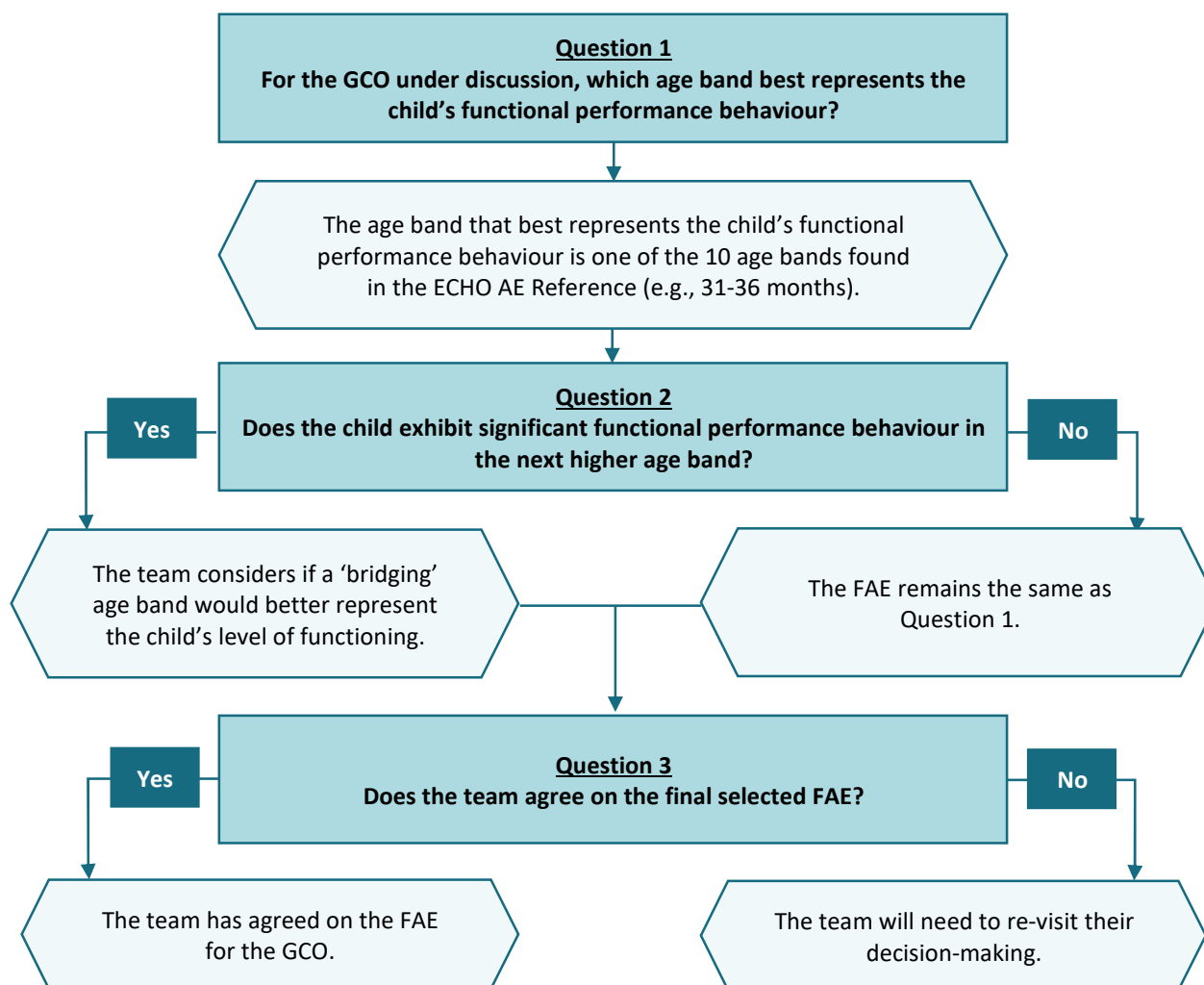

Tips for Teams who have Difficulty in Reaching Consensus

Revisit Steps 1 and 2 in *Steps to Derive FAEs*

- Check to see if there is agreement in classification of BDs into GCOs, spread of BDs is comprehensive and representative, and ensure that they are functional performance behaviours.

- Share examples from multiple perspectives, and justify by referencing the ECHO AE reference and other child development resources.

- If the team is undecided between two adjacent age bands, consider selecting the 'bridging' age band.

Key Aspect 3: Team Process and Consensus

Key Aspect 3 is about the general interaction between members throughout the discussion. This ensures presence of collaborative, consultative team practices (i.e., transdisciplinary approach).
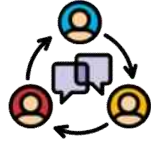
To do well in this aspect, all team members should:

- Minimise the use of jargon

- Show mutual respect. Examples of this may include:

  ○ Being on time and helping to set up meeting room

  ○ Showing responsive behaviours that illustrate active listening and responding

  ○ Allowing time for others to finish their thought before replying or moving on

  ○ Actively including others in the discussion

  ○ Listening empathically to others

3.1
This ensures a shared understanding of the child's profile in plain language across team members and parents.

3.2
This encourages collaborative, consultative, and transdisciplinary team practices.
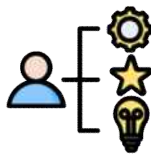
The GCO Leader demonstrates good management skills. Examples of what he/she does includes:

- Assigning roles within the team (e.g., note-taker, timekeeper) so that he/she can focus on facilitating the meeting

- Facilitating high-quality discussion and ensures equal contribution from all members:

  ○ Asks open-ended questions that stimulate discussions (e.g., so how does he show…)

  ○ Ensures that the team focuses on relevant topics (i.e., stay on track) and not go off tangent (e.g., threads, examples, concerns)

  ○ Ensures that the team does not dwell on domain skills (e.g., palmer grasp)

  ○ Ensures that all team members contribute relevant evidence

  ○ Probes sufficiently to explore all team members' functional age estimation (e.g., Question: Could it be lower?)

3.4
This ensures that the GCO Leader keeps the meeting on track, facilitates discussions from all team members, clarifies and summarises information.

3.3
This ensures that team members contribute to a rich discussion of the child's profile.

- Uses effective communication techniques
  - Checks the understanding of team members by paraphrasing and summarising information
  - Summarises team members' contribution to reach consensus effectively and efficiently

After the GCO Entry Meeting

Finalising the GCO Summary

The inference statements and supporting significant BDs are collated during/after the GCO Entry Meeting to form the GCO Summary. The GCO Summary is then shared with caregivers at least a few days before the parent-teacher conference (PTC). This allows caregivers sufficient time to read through the EI team's evaluation and summary of the child, and to provide additional input, if any.

Finalising the FAEs

After the child's family reads and agrees with the GCO Summary, the EI team proceeds to finalise FAEs discussed during the GCO Meeting.

Tips for when FAEs are Disputed or when Parents Disagree with the GCO Summary

- Parents or any other EI team members who were not present during the GCO Meeting might disagree with the team's FAEs and/or GCO Summary for the child.

- It is recommended that EI centres set guidelines on how to resolve disputes, and below are a few considerations.

  - To raise disagreement within *X* number of days (e.g., 3 days after GCO Meeting) to GCO Leader and supervisor/coach.
  - If disagreement can be supported by evidence, the EI team can reconvene and re-evaluate the evidence (BDs) with supporting child development resources. It is encouraged that a coach or supervisor be present during these meetings.
  - Update FAEs and GCO Summary as necessary when team and parents agree

Refer to *Appendix 7.5.6: Explaining the GCO Summary to Families* on what to look out for when discussing the GCO Summary with families.

7.4   GCO Review/Exit Meeting

There are some differences between the preparation for and conducting of the GCO Entry Meeting and the GCO Review/Exit Meeting. Refer to *Chapter 9* for more information.

The next chapter will detail how the outputs (FAE and GCO Summary) support functional goal setting.

7.5 Appendices

7.5.1 Samples of GCO Summary

7.5.2 GCO Entry Meeting (v1) Flowchart

7.5.3 GCO Entry Meeting (v2) Flowchart

7.5.4 GCO Meeting Checklist (Entry)

7.5.5 GCO Rating Alignment Document (Entry)

7.5.6 Explaining GCO Summary to Families

CHAPTER 8

Functional Goals

The ECHO Framework recommends setting functional goals that are meaningful to the child and the family. This chapter describes what functional goals are, how to set functional goals following the GCO Process, and how to break them down into short-term objectives to monitor progress.

8.1 Functional Goals for IEPs

One of the intended outcomes of early intervention (EI) is for the children to develop skills in the 3 GCOs and use them meaningfully in everyday activities (Early Childhood Development Agency, 2021). In EI centres, transdisciplinary teams work closely with caregivers to create Individualised Educational Plans (IEPs) for the children. The goals set in the IEPs reflect the priorities of the caregivers and the individual needs of the children and are usually reviewed every six months.

The setting of functional goals follows closely from the GCO Meeting in which the FAEs are determined and focus for intervention are narrowed. The FAEs of the 3 GCOs form the baseline profile of the children, whilst the focus for intervention would provide some direction for the goals to set.

---

*Definition: **Individualised Educational Plan (IEP)***

A customised plan to chart the child's learning and developmental growth. The IEP contains details such as the assessment outcomes, intervention needs as well as the review of the child's progress during the period of support.
(Early Childhood Development Agency, 2021, p. 33)

The goals set should be functional – relevant for the children and families. This allows greater permeability of skills learnt, between the EI centres and the natural environment where the skills are often used.

---

*Definition: **Functional Goal***

A functional goal is a goal that:
1) reflects the priorities of the family,
2) is useful and meaningful,
3) reflects real-life situations,
4) is free of jargon, and
5) is measurable.
(McWilliam, 2010, p. 94)

8.2   Functional Approach to Goal Setting

There are two main approaches to formulating goals: developmental approach and functional approach (McWilliam & Casey, 2008). The developmental approach sets goals based on developmental milestones (e.g., communication, cognitive, physical) that the children have not yet mastered (McWilliam, 2010). In contrast, the functional approach focuses on finding out what works for the children and the families, and aims to develop skills that support the children's participation in everyday activities (McWilliam & Casey, 2008).

Examples of developmental and functional goals are shown in Table 8-1.

Table 8-1. *Examples of Developmental Goals versus Functional Goals.*

Developmental Goal	Functional Goal
Gross Motor Development: Kate will maintain a balanced sitting position for 10 minutes without support. Fine Motor Development: Kate will pick up small objects between her finger and thumb using an 'inferior' pincer grip 4 out of 5 times. Adaptive Development: Kate will demonstrate finger-feeding independently during meals.	Kate will sit at the table and participate in meals by feeding herself during snack time in EI Centre and breakfast at home. We know she can do this when she picks up small pieces of food (e.g., cereals, puffs) with her thumb and index finger and brings them to her mouth, during two meals a day, across 4 consecutive weeks.

The formulation of functional goals has several advantages over developmental goals.

Kate's participation in mealtimes (a common daily routine) is enabled through the integration of gross motor, fine motor and adaptive skills. This contributes to her independence in her daily routines (GCO 3) and also reduces the number of goals in her IEP as goals are no longer written as isolated developmental goals in her IEP.

Including a context (e.g., snack time) in which the skills (e.g., maintaining a balanced sitting position) can be applied to everyday routines makes the goal meaningful for Kate and her family.

Replacing technical terms (e.g., 'inferior pincer grip') also helps to keep goals simple and easy to understand for caregivers.

> **Key Points**
>
> Functional goals should
> - Address family's concerns and priorities
> - Focus on the child's participation in developmentally appropriate and everyday activities to promote engagement
> - Describe a specific behaviour or action that can be observed and measured
> - Be written in clear and simple language that is easily understood by everyone involved in the child's development
> - Be specific, measurable, achievable, relevant and time-bound (S.M.A.R.T.)

8.3   Components of Functional Goals

In the ECHO Framework, four components are considered when formulating functional goals: Purpose (P), Context (C), Action (A) and Timeframe (T). These components can be referred to by the acronym P-CAT and were adapted from the Goal Functionality Scale III by McWilliam (2009).

The P-CAT format provides a guide to the formulation of functional goals, and ***Appendix 8.5.1: Functional Goal Template*** serves as a useful tool for this process. It is important to note that the components of P-CAT need not be in any particular order, as long as they are present in the goal. An example of how P-CAT can be applied is shown in Figure 8-1.

P-CAT
- **P**urpose
- **C**ontext
- **A**ction
- **T**imeframe
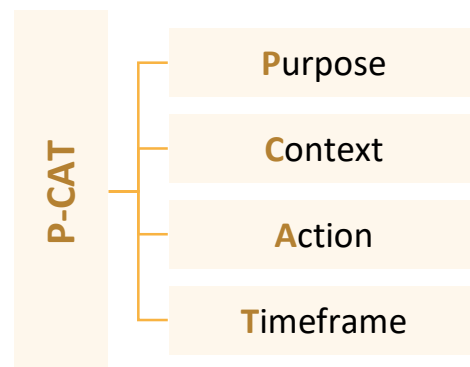
Note. Adapted from *Goal Functionality Scale III* by R. A. McWilliam, 2009, TEIDS-Plus Study, Siskin Children's Institute.

Figure 8-1. *Example of a Functional Goal Written in P-CAT Format.*

Purpose	Context
John will get his needs met,	during snack time with his teachers at EI Centre and during dinner time with his parents at home.

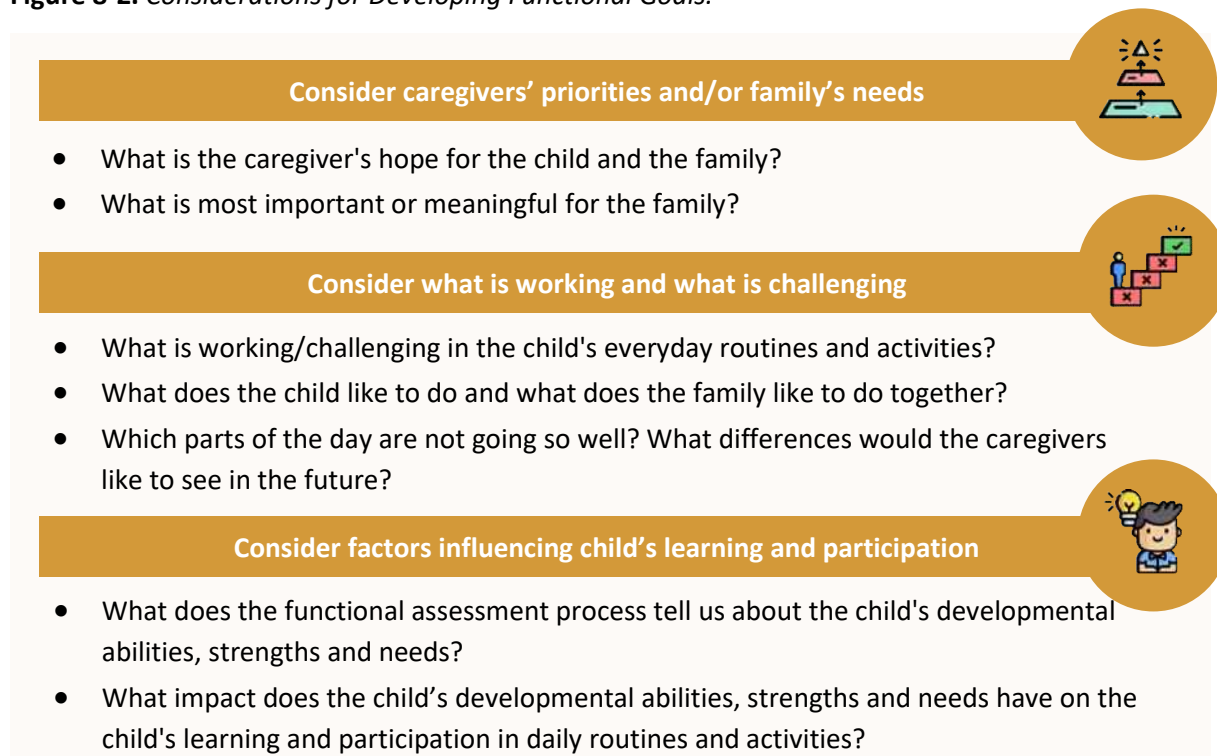| Action	Timeframe
We know that he can do this when he requests for a desired food or drink by selecting a picture of it from his communication book and giving it to his teachers or parents,	twice a day (once at home and at EI Centre), across 4 consecutive weeks.

Purpose

The 'purpose' provides the basis for goal setting and establishes a link to the GCOs. It points us to what the goal means to the child and answers the question 'Why is the child working towards this goal?'

During the GCO Meeting, the EI team discusses the child's current level of functioning and determines the FAEs. At the end of the meeting, the team identifies the strengths, weaknesses, and focus for intervention for each GCO. This information is important and helps to determine the 'purpose' of the P-CAT goal. Other considerations that should be taken into account when formulating the 'purpose' are shown in Figure 8-2.

Figure 8-2. *Considerations for Developing Functional Goals.*

Consider caregivers' priorities and/or family's needs

- What is the caregiver's hope for the child and the family?
- What is most important or meaningful for the family?

Consider what is working and what is challenging

- What is working/challenging in the child's everyday routines and activities?
- What does the child like to do and what does the family like to do together?
- Which parts of the day are not going so well? What differences would the caregivers like to see in the future?

Consider factors influencing child's learning and participation

- What does the functional assessment process tell us about the child's developmental abilities, strengths and needs?
- What impact does the child's developmental abilities, strengths and needs have on the child's learning and participation in daily routines and activities?

Note. Adapted from *Developing High-Quality, Functional IFSP Outcomes and IEP Goals Training Package* by A. Lucas et al., 2014 (https://ectacenter.org/~pdfs/knowledgepath/ifspoutcomes-iepgoals/Guidance_for_Trainers.pdf). In the public domain.
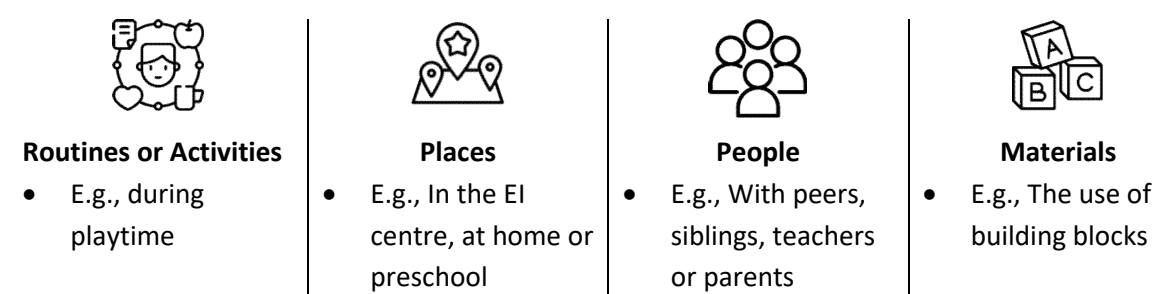
The 'purpose' of the goal can be written in the format: | **'Child will (GCO theme and/or GCO thread)'** |

By using the GCO theme and/or thread, the goal is linked directly to functional child outcomes based on the GCO selected. It is recommended that the 'purpose' of the goal reflects only one GCO theme and/or thread to keep the goal specific. Functional goals that are specific allow the EI teams, including caregivers, to know what is to be achieved for each goal, and when (timeframe) they will be achieved.

An example of 'purpose' in a P-CAT goal would be: | John will **get his needs met** (GCO 3.1.1) |
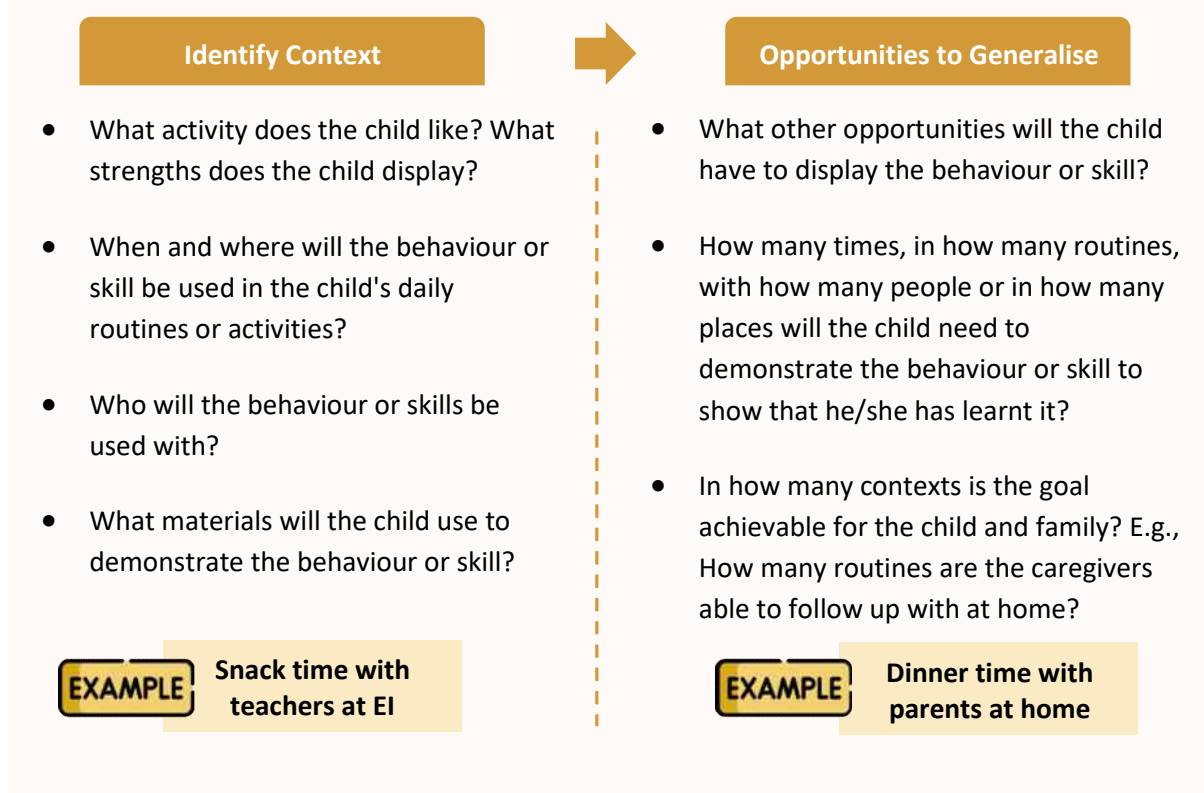
Context

'Context' in P-CAT refers to the circumstances in the child's natural environment in which a behaviour or skill is demonstrated. In the ECHO Framework, this may include and is not limited to:

Routines or Activities	**Places**	**People**	**Materials**
• E.g., during playtime	• E.g., In the EI centre, at home or preschool	• E.g., With peers, siblings, teachers or parents	• E.g., The use of building blocks

Selecting contexts that are meaningful to the child when setting goals increases natural learning opportunities for generalisation, and motivation to apply skills. To ensure generalisability, goals should include the extent to which the child will demonstrate the behaviour or skill across routines, places, people, situations, or materials.

The guiding questions shown in Figure 8-3 can be used to identify 'context' with consideration given to generalisation when formulating goals.
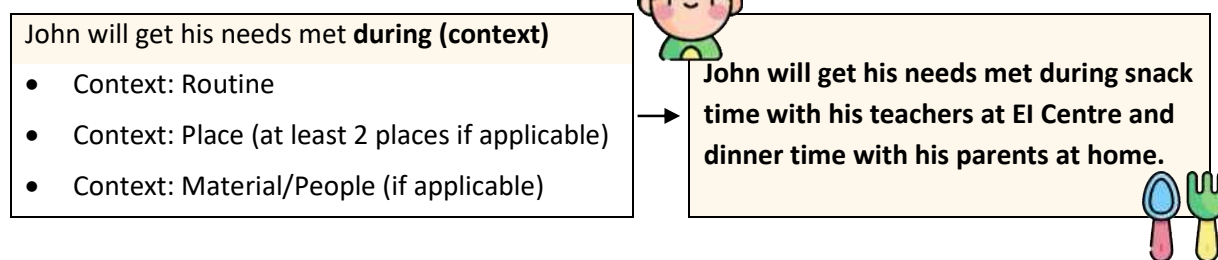
Figure 8-3. *Identifying Contexts and Ensuring Generalisability in Goals.*

Identify Context	**Opportunities to Generalise**
• What activity does the child like? What strengths does the child display?	• What other opportunities will the child have to display the behaviour or skill?
• When and where will the behaviour or skill be used in the child's daily routines or activities?	• How many times, in how many routines, with how many people or in how many places will the child need to demonstrate the behaviour or skill to show that he/she has learnt it?
• Who will the behaviour or skills be used with?	
• What materials will the child use to demonstrate the behaviour or skill?	• In how many contexts is the goal achievable for the child and family? E.g., How many routines are the caregivers able to follow up with at home?
EXAMPLE Snack time with teachers at EI	**EXAMPLE** Dinner time with parents at home

The 'context' of the goal can be written in the format: 'Child will… **during (context)**'

Refer to Figure 8-4 for an example of 'context' in a P-CAT goal.

Figure 8-4. *Example of Context in a P-CAT Goal.*

John will get his needs met **during (context)**

- Context: Routine

- Context: Place (at least 2 places if applicable)

- Context: Material/People (if applicable)

→ **John will get his needs met during snack time with his teachers at EI Centre and dinner time with his parents at home.**

Action

The third P-CAT component, 'action', refers to the behaviour or skill the child is expected to learn. 'Action' should be clearly written as what the child says or does in a way that is observable, measurable, and reflects the 'purpose' of the goal. Words such as 'improve', 'increase,' or 'tolerate' are not recommended as they are not clear enough for the reader to objectively observe or measure the goal (McWilliam, 2010).

It is important to consider the developmental level and needs of the child, as well as the level of engagement in the routine or activity, when determining the 'action' for the goal. This should be done in consultation with the family, as they have a good understanding of the child's daily routines and whether the selected intervention meets their priorities. This good practice is in line with the EI pillar of family-centred practice as mentioned in *Chapter 2.*

The guiding questions in Table 8-2 can be used to determine 'action' for goals.

Table 8-2. *Determining the Actions for Goals.*

Consideration	Example
What is the child's current stage of development?	• How is the child currently participating in the routine or activity, e.g., the level of engagement? • What does the child's FAE tell me about his current level of functioning?
What is the next achievable stage of development for the child?	• What is the child's zone of proximal development (ZPD)? • What is known about the child's learning pace? • What opportunities does the child have to practise the behaviour or skill? • What impact does the child's diagnosis have on his participation?
What promotes the child's level of engagement?	• What are the child's strengths? • What interests, motivates or challenges the child?
What are caregivers' priorities?	• How does the 'action' contribute to the achieving of caregivers' goals or address caregivers' concerns?

Conditions that are necessary for an 'action' to take place can be included in the goal statement as part of the 'action'. Do note that conditions are not strategies, as explained in Figure 8-5.

Figure 8-5. *Conditions versus Strategies.*

Conditions	Strategies (Including Prompts)
● Adaptations, accommodations or supports that the child requires to fully participate in his or her environment (e.g., removing barriers to learn)	● Used as part of intervention when teaching a behaviour or skill, to guide the child towards the outcome
● Could include assistive devices (e.g., Augmentative and Alternative Communication (AAC), wheelchairs) or modification to materials/tasks	● E.g., "whole body listening", "stop-think-do", visual or verbal prompts
● Included in goals as part of the 'action'	● Not included in goals and can be documented in intervention plans instead

The 'context' of the goal can be written in the format:

'We know the child can do this… **when (action)…**'	or	**'**We know the child can do this **when (action)… given/by using (condition)…'**

Referring to the example in Figure 8-4, it is made clear that John requires a communication book to request for a desired food or drink by including the condition as shown in Figure 8-6.

Figure 8-6. *Example of an Action and a Condition in a P-CAT Goal.*

John will get his needs met during snack time with his teachers at EI Centre and dinner time with his parents at home. **We know he can do this when**
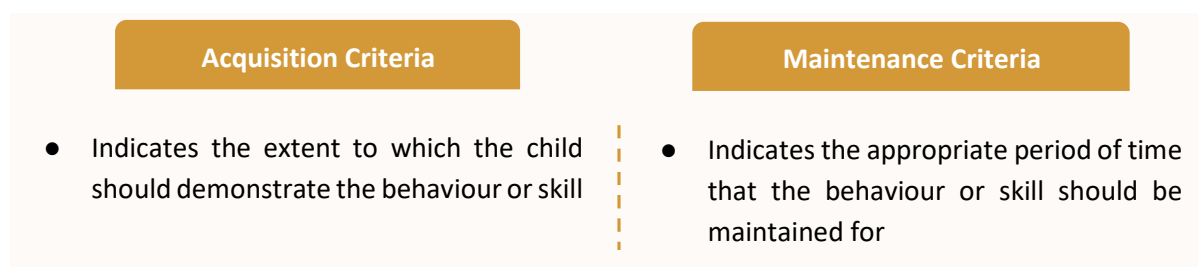
Action: expected behaviour ⟶ **he requests for a desired food or drink**

Under what conditions (if applicable) ⟶ **by selecting a picture of it from his communication book and giving it to his teachers or parents**
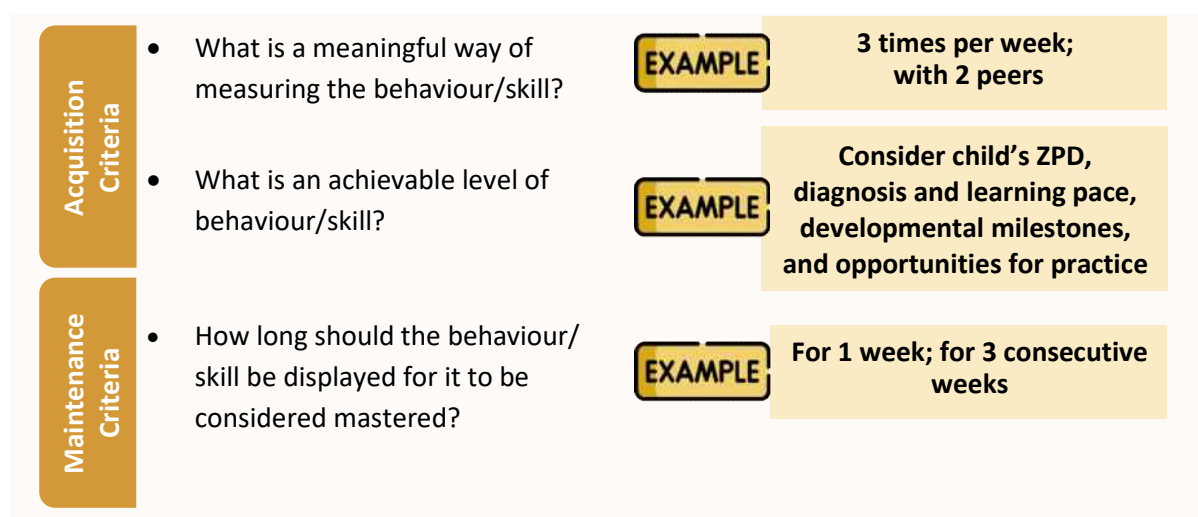
Timeframe

The final component in P-CAT, 'timeframe', refers to the criteria that informs the EI team when the goal is targeted to be achieved and maintained over time. It includes an acquisition criterion and maintenance criterion (see Figure 8-7).

Figure 8-7. *Acquisition and Maintenance Criteria.*

Acquisition Criteria	Maintenance Criteria
• Indicates the extent to which the child should demonstrate the behaviour or skill	• Indicates the appropriate period of time that the behaviour or skill should be maintained for

Note. From *Routines-based early intervention: Supporting young children and their Families (pp. 96-97),* by R. A. McWilliam, 2010, Paul H. Brookes Publishing Co. Copyright 2010 by Paul H. Brookes Publishing Co.

The acquisition criterion and maintenance criterion should be established in relation to the 'purpose', 'context', 'action' of the goal, and in consideration of the following presented in Figure 8-8.

Figure 8-8. *Determining the Acquisition and Maintenance Criteria for Timeframe.*

Acquisition Criteria	• What is a meaningful way of measuring the behaviour/skill?	EXAMPLE	**3 times per week; with 2 peers**
	• What is an achievable level of behaviour/skill?	EXAMPLE	**Consider child's ZPD, diagnosis and learning pace, developmental milestones, and opportunities for practice**
Maintenance Criteria	• How long should the behaviour/ skill be displayed for it to be considered mastered?	EXAMPLE	**For 1 week; for 3 consecutive weeks**

The acquisition criterion can be written in terms of how the behaviour or skill is demonstrated, e.g., frequency, duration, distance or volume (see Table 8-3).

Table 8-3. *Examples of Acquisition Criterion.*

Type of Measurement		What it Measures	Example
Frequency		The number of occurrences	Child initiates play with his friends 3 times at the playground
Duration		The time taken	Child takes 30 minutes to finish his meal
Distance		The physical length	Child walks from home to school while holding parents' hand
Volume		The quantity or amount	Child eats half a bowl of rice independently

The 'timeframe' of the goal can be written in the format:

> 'We know the child can do this when (action), **for (acquisition criterion), across (maintenance criterion)**'

Using the same example of John, Figure 8-6 shows how 'timeframe' can be included in a P-CAT goal.

Figure 8-9. *Example of Timeframe in a P-CAT Goal.*

John will get his needs met during snack time with his teachers at EI centre and dinner time with his parents at home. We know he can do this when he requests for a desired food or drink by selecting a picture of it from his communication book and giving it to his teachers or parents,

Timeframe: acquisition criterion ➝ **for twice a day (once at home and at EI centre)**

Timeframe: maintenance criterion ➝ **across 3 consecutive weeks.**

8.4   Short-Term Objectives

Goals can be broken down into short-term objectives (STOs) that are monitored regularly to measure the child's progress towards the goal. By breaking down the goals into STOs, it enables the EI team to:

Determine whether the child is progressing faster or slower than expected

Adjust goals as necessary

Evaluate how well the interventions are working

Make timely changes to intervention plans to ensure that the child is being adequately supported to achieve his or her goals

The STOs should be shared with caregivers to help them know what activities can be done at home and to enable them to contribute to progress monitoring.

The method for establishing STOs and monitoring progress may vary across EI centres. This section shows how P-CAT goals can be broken down into STOs by using a measurable criterion, for example, frequency, duration, amount of support needed, skills to be learnt in achievable steps, or across contexts (see Table 8-4).

Table 8-4. *Examples of Short-Term Objectives.*

Measurable Criterion	Functional Goal	Short-Term Objectives
Frequency	Avery will initiate interactions with her teachers or peers at EI Centre. We know she can do this when she uses actions (e.g., gives a toy to teacher/peer) or gestures (e.g., does 'come' hand gesture, points to objects while looking at teacher/peer) to initiate interactions for at least **5 times a day**, across 2 consecutive weeks.	STO 1: … to initiate interactions for at least **3 times a day**, across 3 consecutive weeks.
Duration	Brad will participate in eating during his tea break at school on weekdays and dinner time at home on weekends. We know he can do this when he takes no more than **30 minutes** to finish each of his meals, across 3 consecutive weeks.	STO 1: … takes no more than **45 minutes** to finish each of his meals, across 2 consecutive weeks.
Amount of support need	Clara will access and navigate her physical environments with her teachers at the playground and her parents at the park. We know that she can do this when she walks with her Rifton Pacer Gait Trainer **with close supervision**, for 10 minutes, 3 times a week, across 4 consecutive weeks.	STO 1: … walks with her Rifton Pacer Gait Trainer **with physical support** from her teachers or parents, for 10 minutes, 3 times a week. STO 2: … walks with her Rifton Pacer Gait Trainer **with verbal instructions** from her teachers or parents, for 10 minutes, 3 times a week.
Skills to be learnt progressively in achievable steps	David will participate in dressing himself during the dismissal routine with his teachers at EI Centre and morning routine with his mother at home. We know he can do this when he **puts on his socks**, twice a day (on weekdays), across 2 consecutive weeks.	STO 1: … We know he can do this when he **pulls his sock over his ankle** after the teacher/mother puts the sock over his toes and heel (on both feet). STO 2: … We know he can do this when he **pulls his sock over his heel and ankle** after the teacher/mother puts the sock over his toes (on both feet).

Measurable Criterion	Functional Goal	Short-Term Objectives
Number of contexts	Eva will demonstrate understanding and/or use of qualitative concepts (i.e., descriptive words) **during sensory play with her teachers at EI Centre and play time with her parents at home.** We know she can do this when she uses words (e.g., wet/dry, hard/soft, same/ different, heavy/light, high/low) to describe what she sees or feels, for at least 2 times a day (once with her teachers and once with her parents), across 3 consecutive weeks.	STO 1: … during **sensory play with her teachers at EI Centre.** STO 2: … during **play time with her parents at home**.

In summary, information from the GCO Process is useful in helping the team set functional goals. By working towards the functional goals, the child can achieve functional outcomes in the 3 GCOs. The child's progress will be monitored during intervention and then reviewed during the GCO Review and/or Exit Process, which will be described in Chapter 9.

8.5   Appendices

8.5.1   Functional Goal Template

8.6   References

Early Childhood Development Agency. (2021). *Professional Practice Guidelines: Developmental and Psycho-Educational Assessments and Provisions for Preschool-Aged Children*. https://www.ecda.gov.sg/docs/default-source/default-document-library/parents/guidelines-(for-professionals)-2021.pdf

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CHAPTER 9

Progress Monitoring and Review of Child's Profile

Intervention takes place after functional goals are set. During intervention, the child's progress continues to be monitored based on the goals and GCOs. Subsequently, at least once a year, the EI team goes through a GCO Process to update the child's profile in the 3 GCOs. The EI team also sets new functional goals for the child for the next intervention period. This chapter aims to provide an overview on progress monitoring during the intervention period, and elaborates on the steps to review the child's progress in the 3 GCOs, also known as the GCO Review/Exit Process.

9.1   Progress Monitoring During Intervention

A child's progress is periodically reviewed during intervention. This is achieved through progress monitoring as shown in Figure 9-1, an important component in ECHO's Linked System (refer to **Chapter 2**).

Figure 9-1. *The GCO Process.*
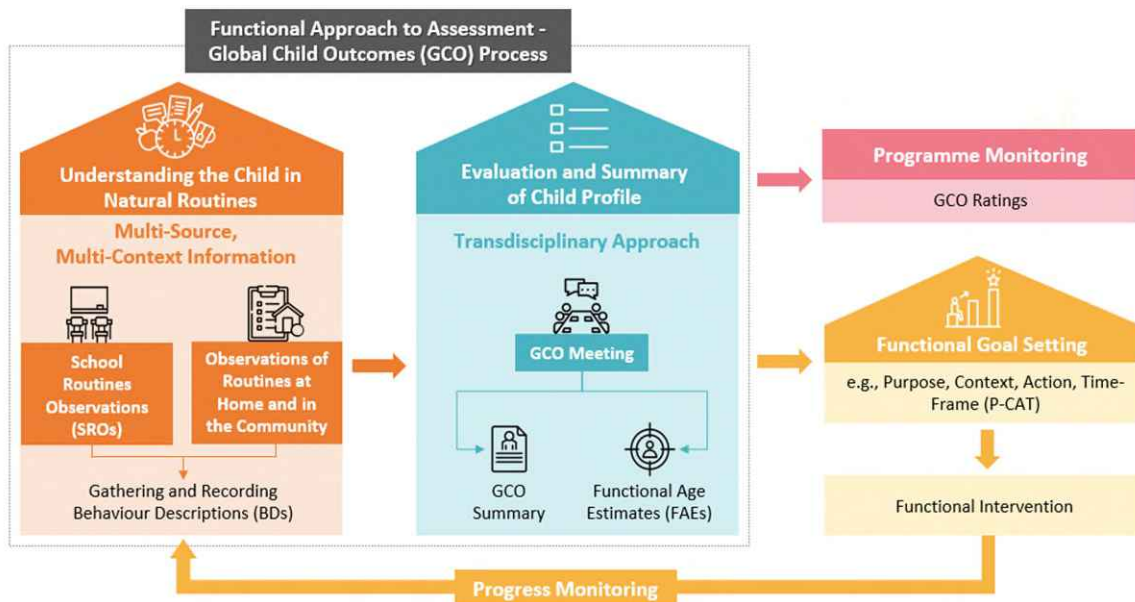
There are two parts to progress monitoring:
1.   Monitoring the child's progress relating to his/her functional goals
2.   Monitoring the child's progress relating to the 3 GCOs

Monitoring the child's progress relating to his/her functional goals

The child's functional goals are monitored regularly during intervention. The EI team members observes the child in the specific contexts based on the functional goals being intervened, and record their observations periodically, especially when there are changes in functional performance related to the goals.

These observations are captured as BDs[5] and are also known as 'goal-specific BDs'. The collation of goal-specific BDs allows the EI team to evaluate the progress of the goals.

Observe Child
in specific contexts based on intervention goals

Record Observations
(goal-specific BDs)

Evaluate goals
(achieved/partially achieved/not achieved)

Refer to Table 9-1 for examples of a goal-specific BDs that can be collected from the EI centre, at home and in the community.

Table 9-1. *Examples of Goal-Specific BDs based on a Functional Goal.*

Example of a Functional Goal under GCO 2	Examples of Goal-Specific BDs
Child will use objects for learning during circle time and art & craft time with teachers in the EI centre and play time with caregivers at home. *We know he can do this when he uses stationary to cut, colour, draw on paper twice a week in EI centre, and once a day, twice a week at home, for 2 consecutive weeks.*	School BD *Child uses the children's scissors to cut along the dotted line of a rectangle with small snips as he manoeuvres the paper with the other hand after the teacher asks the children to cut out a rectangle from the paper during art and craft time.* Home BD *Child holds the crayon between his thumb and index finger to draw a circle when he sees a picture of the circle on the paper during free play time at home.*

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[5]EI centres can determine the frequency and number of BDs to be gathered for progress monitoring based on their standard operating procedures for progress monitoring.

Collecting goal-specific BDs from home and community requires planning and close communication with caregivers so that the latter know what and how to monitor the child's progress. Some practitioners conduct ad-hoc home visits to gather more information on how the child is progressing on the goals at home. Others have engaged caregivers and/or preschool teachers to fill in simplified goal-monitoring documents to record observations at home and/or in the preschool. For example, teams can create individualised observation sheets for caregivers to note down qualitative information or frequency counts of the child behaviour relating to goals. It is most helpful if these observation sheets elicit information of action, trigger and context (ATC) of behaviours so that BDs can be written based on the information collected.

Refer to **Appendix 9.3.1: Observation Sheets** for samples.

Monitoring the child's progress relating to the 3 GCOs

During intervention, the child will also demonstrate progress and significant behaviours relating to the 3 GCOs that are not specific to goals. The EI team should also record these behaviours as BDs, henceforth referred to as "GCO-related BDs", so that there is a holistic monitoring of the child's progress.

9.2   The GCO Review/Exit Process

The GCO Review Process happens annually or when the need arises.

To help the team understand the child's progress in goals and GCOs, and their current functional profile, the EI team should:

Review information collected during intervention as part of progress monitoring

Identify gaps in information that needs to be collected and observed in the child's natural routines

The team then evaluates and summarises the child profile via a GCO Review Meeting and uses this updated information to revise existing goals or set new ones for the next intervention period. This happens at the end of every intervention period until the child leaves the EI programme.
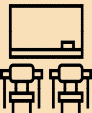
The GCO Exit Process is the final GCO Process conducted preferably within six months before the child leaves the EI programme, providing the most current profile that can be shared with the next setting the child is entering. The GCO Exit Process is largely similar to the GCO Review Process, except that it would include some updates on transition plans.

Understanding the Child in Natural Routines

As part of progress monitoring during intervention, the EI team would have already been gathering and recording BDs related to goals and GCO. This includes observations of the child in their natural routines. At the start of the GCO Review Process, the EI team continues the observations, and makes a conscious effort to collect more information to fill in any gaps in observations of the child in natural routines.
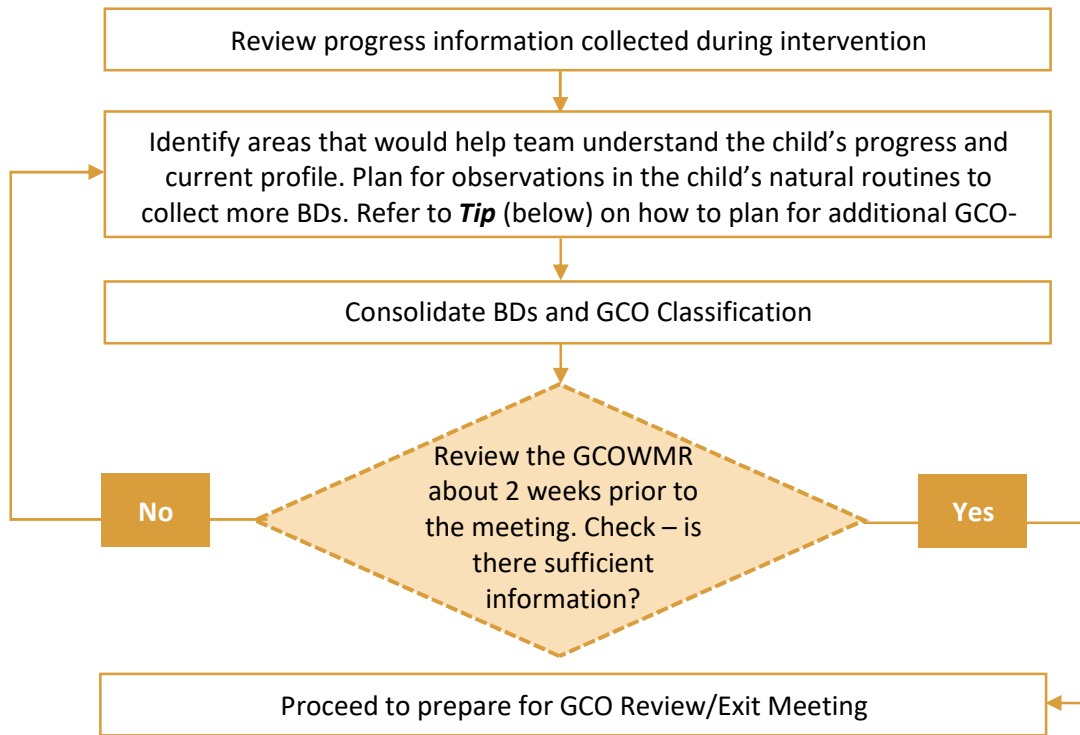
Table 9-2 summarises the number and types of BDs collected at GCO Entry/Review/Exit Processes, with differences in bold.

Table 9-2. *Summary of BDs to be collected across the GCO Processes.*

	GCO Entry Process	**GCO Review/Exit Process**
Number of BDs collected	• Refer to the latest ***GCO Process Guidelines (Appendix 5.4.1)***	
School Routine Observations	• Observe and record functional performance BDs across 4 categories of routines (i.e., indoor, outdoor, self-care, play)	• Observe and record **goal-specific** functional performance BDs in routines specified in the goals and/or routines that the child may have generalised the skills in. • Observe and record GCO-related BDs in the relevant GCOs across the 4 categories of routines (i.e., indoor, outdoor, self-care, play)
Observations from routines at home and in the community	Functional Performance BDs are collected via: • Interview with caregivers • Caregiver questionnaire • Caregiver's communication book or informal chat • Discussion with preschool/teacher's questionnaire	Functional Performance BDs (**goal-specific and GCO-related BDs**) are collected via: • **Observation Sheets completed by caregivers (if any)** • Interview with caregivers • Caregiver questionnaire • Caregiver's communication book or informal chat • Discussion with preschool/teacher's questionnaire

The specific steps for conducting SROs and collecting information on routines at home and in the community are similar for all GCO Processes. Refer to ***Chapter 6*** for a recap on how to do so. The steps are summarised in a flow chart, as shown in Figure 9-2.

Figure 9-2. *Understanding the Child's Natural Routines during GCO Review/Exit Process.*

```
┌─────────────────────────────────────────────────────────────┐
│        Review progress information collected during          │
│                       intervention                           │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│  Identify areas that would help team understand the child's  │
│  progress and current profile. Plan for observations in the  │
│  child's natural routines to collect more BDs. Refer to      │
│  *Tip* (below) on how to plan for additional GCO-            │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│            Consolidate BDs and GCO Classification            │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
         ┌─────────────────────────────────────┐
  ┌────┐ │    Review the GCOWMR about 2 weeks   │ ┌─────┐
  │ No │◄┤  prior to the meeting. Check – is    ├►│ Yes │
  └────┘ │    there sufficient information?     │ └─────┘
         └─────────────────────────────────────┘
                                                     │
┌─────────────────────────────────────────────────────────────┐
│         Proceed to prepare for GCO Review/Exit Meeting       │
└─────────────────────────────────────────────────────────────┘
```

Tips for Planning for Observations of Additional GCO-related BDs

Here is one way ensure that the BDs collected during the GCO Review/Exit Process are across the GCO themes.

1. Collect goal-related BDs and take note of the GCO theme it falls under.
2. Focus the remaining BD collection on GCO-related BDs based on other GCO themes.

For example, if the child's goals are focused on GCO 1.1, 2.1, 3.1 and 3.2 (in bold below), the team first collects BDs related to these goals (i.e., goal-specific BDs).

GCO 1.1 (IEP Goal)	GCO 2.1 (IEP Goal)	GCO 3.1 (IEP Goal)
GCO 1.2	*GCO 2.2*	GCO 3.2 (IEP Goal)
GCO 1.3	*GCO 2.3*	*GCO 3.3*

Then, to ensure a more holistic representation of the child's current level of functioning, the EI team continues to gather significant BDs in the other GCO themes – GCO 1.2, 1.3, 2.2, 2.3 and 3.3 (in italics above), as they do not have any BDs yet.

Summarise and Evaluate the Child's Profile

Once adequate information has been gathered, the EI team can proceed to prepare for the GCO Review/Exit Meeting to summarise and evaluate the child's profile. Refer to *Appendix 9.3.2: GCO Review/Exit Meeting (v2) Flowchart*.

Roles and Responsibilities

Usually, the EI team consists of the class teacher and any EI professionals who work with the child. A minimum of 2 professionals are needed for the GCO Review/Exit Meeting. The roles and responsibilities of the EI team are the same across all GCO Meetings. Refer to *Chapter 7, Table 7-1* for a recap.

Outputs

The outputs of the GCO Review/Exit Meeting are mostly similar to that of the GCO Entry Meeting, as presented in Table 9-3.

Table 9-3. *Comparison of Outputs for GCO Entry/Review/Exit Meetings.*

Output	GCO Entry Meeting	GCO Review/Exit Meeting
FAE	● Before the meeting, each team member derives individual FAEs and drafts any inference statements as necessary. ● The EI team gathers to discuss and concur on the team's FAEs.	
GCO Summary	● Mandatory	● Recommended for GCO Review Process ● Mandatory for GCO Exit Process

Before the GCO Review/Exit Meeting

Figure 9-3 summarises the steps each member follows before the GCO Review/Exit Meeting.

Figure 9-3. *Preparations before the GCO Review/Exit Meeting.*

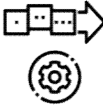| Ensure variety and sufficient BDs in the GCOWMR	→	Refer to *Chapter 7, Steps to Derive FAEs* (*Steps 1-3*) to derive FAEs for the 3 GCOs	→	Send individual FAEs to GCO Leader at least 1 day before GCO Review/Exit Meeting	→	GCO Leader inputs all individual FAEs into the GCOWMR
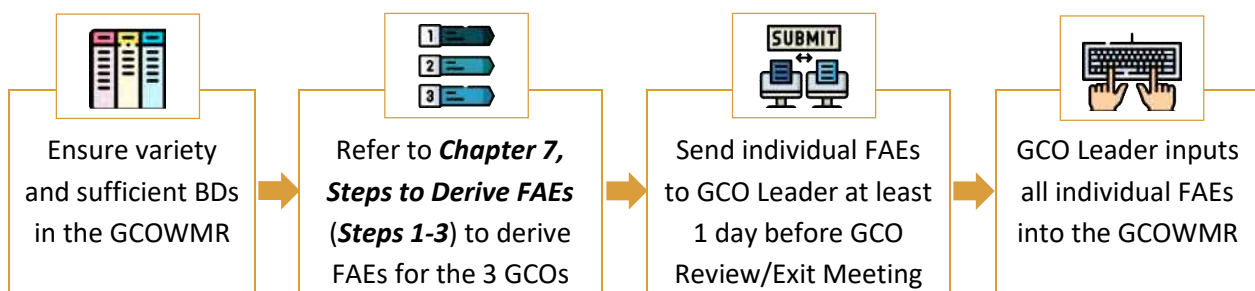
During the GCO Review/Exit Meeting

The way a GCO Meeting is conducted in the GCO Review/Exit Process is largely similar to that of the GCO Entry Meeting (v2), in that the EI team likewise discusses the child's profile and justifies their FAEs. There are, however, differences in the presentation of evidence (i.e., discussion on progress of goals). Refer to the *Appendix 9.3.2: GCO Review/Exit Meeting (v2) Flowchart* for more details on the flow.
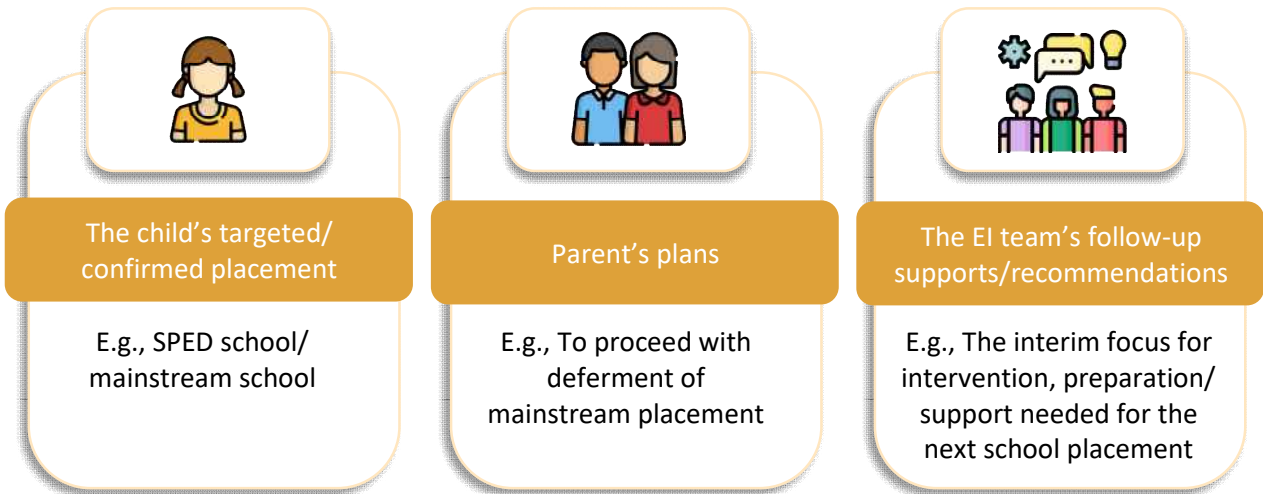
Table 9-4 highlights the differences in the GCO Meeting components between GCO Entry Meeting and GCO Review/Exit Meeting. Take note of the specific *GCO Meeting Checklist* items in italics. The details in each aspect of the GCO Review/Exit Meeting will be described in the next section.

Table 9-4. *Differences between GCO Entry Meeting and GCO Review/Exit Meeting.*

GCO Meeting Components	GCO Entry Meeting	GCO Review/Exit Meeting
Preparation and Beginning	The team provides an introduction of the child and family. *GCO Meeting Checklist (Entry) - Item 1.6*	The team provides updates on the child and family (e.g., concerns, current situation, etc), rather than listing out details already known or discussed previously during the GCO Entry Process. Specifically, for GCO Exit Meetings, transition placement should also be discussed. *GCO Meeting Checklist (Review) - Item 1.6*
GCO Meeting Specific-Process	Presentation of previous FAEs is not applicable.	The team presents previous FAEs of the child. *GCO Meeting Checklist (Review) - Item 2.1*
	Goal discussion is not applicable.	Discuss whether the child has achieved the goals under each GCO. *GCO Meeting Checklist (Review) - Item 2.2*
	Discuss at least 3 BDs **per GCO Theme** to justify the child's FAE. *GCO Meeting Checklist (Entry) - Item 2.2*	Discuss at least 3 BD examples **per GCO** to justify the child's FAE. *GCO Meeting Checklist (Review) - Item 2.3*
Team Process and Consensus	Key components are similar for both processes.	

Update on Transition Plans (only for GCO Exit Meeting)

The GCO Leader or any team member should provide additional information relating to the child's transition plan. They can include:
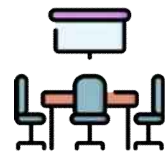
The child's targeted/ confirmed placement	Parent's plans	The EI team's follow-up supports/recommendations
E.g., SPED school/ mainstream school	E.g., To proceed with deferment of mainstream placement	E.g., The interim focus for intervention, preparation/ support needed for the next school placement

GCO Meeting Checklist (Review/Exit)

This section describes how the GCO Review Meeting is to be conducted so that all requirements stated in the *GCO Meeting Checklist (Review/Exit) can be achieved.* Like the GCO Entry Process, the EI team can use the *GCO Meeting Checklist (Review/Exit)* to assess the quality of a GCO Review or Exit Meeting.

Key Aspect 1: Preparation and Beginning

Before Meeting

GCO Leader collates and records each team member's individual FAEs in the GCOWMR

1.2
This ensures that all team members had independently decided on the FAEs for each of the 3 GCOs based on all BDs collected.

Select a conducive and private place to conduct the meeting

1.1
This ensures that the meeting can be conducted efficiently and confidentially. Ongoing documentation during the meeting ensures that discussions and updates are captured.

Start of Meeting

GCO Leader/any appointed member:
- Verbally states the child's full name and a second unique identifier (e.g., date of birth)
- Bring documents related to the child, e.g., BDs in GCOWMR, standardised assessment forms, any other feedback (caregivers, teachers, preschool)
- Highlights child's chronological age and diagnosis/medical condition, explained clearly in easy-to-understand terms to ensure that the team understands the information and how it may impact on the child's functioning

1.3 *This ensures that discussions are objective and can be supported by documented observations.*

1.4 *This ensures that all team members are discussing the same child and have brought the correct documents related to that specific child.*

1.5 *This ensures that all team members consider child's chronological age when discussing the FAEs and the possible impact of diagnosis/medical condition on the child's functioning. Have brought the correct documents related to that specific child.*

Provide update on the child's and family's background. The depth of information on the child's background will be at the team's discretion. Areas to mention may include the following and/or any changes to them:
- Family composition
- Financial stressors/issues (e.g., high-risk families?)
- General 'feel' of the family (e.g., keen to work with the centre?) / Update of family and centre working relationship
- Main caregiver
- Child's school (e.g., preschool or childcare)
- Other services received
- Transition placement for exit cases

1.6 *This supports family-centred practice and provides contextual factors surrounding the child's functioning and behaviours.*

Having set the scene for the meeting, the team proceeds to the GCO discussions.

Key Aspect 2: GCO Meeting-Specific Process

Present the child's FAE in GCO 1. Discuss if the goals are achieved/partially achieved/not achieved for GCO 1, if relevant

- The progress for each is supported by more than 1 BD example

- It is recommended to have 2 BDs obtained from observations in the EI centre and 2 other BDs gathered from home and community routines (GCO Process Guidelines) to indicate generalisation

2.1

This ensures that the team refers to the child's previous FAEs as a baseline for discussion. This also assists with goal discussion.

2.2

This ensures that the team considers the child's progress in the goals, supported with BDs as evidence.

The GCO Leader presents the individual FAEs submitted by the team members

- The team member who provided a higher FAE band or with most information about the child can present his/her justifications

2.4

This ensures that the team's discussion leads to a holistic picture of the child's functioning for the GCO. By considering all three themes, the discussion can present the full range of strengths, challenges, and functioning across all aspects of the GCO.
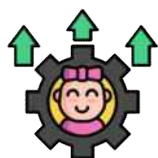
Establish child's current level of functioning in GCO 1:

- Discuss the functional performance behaviours demonstrated by the child for GCO 1 by considering the relevant GCO themes and threads

- This discussion is supported by at least 3 significant functional performance BDs per GCO theme

- The BD evidence presented should be multi-source and multi-context

- The GCO Leader (or any team member) should ask guiding questions to enrich the discussion. This corresponds to *Step 2* described in *Chapter 7: Steps to Derive FAEs*.

2.3

This ensures that the discussion of the child's functioning in each GCO is objective and based on BDs as evidence and based on BDs as evidence and should include goal BDs where appropriate. BDs should be in ATC format as each component of ATC would provide specific details for the team to consider the child holistically.

- If the team has drafted inference statements before the GCO Meeting
  - Share, discuss and refine the information based on the BDs discussed.
- If inference statements have not been drafted
  - Initiate formulating the statements based on **Step 2** described in **Chapter 7: Steps to Derive FAEs**

2.5 *This ensures that the child's behaviours are considered across settings to obtain a consistent and holistic picture of the child's current level of functioning.*

2.6 *This ensures that observations from people who interact with the child are reflected and discussed. This helps the team develop a holistic picture of the child's current stage of development.*

The team should make sure that they discuss primarily functional performance behaviours
- If capacity behaviours or domain-based skills are mentioned, they should be integrated but still differentiated from functional performance behaviours

2.7 *This ensures that the emphasis is placed on functional performance in everyday routines. If there are domain-based skills/capacity behaviours mentioned to support emerging skills, they should be discussed to provide an insight to the child's potential even though they do not change the child's FAEs.*

Members take turn to justify their FAE or support another member's FAE using other child development resources alongside the ECHO AE Reference. This corresponds with **Step 3** described earlier in **Chapter 7: Steps to Derive FAEs.**
- Make sure specific BD evidence are used as evidence
- If there are 2 or more FAEs presented, it is recommended to start the discussion using the higher or mid-range FAE
  - This allows a more efficient discussion as it can be assumed that other team members would have agreed with the lowest age band
- If team members have the same FAE, they can value add to the discussion by stating *new* points, or at least mention their agreement with what has been shared

2.8 *This ensures that the team has a shared and objective understanding of what is age-expected by referring to 2 or more child development resources.*

Once the team agrees on an FAE:

- Consider whether the child exhibits significant functional behaviours in the next higher age band if not already discussed, using functional performance BD examples to support. This corresponds to **Step 4** described in **Chapter 7: Steps to Derive FAEs**

- To aid the decision-making process, the GCO Leader can ask the three questions listed in Figure 7-4 (refer to **Chapter 7**)

The team repeats the above for GCO 2 and GCO 3 until the team agrees on FAEs for all GCOs.

2.9

This ensures that all team members consider frequently exhibited behaviours across all contexts instead of general impressions to support their FAEs.

2.10

This ensures that evidence and justifications from all team members have been heard, understood and assimilated to reach a FAE that best describes the child's functioning.

The team then considers if there are any challenging behaviours

2.11

This ensures that any challenging behaviours are addressed and goals can be set to reduce these behaviours.

Summarise the child's strengths and concerns, and identify appropriate focus for intervention for each GCO

- This can be done after discussion for each GCO or after all 3 GCOs have been discussed

2.12

This ensures the team agrees on the overall profile of the child, including strengths and concerns, and uses this information to consider the areas to focus for intervention.

Key Aspect 3: Team Process and Consensus

Key Aspect 3 is about the general interaction between members throughout the discussion. This ensures presence of collaborative, consultative team practices (i.e., transdisciplinary approach).
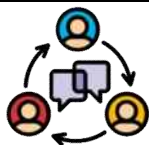
To do well in this aspect, all team members should:

- Minimise the use of jargon

- Show mutual respect. Examples of this may include:

  - Being on time for meeting and helping to set-up meeting room
  - Showing responsive behaviours that illustrate active listening and responding
  - Allowing time for others to finish their thought before replying or moving on
  - Actively including others in the discussion
  - Listening empathically to others

3.1

This ensures a shared understanding of the child's profile in plain language across team members and parents.

3.2

This encourages collaborative, consultative, and transdisciplinary team practices.
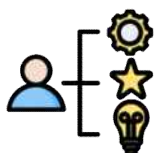
The GCO Leader should demonstrate good management skills. Examples of what he/she should do include:

- Assigning roles within the team (e.g., note-taker, timekeeper) to focus on facilitating the meeting

- Facilitating high-quality discussion and ensures equal contribution from all members

  - Ask open-ended questions that stimulate discussions (e.g., "So how does he show …?")
  - Ensure that the team focuses on relevant topics (i.e., stay on track) and not go off tangent (e.g., threads, examples, concerns)
  - Ensure that the team does not dwell on domain skills (e.g., palmer grasp)
  - Ensure that all team members contribute relevant evidence
  - Probe sufficiently to explore all team members' FAE (e.g., "Could it be lower?")

- Using effective communication techniques

  - Check the understanding of team members by paraphrasing and summarising information
  - Summarise team members' contribution to reach consensus effectively and efficiently

3.4

This ensures that the GCO Leader keeps the meeting on track, facilitates discussions from all team members, clarifies and summarises information.

3.3

This ensures that team members contribute to a rich discussion of the child's profile.

After the GCO Review/Exit Meeting

Finalising the GCO Summary

The GCO Summary is completed during/after the GCO Review/Exit Meeting. The GCO Summary is shared with caregivers at least a few days before the parent-teacher conference. This allows caregivers sufficient time to read through the EI team's evaluation and summary of the child, and to provide additional input, if any.

Finalising the FAEs

After the child's family reads and agrees with the written GCO Summary, the team proceeds to confirm and finalise the FAEs discussed during the GCO Meeting.

The three types of GCO Processes largely follow a similar sequence, only with slight variation in certain steps. It is important for the EI team to be aware of the differences and key steps in each GCO Process. This ensures that the child's FAEs and GCO Summary are representative of the child's level of functioning.

Chapter 10 will describe the coaching process to ensure that team members have the skillsets to conduct the GCO Process. Chapter 11 will then describe the fidelity monitoring process.

9.3   Appendices

9.3.1   Observation Sheets

9.3.2   GCO Review/Exit Meeting (v2) Flowchart

9.3.3   GCO Meeting Checklist (Review/Exit)

9.3.4   GCO Rating Alignment Document (Review/Exit)

SECTION III

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TOWARDS SUSTAINABILITY

CHAPTER 10

Coaching

Developing relevant competencies within the team is critical to the success of implementing evidence-based programmes and achieving desired outcomes (Bertram et al., 2015). This chapter provides an overview of the ECHO Coaching Guide that could be integrated within organisation-wide supervision guidelines to support building of competencies in implementing the GCO Process. A case study further describes how the ECHO Coaching Guide could be utilised in the process.

10.1   What is Coaching

Coaching on the job helps learners understand the relevance of what they are learning, by contextualising their learning through application at work (Fixsen et al., 2009). The ECHO Coaching Guide is thus developed to support the building of competencies for the GCO Process. Competency building requires careful selection, training, and ongoing coaching of staff to ensure that they have the necessary skills to implement a new programme effectively (Metz et al., 2013).

The definition of coaching varies in early intervention (EI) literature. Grant (2013) describes coaching as a collaborative, helping relationship between the coach and coachee. Coaching that supports adult learners is defined as:

> *Definition:* **Coaching**
>
> *An adult learning strategy in which the coach promotes the learner's (coachee's) ability to 1) reflect on his or her actions as a means to determine the effectiveness of an action or practice, and, 2) develop a plan for refinement and use of the action in immediate and future situations.*
>
> *(Rush and Shelden, 2020, p.8)*

The role of the coach is to create a supportive environment in which:
- the coach and coachee can explore and reflect on current practices together, and
- the coachee can apply new skills and competencies with the help of the coach's feedback, and to overcome challenging situations.

(Rush and Shelden, 2020)

There are many coaching approaches available, and the ECHO Coaching Guide references *The Early Childhood Coaching Handbook* by Rush and Shelden (2020). The choice of the coaching approach depends on the purpose of coaching, the coaching style of the coach, the learning style of the coachee, and the organisational resources and support available.

10.2   Coaching versus Supervision

Despite the potential overlap between the roles of a supervisor and a coach, it is important to note that they are not identical. The role of a supervisor is to evaluate performance and ensure that supervisees are meeting work requirements (Rush and Shelden, 2020).

A supervisor needs not be a coach, and a coach needs not be a supervisor. According to Toll (2006), a supervisor may incorporate coaching into his or her supervision, while a coach does not act as a supervisor while coaching.

Key Points

- Coaching is a collaborative helping relationship
- Coaching helps staff to apply what they have learned
- Coaching is distinct from supervision

10.3   The ECHO Coaching Guide

The ECHO Coaching Guide is intended for coaches who want to support their coachee in developing and applying their knowledge and skills in the GCO Process. It is recommended that coaches use it on top of their knowledge of child development, early intervention, and basic principles of coaching.

The ECHO Coaching Guide consists of two parts:

1. Competency Indicators
(*Appendix 10.5.1*)

Guides the coach to identify the coachee's level of competence in the GCO Process based on the demonstrated knowledge and/or skills, and the coaching support required

2. Coaching Tasks
(*Appendix 10.5.2*)

Provides the coach with suggested coaching activities based on the coachee's level of competence

Levels of Competence

There are four levels of competence in the Competency Indicators. The levels are adapted from the Competencies Proficiency Scale by the National Institutes of Health (n.d.) and defined in Table 10-1.

Table 10-1. *Levels of Competence.*

Level	Definition
Fundamental Awareness (Basic knowledge)	Staff have an emerging understanding of the basic concepts of the GCO Process.
Novice (Limited experience)	Staff have some experience participating in the GCO Process. Staff are expected to need help in applying knowledge and skills.
Intermediate (Practical application)	Staff are able to participate independently in the GCO Process. The help of an expert (e.g., a coach) may be required from time to time in certain situations (e.g., considering the engagement of a child with high support needs when conducting SRO).
Advanced (Applied theory)	Staff are recognised as coaches in the GCO Process. Staff are able to engage in resource development, process improvement and/or expert-level discussions to address challenges.

Use of the ECHO Coaching Guide

Effective coaching involves clearly articulated outcomes based on the needs and goals identified by the coachee (Rush and Shelden, 2020). When using the Competency Indicators, outcomes can be determined by selecting the component in the GCO Process that:

1. The coachee wants to work on, and
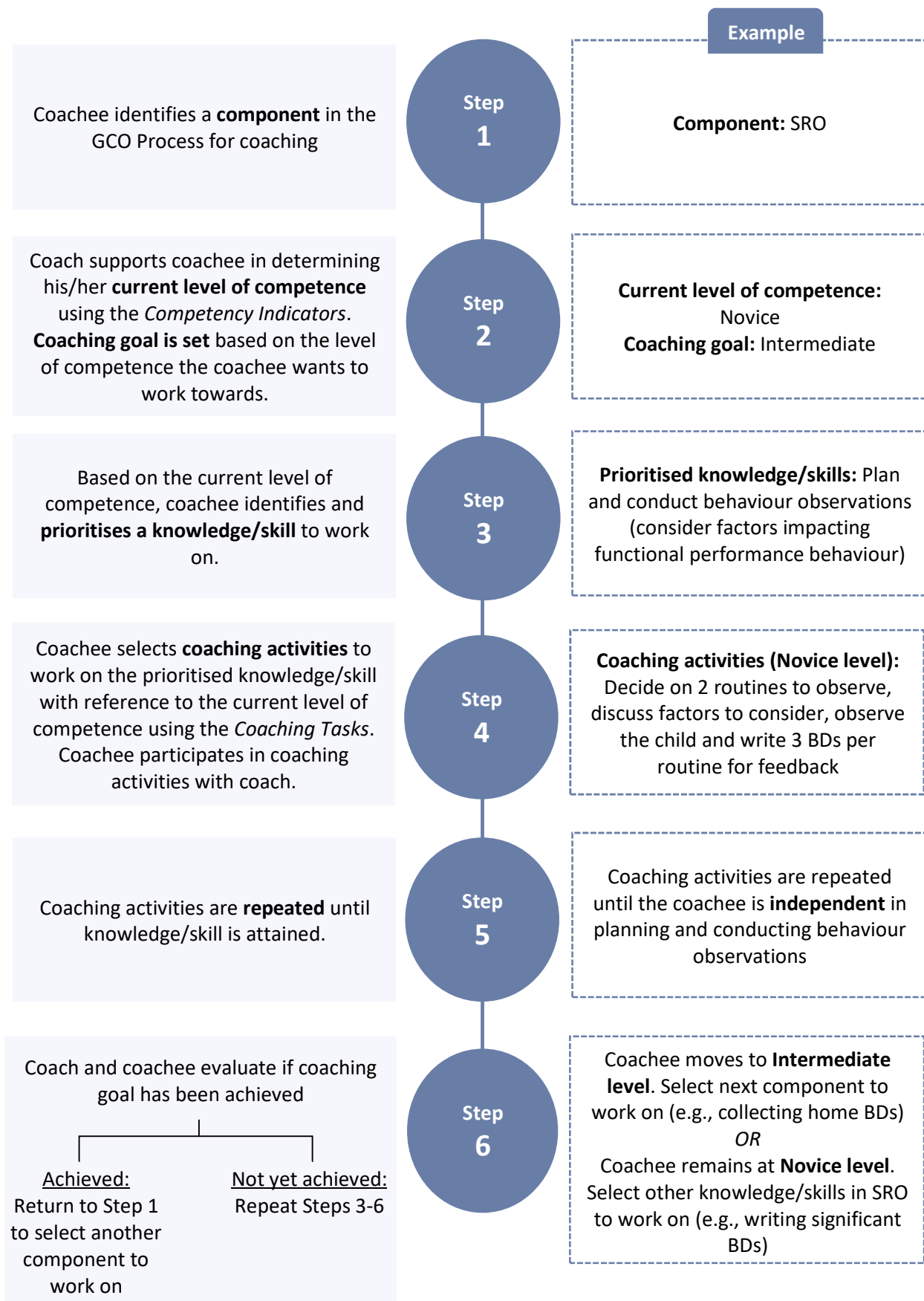2. The level of competence he/she wants to work towards.

Coaching can be conducted for different components at the same time, and the coachee can have different levels of competence in each of these components at the beginning of the coaching. See Table 10-2 for an example of this.

Table 10-2. *Setting Outcomes for Coaching.*

Components of the GCO Process	Level of competence	
	Current	**Coaching Goal**
1. School Routines Observation	Novice	Intermediate
2. Writing of Behaviour Descriptions	Fundamental Awareness	Novice

It is recommended that the ECHO Coaching Guide be used according to the steps shown in Figure 10-1.

Figure 10-1. *Steps in Using the ECHO Coaching Guide.*

	Example
Coachee identifies a **component** in the GCO Process for coaching	**Step 1**	**Component:** SRO
Coach supports coachee in determining his/her **current level of competence** using the *Competency Indicators*. **Coaching goal is set** based on the level of competence the coachee wants to work towards.	**Step 2**	**Current level of competence:** Novice **Coaching goal:** Intermediate
Based on the current level of competence, coachee identifies and **prioritises a knowledge/skill** to work on.	**Step 3**	**Prioritised knowledge/skills:** Plan and conduct behaviour observations (consider factors impacting functional performance behaviour)
Coachee selects **coaching activities** to work on the prioritised knowledge/skill with reference to the current level of competence using the *Coaching Tasks*. Coachee participates in coaching activities with coach.	**Step 4**	**Coaching activities (Novice level):** Decide on 2 routines to observe, discuss factors to consider, observe the child and write 3 BDs per routine for feedback
Coaching activities are **repeated** until knowledge/skill is attained.	**Step 5**	Coaching activities are repeated until the coachee is **independent** in planning and conducting behaviour observations
Coach and coachee evaluate if coaching goal has been achieved Achieved: Return to Step 1 to select another component to work on Not yet achieved: Repeat Steps 3-6	**Step 6**	Coachee moves to **Intermediate level**. Select next component to work on (e.g., collecting home BDs) *OR* Coachee remains at **Novice level**. Select other knowledge/skills in SRO to work on (e.g., writing significant BDs)

The Competency Indicators and Coaching Tasks are not intended to be a checklist, but rather, a reference to support the coaching process.

Coachees should aim to achieve at least an 'intermediate' level of competence in all components of the GCO Process. At this level, the coachee is able to participate independently in the GCO Process and only require the coach's assistance on occasion.

As part of overall organisational leadership planning, it is recommended that EI centres consider identifying staff with an 'advanced' level of competence for the role of coach and support their ability to provide coaching, e.g., using coaching tasks in the Coaching Guide for 'advanced' level staff, sending staff for external courses on how to provide coaching.

Key Points	• Use of the ECHO Coaching Guide is best supplemented with good child development knowledge, early intervention skills, and clear coaching principles
	• Effective coaching involves clearly articulated outcomes based on the needs and goals identified by the coachee

10.4 Case Study

This case study demonstrates the use of the ECHO Coaching Guide. It is important to note that while the case study includes the use of some coaching principles from Rush and Shelden's coaching style of interactions, it is not an exhaustive account of coaching principles that can be applied when using this coaching guide. Refer to Figure 10-1 above for the flow.

Background
Jay is a new teacher working in an EI centre.
As Jay's coach, Elise is supporting him in implementing the GCO Process.

Step 1: Coachee identifies a component in the GCO Process for coaching.

At the beginning of coaching, Jay identifies writing behaviour descriptions (BDs) as an area he would like to work on.

I want to work on writing BDs.

Step 2: Coach supports coachee in determining his <u>current level of competence</u>.
<u>Coaching goal</u> is set based on the level of competence that the coachee wants to work towards.

Elise uses reflective questioning (refer to *Appendix 10.5.3*) by Rush and Shelden (2020) to help Jay be aware of what he already knows and does. The objective of asking awareness questions like the examples illustrated below is to find out what Jay knows about writing BDs.

> What do you know about writing BDs?

> How will you know if a BD is significant?

> What is your current understanding on the classification of BDs?

> How will you use a BD checklist?
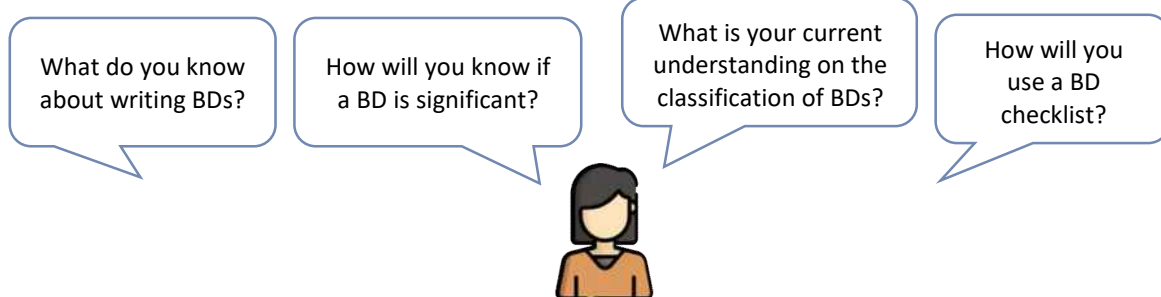
Elise then evaluates the BDs written by Jay using the BD Checklist. Using the Competency Indicators (refer to *Appendix 10.5.1*), Elise guides Jay to identify his current level of competence by reflecting on his knowledge and skills as indicated below.

Knowledge and Skills Demonstrated by Jay	Competency Indicators
Understanding of BDs • Understands BDs are written in the Action, Trigger and Context (ATC) format • Is aware that BDs must pass the 'Telephone Test' but is unable to identify common errors on clarity in his BDs (e.g., the use of vague words) • Knows the definition of functional performance, capacity and challenging behaviours but at times incorrectly classify capacity behaviours as functional performance behaviours	Staff demonstrates some understanding of how to write BDs (e.g., using ATC format, passes the 'Telephone Test', classifies BDs into functional performance/capacity/ challenging behaviours).
Level of support required to write BDs that meet the criteria on the BD Checklist • Support is needed at least half the time to write BDs that are significant and/or have a trigger present/correctly identified • Support is needed most of the time to accurately identify the main GCO thread	Staff requires moderate support to write BDs that meet criteria on the BD Checklist.
Ability to refer to relevant resources • Uses the BD Checklist with support	Staff refers to resources related to this competency with guidance.

Component: Writing BDs

Based on the above, Jay's competency in writing BD was rated at 'fundamental awareness' level. His goal is to reach the next level of competence in BD writing, which is the 'novice' level. The coaching goal is clearly stated at the beginning of the coaching relationship.

Current Level of Competence: **Fundamental Awareness**

Coaching Goal: **Novice**

Step 3: Coachee identifies and prioritises a knowledge/skill to work on to achieve the coaching goal.

Elise provides feedback on Jay's BDs and supports him in identifying his strengths and areas for improvement. Elise is guided by Rush and Shelden's (2020) different types of feedback (refer to *Appendix 10.5.4*).

> I will work on BD classification first.

Jay prioritises BD classification (i.e., the accurate identification of the main GCO thread) to be worked on first.

Step 4: Coach and coachee discuss and select <u>coaching activities</u> to work on the prioritised knowledge/skill.

Elise and Jay use the *Coaching Tasks* (refer to *Appendix 10.5.2*) to select appropriate coaching activities. Coaching activities were selected by considering Jay's:

- targeted component in the GCO Process, (i.e., writing of BDs)
- current level of competence (i.e., 'fundamental awareness' level), and
- coaching need (i.e., BD classification).

Coaching activities focusing on BD classification were selected to support Jay at the 'fundamental awareness' level as indicated below.

Coaching Activities
- Jay provides Elise with 5 BDs (at least 1 home BD) of a student he is working with
- The BDs are evaluated using the BD Checklist
- Elise provides feedback and encourage reflection by asking open-ended questions
- Jay reclassifies BD(s) where necessary

As part of coaching, Elise encourages Jay to reflect on his practice by asking reflective questions. Aside from awareness questions, Elise also uses analysis and alternative questions as detailed below.

Question Type	Objectives	Examples
Awareness	To find out what coachee knows about writing BDs	• What did you consider when classifying this BD under this GCO theme/thread? • What do you know about GCO 1.3?
Analysis	To support coachee in evaluating his/her BD classification	• How does your BD classification compare with examples and tips from the ECHO Practice Guide?
Alternative	To guide coachee to consider ways that he/she can improve on future BD classification	• What do you think you would do differently the next time?

Step 5: Coaching activities are <u>repeated until the knowledge/skill is attained.</u>

Elise continues to provide coaching support for BD classification as needed (e.g., writing and classifying BDs for a different student).

Step 6: Coach and coachee evaluate if <u>coaching goal</u> has been achieved.
    (a) If coaching goal has been achieved, return to step 1 to select another component to work on
    (b) If coaching goal has yet to be achieved, repeat steps 3-6 for other knowledge/skills

Elise and Jay refer to the Competency Indicators to determine if Jay has achieved his goal for writing BDs (i.e., 'novice' level).

> Well done, Jay! You are able to classify BDs accurately now. Let us work on another skill area.
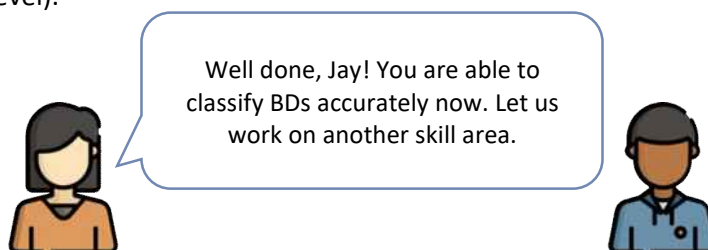
It was identified that while Jay is now able to classify BDs accurately, there are other skills that he needs to work on as mentioned in step 2, including writing significant BD and writing BDs with triggers present or correctly identified. As such, steps 3 to 6 are repeated to focus on these areas.

While staff competency indicators show insight into the skills and abilities of the people implementing the process, fidelity indicators, such as adherence to the steps of the GCO Process itself, are also measured to ensure that a high-quality process is conducted. This will be covered in Chapter 11.

10.5   Appendices

10.5.1   Competency Indicators

10.5.2   Coaching Tasks

10.5.3   Examples of Reflective Questioning

10.5.4   Examples of Feedback

10.6   References

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CHAPTER 11

Fidelity Monitoring

In this chapter, early intervention centres will acquire the knowledge to create an internal fidelity monitoring workflow within their respective early intervention centres. Fidelity monitoring tools will be used to:

- *evaluate the EI centres' adherence to the GCO Process,*
- *ensure EI centres meet fidelity targets and data submission requirements, and*
- *provide feedback for internal process and/or resource enhancement based on fidelity data findings.*

The continuity of this process helps to ensure that the quality of the GCO Process remains consistent, reliable and of high standards.

11.1   What is Fidelity

Implementation fidelity refers to the degree to which a programme is delivered as intended (Carroll et al., 2007). Fidelity is crucial in the implementation of evidence-based programmes in community settings (Breitenstein et al., 2010).

The focus for the national implementation of the ECHO Framework was the implementation and sustainability of the GCO Process in early intervention (EI) centres. Continuous data monitoring on its core components aims to ensure quality of and fidelity to the intended implementation. The two core components of the GCO Process are:

Behaviour Descriptions (BDs)	**GCO Meeting**
• Documented evidence that reflects the children's level of functioning	• A meeting in which the team comes to a consensus on the children's Functional Age Estimates (FAEs)

Monitoring the quality of BDs and GCO Meetings involve conducting fidelity checks. This aims to:

• Identify potential work processes/practices that require refinement	
• Help standardise or ensure consistency of implementing the GCO Process within and across all participating EI centres	
• Support the coaching framework by identifying strengths and areas of improvement within the EI centres	

Fidelity checks will be further elaborated under *Section 11.4 Fidelity Monitoring Tools and Targets*.

The ECHO Technical Assistance (TA) team had helped to oversee the quality of GCO Process in each EI centre throughout the national implementation from FY2019 to FY2024 Both core components form the basis of the fidelity checks. Refer to Chapters 7 and 9 for more information on the *GCO Meeting Checklists* used.

11.2   Importance of Fidelity Monitoring and Feedback

Fidelity monitoring ensures that the GCO Process is implemented with high quality consistently across the EI centres. Monitoring the fidelity of the GCO Process is especially important as the involvement of various professionals in the transdisciplinary teams could bring about variations to the process which may lower fidelity (Breitenstein et al., 2010).

The GCO Process is a key component that forms the foundation for the ECHO Framework. It enables practitioners to determine the children's level of functioning and expand into processes related to their functional development, such as functional goal setting and functional intervention. This is particularly important as the quality of the GCO Process impacts the accuracy of FAEs, which are used to monitor the children's outcomes over time.

In addition, the GCO Process gathers information about the children based on documented evidence via observations, interviews, and formal or informal testing. Evidence gathered from the GCO Process would then provide a functional lens to inform the transdisciplinary teams about the children's level of functioning. Maintaining fidelity in this process then ensures that the subsequent formulation of functional goals and intervention for the children are meaningful and relevant to the children's level of functioning.

Therefore, it is important that the fidelity of the GCO Process is maintained beyond the national implementation of the ECHO Framework.

11.3   Internal Fidelity Monitoring

What is Internal Fidelity Monitoring and Why is it Important?

Internal Fidelity Monitoring (IFM) is introduced to equip EI centres with the capability to conduct internal fidelity checks. Fidelity monitoring will ensure that the staff are trained and competent in conducting high-quality GCO Process. This also ensures that the FAEs obtained remain representative of the children's level of functioning, supporting the ability to render relevant services based on the children's needs. Moreover, the IFM process enables feedback to be communicated in a timely manner within the EI centre to facilitate coaching sessions as needed. Therefore, all EI centres are strongly encouraged to take ownership of fidelity monitoring and maintain the quality of GCO Process in the long term (see Figure 11-2).

Figure 11-2. *Establishing a Fidelity Data Feedback Loop.*

Building an Internal Fidelity Data Feedback Loop

- Conducts fidelity checks

IFM Lead

- Summarises and interpret data findings
- Corroborates with staff's coaches

IFM Checkers

Feedback + Coaching / Re-training if needed

Staff

- Provides fidelity data via GCOWMR
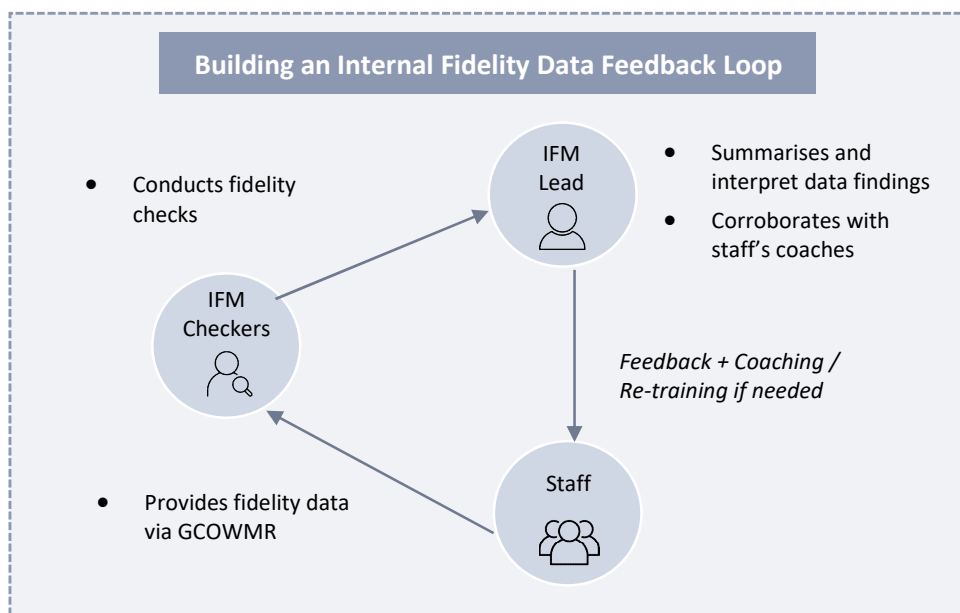
Establishing an Internal Fidelity Monitoring Team

The IFM Team should comprise senior EI professionals and allied health professionals (AHPs)/social workers (SWs), who will be responsible for monitoring and maintaining the quality of the GCO Process. As these professionals have good visibility and understanding of ground practices, their perspectives will greatly benefit the IFM process of the EI centre. It is recommended that each EI centre form an IFM team with at least one IFM Lead and two IFM Checkers to ensure a manageable workload.

Refer to ***Appendix 11.6.1: IFM Work Instructions*** for further information on the roles of the IFM Team.

Main Components and Requirements of Internal Fidelity Checks

On a yearly basis, the IFM Team is recommended to check the following in each EI centre:

GCO Meetings

Minimum Requirement
- Monitor at least eight GCO Meetings (i.e., four Entry and four Review/ Exit cases)

BDs

Minimum Requirement
- Rate at least five BDs per staff involved in each of the observed GCO Meetings

Adherence to the GCO Process	Recommended
	• Aligning the GCO Process to the child's status (GCO Entry Process for newly enrolled children and GCO Review Process for existing and exiting children)
	• Ensuring that the team collects sufficient BDs in the home and EI settings
	• Ensuring that EI Professionals, AHPs and/or SWs who actively work with the child are involved

While fidelity checks focus on the core components of the GCO Process such as the GCO Meetings and BDs, adherence to the GCO Process guidelines are recommended to ensure that the transdisciplinary teams obtain a holistic profile of the child.

Refer to **Appendix 11.6.1: IFM Work Instructions** for further information on the main components of IFM and refer to **Appendix 5.4.1: Guidelines for the GCO Process**.

Fidelity Data Feedback Loop

Fidelity checks are crucial in forming a data feedback loop (DFL) as they act as a mechanism to identify staff in need of (ongoing) coaching and supervision for improvement (Breitenstein et al., 2010). Hence, EI centres are recommended to establish their own DFL to provide timely feedback based on the fidelity data to their ground staff. The areas of strengths and improvements are identified using the fidelity checklists and supplemented with other observations during the GCO Meeting provided by the IFM Team. Additionally, the IFM Team, coaches and/or supervisors may use insights from the fidelity data to plan coaching and training sessions if fidelity targets are not met.

Data Submission of the Feedback Monitoring Sheets

The GCO Meeting Feedback Monitoring Sheets (FMS) and BD FMS are the reporting tools for IFM. The reporting tools were developed to record all fidelity scores captured during the IFM fidelity checks. The IFM Lead is responsible for collating and recording data in FMS. These documents are to be submitted to ECDA annually.

Internal Fidelity Monitoring Workflow

The recommended IFM workflow is illustrated in Figure 11-3. A procedural checklist is also available to guide the IFM Team in establishing IFM workflow within the EI centre. Refer to **Section G, Part B** in **Appendix 11.6.1 (IFM Work Instructions document).**

Figure 11-3. *Simplified IFM Workflow.*

Step 1: Preparation	IFM Team to decide on the number of GCO Meetings to observe per term. *Recommendation: At least two GCO Meetings per term per EI centre. The IFM Team is encouraged to conduct more fidelity checks than required to have a better gauge of the EI centre's alignment to the GCO Process guidelines.*
Step 2: Observe GCO Meetings	Observe **at least two GCO Meetings per term per EI centre** (1 Entry case, 1 Review case). *Recommendation: Prioritise selecting GCO Meetings that involve new/junior EI Professionals, AHPs or those who have not been involved in the past fidelity checks for the year.* IFM Checker to document their ratings in GCO Meeting FMS Excel file.
Step 3: Rate BDs	Retrieve GCO Working and Meeting Record (GCOWMR) for the observed GCO Meetings (one GCOWMR per GCO Meeting). **Select at least five BDs per BD writer from each GCOWMR** to assess if the BD writer (i.e., EI professional/AHP/SW) wrote high-quality BDs. IFM Checker to document their ratings in BD FMS Excel file.
Step 4: Feedback	IFM Checker to provide feedback on the fidelity data to the relevant supervisor(s) at the end of each term.
Step 5: Coaching/ Training	If any fidelity targets are not met, the IFM Team will arrange a coaching/ training session to re-establish good quality data.
Step 6: Follow-up	As a follow up after coaching/training, monitoring of the team and/or EI professionals, AHPs or SWs who did not meet GCO Meeting and BD fidelity targets is recommended.
Step 7: Collation and Submission of Fidelity Data	IFM Lead to collate and organise the fidelity data in GCO Meeting and BD FMS Excel files, and submit to ECDA at the end of the calendar year (i.e., November data submission period). *Recommendation: To submit all fidelity checks done for the year. Otherwise,* ***minimally eight GCO Meetings per year per EI centre and five BDs per BD writer from the observed GCO Meetings****. To also highlight the challenges faced or cases in which the IFM Team requires support.*

11.4 Fidelity Monitoring Tools and Targets

Fidelity checklists document the presence of the essential components of a programme during the delivery (Powers et al., 2022). Similarly, under the ECHO Framework, fidelity checklists are used to evaluate the quality of the GCO Meetings and BDs.

Evaluating GCO Meetings and Behaviour Descriptions

The GCO Meeting Checklist is used to ascertain the quality of the GCO Meetings conducted by the teams. Similarly, the BD Checklist is used to ascertain the quality of BDs used as evidence to substantiate the teams' consensus on the children's FAEs. BDs should be evaluated periodically by coaches or supervisors. For more information, refer to **Chapters 7 and 9** on the GCO Meeting Checklist and **Chapter 4** on writing BDs and BD classifications.

The inter-rater reliability between ECHO TA and the IFM Checkers should be established before commencing the fidelity checks. Generally, an inter-rater reliability of 0.8 is considered as good agreement between the fidelity checkers. Subsequently, the IFM Lead is responsible for training and establishing inter-rater reliability with new IFM Checkers or IFM Teams in the EI centre. The IFM Lead should also re-establish inter-rater reliability with the IFM Team when there is a change in the GCO Process or fidelity checklist.

Fidelity Targets

Under the ECHO Framework, fidelity targets are set to define what constitutes a good quality GCO Meeting and a high-quality BD. A good quality GCO Meeting is represented by achieving a fidelity score of ≥75%, and a high-quality BD is represented by achieving at least five out of seven points on the BD Checklist. Individual item-level and total scores on the fidelity checklists may be used to provide feedback to the relevant staffs' coaches or external trainers for any necessary follow-up actions.

The fidelity targets for the individual GCO Meeting and BD targets, and the overall centre targets are shown in **Table 11-1.**

Table 11-1. *GCO Meeting and BD Fidelity Targets.*

GCO Meeting		BD	
Overall Centre Target	≥75% of GCO Meetings observed achieves a fidelity score of ≥75%	**Overall Centre Target**	≥75% of sampled BD writers have 4 out of 5 BDs with a score of '1' per item
(Recommended) Individual GCO Meeting Target	Each GCO Meeting achieves a fidelity score of ≥75%	**(Recommended) Individual BD Writer Target**	4 out of 5 BDs achieve a score of '1' per item
		(Recommended) Individual BD Quality	Each BD should aim to have a total score of ≥ 5 out of 7

11.5   Impact of Fidelity on Child Outcomes Data

Developing a strong understanding of the GCO Process is important because FAEs acquired at the end of the process serve as indicators of children's level of functioning in the three GCOs. It is crucial to reduce the likelihood of errors, as inadequately executed processes can significantly impact and undermine confidence in outcome findings (Powers et al., 2022). At the end of the GCO Process, FAEs are used to monitor children's progress and trajectories as part of the functional outcomes measurement system. More information on outcomes monitoring can be found in *Chapter 3* on the outcome measurement system. Figure 11-4 provides an overview of DFL and IFM.

Figure 11-4. *Summary of DFL & IFM.*

Purpose of Fidelity DFL and IFM	• Ensure the overall data quality is attained and maintained (good quality GCO Meetings and high-quality BDs) post-ECHO implementation. • Establish a fidelity data feedback loop for coaching towards competence.
Requirements for each year, per EI Centre [1, 2]	**GCO Meetings** **Eight** GCO Meetings (**Four** Entry cases, **Four** Review cases) per year, per EI centre. Recommendations: • Two GCO Meetings per term • Selecting a different team to observe **Behaviour Descriptions** **Five** BDs per BD writer involved in each of the observed GCO Meetings. [1] The abovementioned numbers are the minimum requirements for submission to ECDA. However, service providers are encouraged to observe more cases to understand their EI centres' performance. [2] EI centres are recommended to select different professionals and/or AHPs/SWs, and are not required to check on those who have already met the BD fidelity targets for the year.
Utility of Fidelity Data	• Highlight areas of strengths and areas of improvements. • Highlight any issues or challenges that the service providers are facing. • Fidelity data feedback to inform coaching directions.
What to Submit to	• Feedback Monitoring Sheet Excel file for GCO Meetings' fidelity checks • Feedback Monitoring Sheet Excel file for BDs' fidelity checks
Frequency of Submission	• Annually and upon request.
Purpose of Submission	• Submission provides an open communication channel between service providers, ECHO TA and ECDA. Service providers may share any fidelity-related issues or challenges faced for ECHO TA to provide the appropriate level of technical assistance.
Fidelity Targets	• <u>Fidelity targets for GCO Meeting</u>: ≥75% of sampled GCO Meetings achieved a fidelity score of ≥75%. • <u>Fidelity targets for BD</u>: ≥75% of sampled BD writers have 4 out of 5 BDs with a score of '1' per item.

11.6   Appendices

11.6.1   IFM Work Instructions

11.6.2   BD Feedback Monitoring Sheet

11.6.3   GCOM Feedback Monitoring Sheet

11.7 References

Breitenstein, S. M., Gross, D., & Garvey, C., Hill, C., Fogg, L. & Resnick, B. (2010). Implementation fidelity in community-based interventions. *Research in Nursing & Health, 33*(2), 164–173. https://doi.org/10.1002/nur.20373

Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J. & Balain, S. (2007). A conceptual framework for implementation fidelity. *Implementation Science, 2*(40). https://doi.org/10.1186/1748-5908-2-40

Powers, K., Clarke, S., Philips, J., Holmes, J. A., Cripps, R., Craven, K., Farrin, A., das Nair, R., & Radford, K. A. (2022). Developing an implementation fidelity checklist for a vocational rehabilitation intervention. *Pilot and Feasibility Studies, 8*(234). https://doi.org/10.1186/s40814-022-01194-x

CASE STUDY

A. Background

Purpose

This case study illustrates the application of the GCO Process during enrolment (GCO Entry Process), yearly reviews (GCO Review Process) as well as the final review that includes discussion on transition to next placement (GCO Exit Process).

The timeline and examples in the case study are for illustrative purposes and may vary across EI centres. To keep the case study succinct, all GCO Processes illustrated will focus on BD collection for GCO 1, and GCO Meeting discussions on GCO 1.

Profile of Case Study

Louis Lee was 3 years and 2 months old when he was enrolled in a 3-day-a-week programme at Twinkle Early Intervention Centre (Twinkle EI Centre) at the beginning of the second semester (Term 3) of 2020. He had a provisional diagnosis of Autism Spectrum Disorder (ASD). During the initial intake interview, Louis' parents expressed concerns about his attention span, communication, and social interaction skills.

Based on the information gathered at intake, a Speech Language Therapist (SLT) and an Occupational Therapist (OT) were appointed as part of the early intervention (EI) team to work with Louis and his family.

Louis Lee

Louis' Father

Teacher Shufen

SLT Faizal

OT Amy

Teacher Weilin

Overview of Timeline

Louis' intervention at Twinkle EI Centre began with a functional assessment (GCO Entry Process) of his abilities in the 3 GCOs, as presented in Figure C-1. At the GCO Entry Meeting, the EI team discussed Louis' Functional Age Estimates (FAEs) and summarised his profile and focus for intervention, which guided functional goal setting and intervention planning.

One year later, at the end of intervention and progress monitoring period, the EI team conducted a review (GCO Review Process) to evaluate Louis' progress in the 3 GCOs and his Individualised Educational Plan (IEP). During the GCO Review Meeting, the EI team discussed Louis' goal progress and summarised changes in his level of functioning (e.g., changes in FAEs), before setting functional goals for the next intervention period. A second GCO Review Process happened in the third year of Louis' enrolment in Twinkle EI Centre.

In the year Louis turned 6 – his fourth year at Twinkle EI Centre, he underwent a School Readiness Test by the psychologist and was assessed to be suitable for Special Education (SPED) School placement. The EI team conducted the GCO Exit Process, 6 months before he was scheduled to leave Twinkle EI Centre, to review his progress in the 3 GCOs. The progress was included in the Transition Report.

Throughout the years, Louis' parents were involved in his GCO Entry, Review and Exit Process.

Figure C-1. *Timeline of Louis' GCO Entry, Review and Exit Processes.*

GCO Entry Process	GCO Review Process	GCO Exit Process
2020	**2021 and 2022**	**2023**
Term 3 Week 1 Louis was enrolled in Twinkle EI Centre. The EI team conducted SRO and gathered information on routines at home and in the community by interviewing Louis' caregivers.	**Term 3 Week 1** The EI team conducted SRO, reviewed progress of latest IEP goals, and gathered information on routines at home and in the community.	**Term 3 Week 1** The EI team conducted SRO, reviewed progress of Louis' latest IEP goals, and gathered information on routines at home and in the community to plan for his exit.
Term 3 Week 9 The EI team conducted the GCO Entry Meeting and set functional goals.	**Term 3 Week 9** The EI team conducted the GCO Review Meeting and set functional goals.	**Term 3 Week 9** The EI team conducted the GCO Exit Meeting and summarised Louis' progress and transition plans.
Term 3 Week 10 The EI team met Louis' parents and finalised his IEP.	**Term 3 Week 10** The EI team met Louis' parents and finalised his IEP.	**Term 3 Week 10** The EI team met Louis' parents and finalised his GCO Summary and Transition Report.
Term 4 Week 1 - 2021 Term 2 Week 10 The EI team conducted intervention and worked on the functional goals outlined in Louis' IEP. Progress was reviewed every term, with goals updated as needed.	**Term 4 Week 1 - 2022/3 Term 2 Week 10** The EI team conducted intervention and worked on the functional goals outlined in Louis' IEP. Progress was reviewed every term, with goals updated as needed.	

The next few sections will elaborate on all the 3 GCO Processes that were conducted for Louis. For the sections under GCO Review and GCO Exit, only distinctly different GCO Process steps will be illustrated to keep the case study succinct.

B. GCO Entry Process

The EI team started the functional assessment process by understanding and gathering information about Louis' current level of functioning in his natural routines (see first box in Figure C-2). The EI team followed the Twinkle EI centre's timeline for GCO Entry Process (see Figure C-3).

Figure C-2. *The GCO Process.*
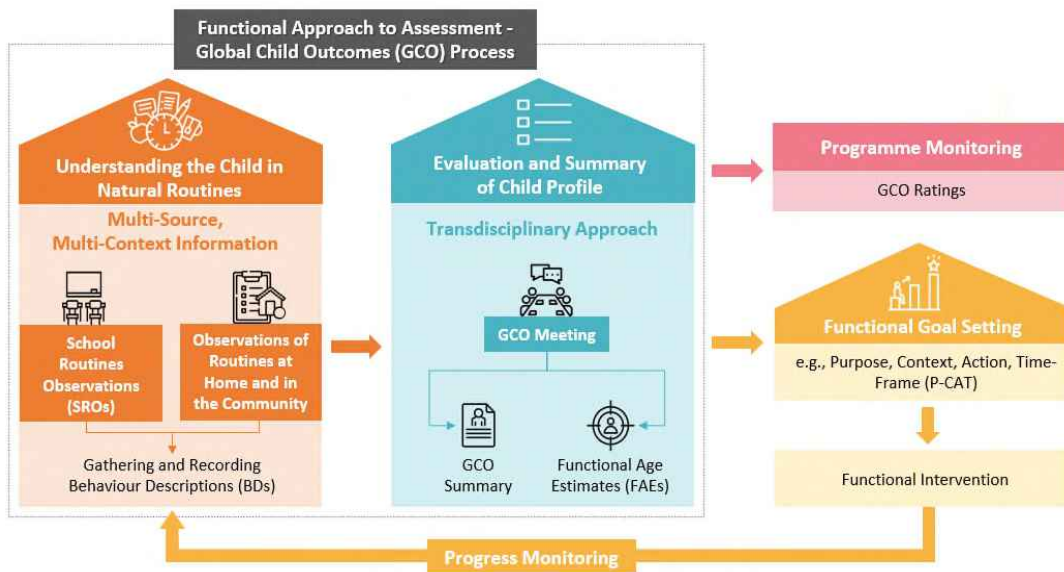
Figure C-3. *Timeline for Louis' GCO Entry Process.*

Before BD Collection	Before GCO Meeting	GCO Entry Meeting	Parent-Teacher Conference
Weeks 1-3	**Weeks 4-8**	**Week 9**	**Week 10**
Weeks 1-2: Time was given for Louis to adapt to EI centre's routines and the EI team observes Louis	**Weeks 4-6**: Collected BDs through SRO	During GCO Meeting: EI Team discussed and agreed on Louis' FAEs and GCO Summary	Finalised IEP and GCO Summary with parents
Week 3: EI team discussed and planned how to collect BDs across various settings based on the 3 GCOs' themes	**Week 6**: Collected BDs through home interview		*FAEs finalised*
	Weeks 7-8: Ensured sufficient significant BDs; EI Team provided individual FAEs		

Understanding the Child in Natural Routines: School Routines Observation (SRO)

The EI team referred to **Chapter 6** to recap on the preparation for conducting SRO.

Preparation for the SRO

Step 1

The EI team reviewed the existing information about Louis and considered what was already known
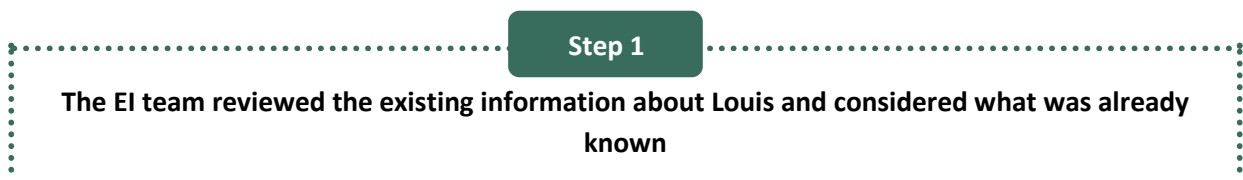
The EI team reviewed existing information about Louis and his family. Information was gathered from the referral form, intake screening report/notes and caregiver questionnaire. A summary of the key information reviewed can be found in Table C-1.

Table C-1. *Key Information about Louis.*

Referral Form (June 2019)	• Gender: Male
	• Age: 2 years 2 months (age at first referral to the centre)
	• Diagnosis: Autism Spectrum Disorder (ASD) (provisional)
	• Other pertinent information:
	    ○ Louis was referred by Love Children's Hospital
	    ○ Non-verbal, and often bit and hit when upset.

Intake Screening Report/Notes (April 2020) – screening conducted 10 months after initial referral	Age: 3 years 0 months Louis' behaviours (observed by the intake screening team): • Followed routine 1-step instructions (e.g., sit down, come here, keep toys in box) except when asked to remove and put on his shoes. • Did not respond to his name being called. • Did not respond to teachers' greetings at the start and end of the session. • Picked up wooden puzzle pieces from a 1-piece puzzle insert set given to him by the teacher, and threw them on the ground. • Ran away when the teacher tried to read him a book. • Smiled when he saw bubbles and pulled the teacher's hand when he wanted more bubbles. • Said 'ba' when he saw balls in the basket and 'ka' for cars. • Snatched a Lego block out of the teacher's hand when she tried to take turns building a tower with him.
Caregiver Questionnaire (April 2020)	• Family: Louis lives with his parents and his younger brother. His parents work full-time. His paternal grandparents, who live a block away from the family, are his main caregivers on weekdays, while his parents take care of him on weekends. • School: Louis attends a full-day programme at Sunshine Preschool. • Interests: Louis loves playing with bubbles, toy vehicles (e.g., cars, trains), water, balls and listening to children's songs on the iPad. • Early intervention history: Louis received interim OT and SLT intervention at Love Children's Hospital from September to December 2019. • Caregiver's concerns: Louis' parents are concerned about his short attention span, delayed speech development and social skills.

The EI team noted Louis' interests and highlighted information that gave them insight and an initial impression of Louis' positive social-emotional relationships for GCO 1 (see Table C-2). Reviewing the existing information allowed the EI team to approach the SRO with some knowledge that helped them focus their observations on specific areas of interest, behaviour, and concern.

Table C-2. *Prior Knowledge of Louis' GCO 1 Skills and Behaviours.*

GCO 1: Positive Social-Emotional Relationships (Reported behaviours from the intake screening and caregiver questionnaire related to GCO 1)		
Themes	**Relating to Others**	• Did not respond to name being called or greetings • Picked up puzzle given to him • Had some word approximation e.g., ba (ball), ka (car) but mainly used for labelling objects of interest • Snatched block away from teacher during a turn taking activity
	Responding to and Expressing Emotions	• Often bit and hit when he was upset • Smiled when he saw bubbles
	Following Social Rules of Social Interaction	• Not observed

The EI team was aware that this information only provided a first impression of Louis and that an updated observation of Louis in his natural routines was required to determine his current level of functioning.

Step 2

Using GCOs and other child development resources, the EI team noted possible functional performance behaviours that could be observed in Louis

When preparing for the SRO, the EI team referred to the following resources:

Themes and Threads in GCO 1
• To guide them in observing functional performance behaviours in relation to social-emotional relationships.

Child Development Resources
• To enhance understanding of socio-emotional skills expected of typically developing 3-year-olds and younger children (i.e., 13- 18 months, 19-24 months, 25-30 months, 31-36 months)
• Based on the information from the initial screening and the caregiver questionnaire, it was likely that Louis would exhibit functional behaviours of a younger age.

Functional Assessment: Prompts & Pointers (Appendix 6.5.1)
• For tips in observing functional performance behaviour in different routines.

These resources helped the EI team to consider where and what to observe (see Table C-3). The EI team also ensured that observations of Louis in the 3 GCOs occurred in all 4 categories of routines (e.g., indoor, outdoor, play, and self-care).

Table C-3. *EI Team's Planning of What and Where to Observe for GCO 1 Behaviours.*

Themes	Age-Expected Behaviours (25–36 months)	Routines for SRO
GCO 1.1 – Relating to Others GCO 1.2 – Responding to and Expressing Emotions GCO 1.3 – Following Social Rules of Social Interaction	**Based on ECHO AE Reference** • Initiates interactions with familiar adults and children verbally or non-verbally • Participates in simple conversations with caregivers and peers (maintenance) • Shares common items with peers • Waits in queue in a social context and follow unwritten social rules **Based on From Birth to Five Years: Children's Developmental Progress (Sheridan, 2007)** • Joins in active make-believe play with other children **Based on Rhode Island's Early Intervention and Early Childhood Special Education Comprehensive Child Outcomes Measurement System (n.d.)** • Uses words to express emotions • Participates in associative play with other children (i.e., engaging in separate play activities while occasionally sharing toys or commenting on another child's play) • Understands how to take turns during play with other children, with adult guidance and assistance	Arrival and dismissal routines with caregivers Snack time and circle time with teachers Indoor play time with peers Outdoor play time with peers

Step 3

Prepared activities/materials appropriate for Louis' chronological or functional age. Thought of possible responses from Louis and was prepared to adapt the activities/materials if necessary

As Louis was a new student, the EI team did not have a previous functional age band (i.e., FAE) as a reference for understanding his previous level of functioning in GCO 1. Other than the information gathered at intake, they also made observations of Louis as he settled into the centre over the first 2 to 3 weeks, to learn about his interests and estimated current level of functioning to prepare activities and materials for SRO.

The EI team also referred to their existing knowledge of child development and early intervention. For example,

> Teacher Shufen and OT Amy had been assessing and conducting intervention for children similar to Louis' developmental profile for the past 2 years. By also referring to their existing knowledge on child development and other child development resources, they estimated that Louis might be functioning between the age of 13-18 months old and prepared materials and activities suitable for that developmental age (e.g., videos of nursery songs, picture board books, cause-and-effect toys such as a remote-controlled car, bubbles, taste-safe PlayDoh and a water gun).
>
> SLT Faizal had been with the EI centre for almost a year. He could see that Louis appeared to be delayed in his GCO 1 functioning compared to his niece when she was the same age. However, he was not quite sure where Louis was in terms of his social-emotional development. Hence, after referring to the ECHO AE Reference under the age bands of 13-18 months, 19-24 months and 25-30 months, and another child development resource, he noted down potential functional performance behaviours that might be observed under GCO 1.

During SRO

The EI team observed Louis during various routines between Weeks 4 and 8 of Term 3. They referred to *Chapter 6* to ensure that they applied the key principles of conducting a good SRO.

Key Principle 1

Engagement

Before recording BDs, Teacher Shufen considered Louis' interest, attention and engagement during the routines. For example, when the class was exploring the pretend play corner on Monday, she noticed that Louis was running around and not playing with the toys. She tried to initiate an interaction and engage him by showing him how to play with the toys in a fun way. Louis just watched for a moment before moving away.

> Teacher Shufen took notes on Louis' behaviour as this could give an indication of his interest and play skills. However, she did not write any BDs on how he responded to her initiation as she was aware that Louis did not engage in the activity, which would not provide any indication of his abilities.

The next day, during playtime, she showed him how to operate a remote-controlled police car. He immediately smiled at her and pulled her hand to get her to operate the car again. When Teacher Shufen saw that he was engaged, she started recording BDs.

Key Principle 2

Functional Performance

At the end of Week 6, Teacher Shufen (who is also the GCO Leader) took a quick look at all the BDs she had collected so far in her SRO record form. She noticed that there was one BD (BD 1) that, on reflection, may not be a functional performance behaviour:

BD 1:
Louis turns to look at Teacher Shufen, walks to her and holds her hand when she calls his name and frowns at him during snack time in class.

Louis!

The BD was recorded during snack time when she wanted to test whether Louis could respond to the emotions of others (GCO 1.2.2). She randomly called Louis' name while he was eating and showed him an angry frown (pretending to be angry). After Louis held her hand, Teacher Shufen said, "It's okay, Louis," before ending the interaction.

Although this BD has a clear trigger, action and context, it is a capacity behaviour rather than functional performance behaviour as:

1. The trigger for the behaviour was based on Teacher Shufen's intent to 'test' the child on whether he could perform a skill (e.g., take notice of her expression when asked and respond accordingly).

2. It was not part of a natural social interaction and the interaction with the child ended once a response was given by the child.

The following week, Teacher Shufen was dancing with the students during circle time when Louis accidentally hit her on the arm. She took the opportunity to observe how Louis would naturally react when she expressed pain. When Louis continued to dance without responding to her feelings (see BD 2), Teacher Shufen intervened to help Louis recognise her feelings before showing him what he could do (see BD 3).

Ouch, that hurts!

BD 2:
Louis looks at Teacher Shufen for a few seconds before continuing to dance when Teacher Shufen says loudly and with a pained look on her face, "Ouch, that hurts!" while holding on to her arm (after Louis accidentally bumped into her) during circle time at the EI centre.

BD 3:
Louis pats Teacher Shufen's arm when she says with a pained look on her face, "Louis, it hurts so much here (points to the arm). Can you pat it? (shows him how to do it)" after Louis bumped into her during circle time at the EI centre.

Can you pat it?

Unlike BD 1, BDs 2 and 3 demonstrate functional performance behaviours as:

1. The trigger (Teacher Shufen showed a pained expression and cried out) was part of a natural interaction in response to Louis accidentally hitting her.

2. Teacher Shufen continued the interaction by helping Louis understand how she felt and teaching him an appropriate social response.

Key Principle 3

Independence

During the SROs, SLT Faizal and OT Amy allowed Louis to participate in his routines independently, providing prompts only when necessary to ensure that the BDs accurately reflected Louis' current level of functioning. For example, while observing Louis at the playground, OT Amy noted that Louis did not know how to join a queue and wait his turn. She recorded the following BD:

BD 4:
Louis pushes past his peers who are queuing to go up the slide and steps on the foot of a peer when he sees the slide during outdoor time at the playground at EI centre.

OT Amy understood that although the behaviour was undesirable, BD 4 was still a functional behaviour as it clearly indicates what Louis did instead of what he did not do (i.e., 'pushes past his peers' instead of 'did not line up').

After the recording of BD 4, OT Amy stepped in to support Louis. She took notes of the prompts she gave Louis to teach him how to queue, which could be written as significant BDs. It was noted that Louis did not respond to OT Amy's verbal and gestural prompts to join the queue and wait for his turn, but he was able to stand in the queue when she held his hand (see BD 5).

BD 5 (with physical prompts):
Louis stands in the queue behind his classmates waiting to go on the slide while holding OT Amy's hand, when she says to him, "Louis, you have to get in line and wait for your turn", during outdoor time at the playground in EI centre.

Louis, you have to get in line and wait for your turn.

Both BDs 4 and 5 depict how Louis waited in a queue in a social context based on his current level of functioning.

Key Principle 4

Significance

By Week 7 and after numerous observations, the EI team had a better understanding of Louis' current level of functioning and was more targeted in observing and recording significant BDs. They also began to review the BDs collected since Week 4 and ascertained whether they were significant before entering the BDs into the GCOMWR. For example, Teacher Amy and OT Shufen had recorded that Louis would usually greet his familiar caregivers by name.

Popo!

BD 6:
Louis runs towards his grandparents, hugs them and says, 'Popo' when he sees them standing at the entrance during dismissal time in the EI centre.

BD 7:
Louis runs towards his father, smiles at him (father), and says, 'Pa' before running away when he sees his father at the door after work during play time at home.

Pa!

However, during one of the observations in Week 6, SLT Faizal observed that Louis only ran and hugged his grandmother during dismissal time. SLT Faizal was aware that this was not how Louis usually greeted his caregivers and did not record the observation as a BD as it was not a significant behaviour.

Understanding the Child in Natural Routines: Information from Routines at Home and in the Community

Teacher Shufen scheduled an interview with Louis' parents in Week 6. Table C-4 shows how the EI team prepared for the interview and what they did during and after the interview. Table C-5 contains a short excerpt from the interview with Louis' caregivers.

Table C-4. *Summary of Interview with Louis' Caregivers.*

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Preparing the caregivers:

- Teacher Shufen called Louis' father in Week 4 to schedule an interview.
- As his paternal grandparents were the main caregivers during the weekdays, they were also invited to join the session.
- Teacher Shufen informed Louis' parents that a one-hour interview was needed to gather specific information about Louis' behaviours across daily routines at home, and to better understand caregivers' concerns and priorities for intervention.

Planning for the interview:

- The EI team referred to the same notes gathered from the referral and intake screening forms, including the centre-developed 'Child's Daily Routines' form.
- They also picked out specific BDs across the GCO 1 themes to clarify with caregivers whether Louis demonstrates similar behaviours at home.
- They noted key concerns that parents had reported at the intake screening in June 2020.
- OT Amy was not able to make it for the interview. SLT Faizal took notes using their centre-developed 'Caregiver Interview Form' while Teacher Shufen interviewed the caregivers.
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Starting and conducting the interview:

- Teacher Shufen thanked Louis' caregivers for taking time to attend the session and reminded them of the duration and purpose of the interview.
- She checked in with the caregivers on which routines to prioritise for the discussion, and they discussed Louis' behaviours across the GCO themes during these routines at home.
- She prioritised seeking more information about Louis' behaviours that that could only be observed at home or in the community (e.g., showering, how Louis interacted and played with his younger brother, how he participated in activities in the community).
- She also asked whether behaviours observed in the EI centre (e.g., feeding ability, toileting ability) were demonstrated during home routines. This was to determine the generalisation of skills and behaviours across contexts.
- She made sure to clarify parents' descriptions and concerns (e.g., what they meant when they said Louis had a short attention span and poor social skills) and asked for examples with specific components of ATC.
- SLT Faizal took notes on what was discussed. When necessary, he supported Teacher Shufen by probing further and/or clarifying.

Ending the interview:

- Teacher Shufen summarised what had been discussed, including the family's concerns and priorities for intervention.
- She explained that the information would be integrated with the assessment data at the EI centre. She pre-empted the caregivers that the team might clarify information with them during drop-off or pick-up time, or via other means such as phone calls when necessary.
- She explained that information provided by caregivers would assist the EI team in formulating accurate and relevant functional goals for intervention. These goals for Louis' IEP would be discussed with caregivers during the parent-teacher conference (PTC) in Week 10.
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Collating Information

- The EI team looked through all the information from the interview and identified significant home BDs, caregiver's concerns and priorities, which were keyed into the GCOWMR.
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Table C-5. *Excerpt from Caregiver Interview.*

Teacher Shufen:

Paraphrasing and asking open-ended question

> Mr Lee, you mentioned that playtime at home is messy and that Louis does not know how to play. Can you tell us more about what he does?

> Louis has a lot of toys. We keep them in boxes in his room. He usually takes the boxes of toys, pours and leaves them on the floor. So it's very messy. But he only plays with the same few toys.

Asking for details and clarifying for action

> Thank you for sharing that. What are the toys that Louis plays with and how does he play with them?

> Usually it's balls or cars. He likes to spin the balls and watch them. For the cars, he only chooses the yellow ones because they are his favourite. He pushes them around and watches the wheels spin. The other 50% of the time he lines them on the floor. He can do this for a very long time, but he doesn't play with other toys, like puzzles or the kitchen set his aunt gave him.

SLT Faizal:

Asking for details with open-ended questions

> I see. Mr Lee, what are the other family members doing when it's Louis' playtime at home?"

> Mummy is usually busy with the younger brother. I am usually with Louis. Sometimes I try to play with him but get no response. He likes to play by himself.

Asking for details and clarifying action and trigger

> Could you tell me more about how you try to play with him, for example, what you say or do? And when you mentioned that Louis does not respond to you, what does he do instead?

> For example, I call his name and say 'Look, Louis! I am parking the cars' while I show him how I park the cars in the toy garage. He does not look at me and continues to play and line his cars.

After the SRO and Home Interview

Between Weeks 7 and 8, the EI team reviewed the BDs on the GCOWMR (see Table C-6) to ensure that there was a range of significant BDs from school and home for each GCO 1 theme. The EI team also ensured that the BDs were correctly classified into the respective GCO themes and threads. In the event of insufficient BDs, the team would make time for more observations. In this case, the team determined there were sufficient BDs (including BDs for GCOs 2 and 3) and proceeded to prepare for the GCO Entry Meeting.

Table C-6. *GCO 1 BDs Recorded for GCO Entry Meeting.*

S/N	EI Team Member	Source	Action	Trigger	Context	GCO Theme/ Thread
1	Amy	Entry (School Routines (indoor))	Louis runs towards his grandparents, hugs them and says, "popo"	when he sees them standing at the entrance	during dismissal time at the EI centre.	GCO 1.1.1
2	Shufen	Entry (Home Routines (Play))	Louis runs towards his father, smiles at him (father) and says "pa" before running away	when he sees his father at the door after work	during play time at home.	GCO 1.1.1
3	Shufen	Entry (School Routines (indoor))	Louis hides his hands behind his back and smiles	when Teacher Shufen says, "Show me your hands" (to sanitise his hands)	during arrival time at the EI centre.	GCO 1.1.1
4	Shufen	Entry (Home Routines (outdoor))	Louis looks at a child and touches the child on the cheek and nose	when he sees the child standing next to him at the slide area	during outdoor playground time at home.	GCO 1.1.1
5	Shufen	Entry (School Routines (indoor))	Louis reaches his hand out towards Teacher Shufen and gives her a hi-5	when the Teacher Shufen puts out her hand (with open palm) and says, "Hello, good morning Louis!"	during arrival time at the EI centre.	GCO 1.1.2
6	Faizal	Entry (School Routines (indoor))	Louis pushes a car down the toy ramp and says "zoom"	when SLT Faizal says "Ready, set, go!"	during play time at the EI centre.	GCO 1.1.2
7	Faizal	Entry (School Routines (Play))	Louis crashes a toy car into a stack of wooden blocks and says, "uh-no!"	after he sees SLT Faizal doing the same action and saying, "Oh no, the car crashed!"	during play time at the EI centre.	GCO 1.1.2

S/N	EI Team Member	Source	Action	Trigger	Context	GCO Theme/ Thread
8	Faizal	Entry (Home Routines (Play))	Louis hides behind the curtain and laughs	when his father says, "Where is Louis? I can't find him!"	during play time at home.	GCO 1.1.2
9	Faizal	Entry (Home Routines (Play))	Louis continues to line up his cars	when his father says, "Look, Louis! I am parking the cars" as he (father) shows Louis how to park the cars in the toy garage	during play time at home.	GCO 1.1.2
10	Faizal	Entry (Home Routines (play))	Louis screams and snatches a toy car from his brother	when his brother takes one of the cars Louis has been playing with	during playtime at home.	GCO 1.1.5
11	Shufen	Entry (School Routines (indoor))	Louis looks at Teacher Shufen for a few seconds before continuing to dance	when Teacher Shufen says loudly and with a pained look on her face, "Ouch, that hurts!" while holding on to her arm (after Louis accidentally bumped into her)	during circle time at the EI centre.	GCO 1.2.1
12	Shufen	Entry (School Routines (indoor))	Louis pats Teacher Shufen's arm	when she says with a pained look on her face, "Louis, it hurts so much here (points to the arm). Can you pat it?" (shows him how to do it) after Louis bumped into her	during circle time at the EI centre.	GCO 1.2.1
13	Shufen	Entry (Home Routines (play))	Louis screams, cries loudly and throws the toy cars on the floor	when his mother tells him (using a stern voice and angry expression), "Cannot snatch and push didi, must share your toys"	during play time at home.	GCO 1.2.1

S/N	EI Team Member	Source	Action	Trigger	Context	GCO Theme/ Thread
14	Amy	Entry (School Routines (indoor))	Louis screams and cries loudly	when OT Amy stops him from climbing the chair	during circle time at the EI centre.	GCO 1.2.1
15	Amy	Entry (School Routines (outdoor))	Louis cries loudly	when his teacher says, "Water play is over. Time to put the toys away"	during outdoor time at his preschool.	GCO 1.2.2
16	Amy	Entry (School Routines (outdoor))	Louis laughs loudly	when OT Amy pushes him on the swing	during outdoor time at the EI centre.	GCO 1.2.3
17	Shufen	Entry (School Routines (indoor))	Louis jumps and flaps his hands excitedly	when he hears the 'Baby Shark' song being played	during circle time at the EI centre.	GCO 1.2.3
18	Amy	Entry (School Routines (outdoor))	Louis pushes past his peers who are queuing up to go up the slide and steps on the foot of a peer	when he sees the slide	during outdoor time at the playground in EI centre.	GCO 1.3.1
19	Amy	Entry (School Routines (outdoor))	Louis stands in line behind his classmates waiting to go on the slide while holding OT Amy's hand	when she holds his hand and says to him, "Louis, you have to get in line and wait for your turn"	during outdoor time at the playground in EI centre.	GCO 1.3.1
20	Shufen	Entry (Home Routines (outdoor))	Louis stands quietly next to his grandma while holding on to her hand	when his grandma holds his hand and tells him that they need to queue up to buy dinner	at the chicken rice stall in the coffee shop.	GCO 1.3.1

C. GCO Entry Meeting

Summarise and Evaluate Child's Profile

The EI team planned for the GCO Entry Meeting to summarise and evaluate the child's profile with the information gathered from the SROs and routines at home and in the community.

Before the GCO Entry Meeting

For this case study, the GCO Entry Meeting (v1) was used.

The EI team started their preparation for the meeting two weeks before the scheduled GCO Entry Meeting date. Teacher Shufen, OT Amy and SLT Faizal ensured that they fulfilled their respective roles and responsibilities in the preparation. This included reviewing the BDs in the GCOWMR and preparing individual FAEs.

As the GCO Leader, Teacher Shufen made sure the GCOWMR was ready for the meeting.

She ensured that the number and variety of school and home BDs recorded in the GCOMWR fulfilled the **Guidelines for the GCO Process**, and that they were significant in representing Louis' current level of functioning in the 3 GCOs.

She drafted inference statements for each GCO to help with GCO discussion during the meeting.

Just before the start of the meeting, she entered her FAEs and the FAEs of OT Amy and SLT Faizal for Louis in the GCOWMR. This fulfils the criteria for Item 1.2 of the **GCO Meeting Checklist (Entry)**.

Table C-7 shows the FAEs for GCO 1 submitted by Teacher Shufen, OT Amy and SLT Faizal (fulfilling the criteria for Item 1.2 of the **GCO Meeting Checklist (Entry)**.

Table C-7. *Individual FAEs for GCO 1.*

	GCO Leader/Member	FAE for GCO 1
	Lead Teacher Shufen (GCO Leader)	13 – 18 months
	OT Amy	13 – 18 months
	SLT Faizal	19 –24 months

During the GCO Entry Meeting

The meeting was held in a quiet and private room with a projection for sharing of information. In addition, Teacher Shufen, OT Amy and SLT Faizal brought their documented evidence of Louis' current level of functioning to the meeting. The above steps fulfil the criteria for Items 1.1 and 1.3 of the *GCO Meeting Checklist (Entry)*.

SLT Faizal was assigned to be the note-taker while OT Amy was assigned to be the timekeeper.

Start of the GCO Entry Meeting

At the beginning of the meeting, Teacher Shufen verified Louis' full name, birth certificate number, chronological age, and medical diagnosis (see Table C-8). This process fulfils the criteria for Items 1.4 and 1.5 on the *GCO Meeting Checklist (Entry)*.

Table C-8. *Louis' Details.*

Full Name	Louis Lee	**Date of GCO Meeting**	24-Aug-2020
Birth Certificate Number	XXXXX123A	**Chronological Age at Pre-Case**	40 Months
Date Of Birth	20-Apr-2017	**Chronological Age Band**	37 – 48 months
Gender	Male	**Programme enrolled (at time of GCO Meeting)**	Twinkle EI Centre
Primary Diagnosis	Autism Spectrum Disorder		
Diagnosis Status	Provisional	**Current Programme Start Date**	29-Jun-2020
Secondary Diagnosis	NIL		

Teacher Shufen proceeded to summarise Louis' family, education and social background. She also highlighted the caregivers' concerns for Louis (see Table C-9). This supports family-centred practice and meets the criteria for Item 1.6 of the *GCO Meeting Checklist (Entry)*.

Table C-9. *Information about Louis and his Family's Background.*

Child and Family Information:
- Louis lives with his parents and has a 2-year-old younger brother.   - Parents work full time and no financial concerns were reported.   - Louis currently attends Sunshine Preschool in the morning and Twinkle EI Centre in the afternoon.   - Paternal grandparents, who live a block away from Louis' family, are his main caregivers.   - Parents send Louis from home to preschool and grandparents fetch him from preschool to EI centre and back to grandparents' house. Louis' parents pick him and his younger brother up from the grandparents' house in the evening.   - Father is the main contact person. He provided most of the information about Louis' current level of functioning during the intake screening and caregiver interview.   - Mother is Vietnamese and has limited ability to converse in English or Mandarin, but father is able to do simple translations for her.
Caregivers' Concerns:
1. Louis has difficulty expressing his wants in words. He often pulls his parents' hands and/or whines to communicate. 2. Louis has short attention span and has difficulty staying seated for more than 10 minutes (e.g., during class time at preschool, during meals at home). 3. Louis plays alone at preschool, does not consistently make eye contact with others during social interactions, and has difficulty sharing toys with others, especially his younger brother.

Before the EI team proceeded to discuss Louis' current level of functioning in GCO 1, Teacher Shufen checked if OT Amy and SLT Faizal had any questions or additional information about Louis and his family's family, education and social background.

GCO 1 Discussion

Table C-10 shows an excerpt from the GCO 1 discussion between Teacher Shufen, OT Amy and SLT Faizal. Selected items from the *GCO Meeting Checklist (Entry)* are highlighted on the left column, where applicable.

Table C-10. *Excerpt from GCO 1 Discussion.*

Team Leader states the inference statement. **Item 2.2:** **Team discusses evidence/ examples to substantiate all themes relevant to Louis' current level of functioning within GCO 1.** • **Ensure that the discussion is objective (i.e., substantiated by BD evidence in ATC format)** • **Relevant BDs are highlighted in the GCOWMR for ease of reference**	**Teacher Shufen** We begin our GCO discussion with GCO 1, where we consider how Louis' behaviours contribute to positive social-emotional relationships. In GCO 1.1, Louis initiates and responds to interactions with familiar adults, such as his caregivers and teachers, most of the time. He does this by looking at them briefly, smiling, hugging them or imitating their action (e.g., the action of a car crash). He is beginning to notice his peers and on one occasion tries to initiate interaction by touching a peer on the face. However, this behaviour is not yet consistently observed. We can refer to these highlighted BDs in the GCOWMR that show how he initiates and responds to interactions using actions: • GCO 1.1.1: Louis runs towards his grandparents, hugs them and says 'popo' when he sees them standing at the entrance during dismissal time at EI centre. • GCO 1.1.1: Louis hides his hands behind his back and smiles when Teacher Shufen says, "Show me your hands" (to sanitise his hands) during arrival time at the EI centre. • GCO 1.1.2: Louis reaches his hand out towards Teacher Shufen and gives her a hi-5 when Teacher Shufen puts out her hand (with open palm) and says, "Hello, good morning Louis!" during arrival time at the EI centre.
Item 3.3: **Good balance of contribution from all members.** • **Members do not repeat each other's points, only new points are added for discussion**	**SLT Faizal** In fact, Louis is also beginning to use single words along with his actions to respond to interactions with adults in the EI centre. For example, • GCO 1.1.2: Louis pushes a car down the toy ramp and says, "zoom" when SLT Faizal says, "Ready, set, go!" during play time at the EI centre. • GCO 1.1.2: Louis crashes a toy car into a stack of wooden blocks and says, "Uh-no!" after he sees the SLT doing the same action and (SLT) says, "Oh no, the car crashed!" during play time in the EI centre. **Teacher Shufen:** Thank you, Faizal. I will add that to the inference statement for GCO 1: Louis occasionally uses single words to respond to interactions with his teachers during play time.

Item 2.4: **Team considers different settings (e.g., home) when discussing the Louis' current level of functioning.**	**OT Amy** In addition to the EI centre, father shared the following BD about how Louis initiates and responds at home: • GCO 1.1.1: Louis runs towards his father, smiles at him (father) and says, 'Pa' before running away when he sees his father at the door coming back from work during play time at home. • GCO 1.1.2: Louis hides behind the curtain and laughs when his father says, "Where is Louis? I can't find him!" during play time at home. However, Louis' father also reports that Louis does not always respond consistently to his parents at home. For example, Louis may still walk away at times, and this is shown by at least 2 BDs, one of which is: • GCO 1.1.2: Louis looks at the toy garage briefly before walking away while holding his yellow cars when his father says, "Look Louis, Daddy is parking the red car" while he (father) pushes the red car into the toy garage, during play time at home. **Teacher Shufen** Thank you, Amy, for pointing out the home BDs. Overall, these BDs show Louis interacting with familiar adults. As for his interactions with other children, we only have 1 BD where: • GCO 1.1.1 Louis looks at a child and touches the child on the cheek and nose when he sees the child standing next to him at the slide area during outdoor playground time at home. In the EI centre, Louis mostly plays alone.
Item 2.3: **Team considers and states the threads that are not relevant to Louis' current level of functioning within GCO 1.**	**Teacher Shufen** Let's move on to the other threads. No BDs have been collected for GCO 1.1.3 and GCO 1.1.4. I have not observed Louis independently maintaining interactions or negotiating social problems. Have any of you observed any behaviours in these areas? **SLT Faizal** I have not observed Louis displaying these abilities, nor have the parents observed or reported these abilities yet.

	OT Amy
	I have not observed anything either.
Item 1.3: **Team brings along documented evidence of Louis' current level of functioning to the GCO Meeting.**	**Teacher Shufen** Okay, let's move on to GCO 1.1.5, social sharing, which is a concern for Louis' parents. We have a home BD that states: • GCO 1.1.5: Louis screams and snatches a toy car from his brother when his brother takes one of the cars Louis has been playing with during play time at home. According to his parents, Louis does not share toys with his brother at home. At the EI centre, I did not observe Louis sharing. **SLT Faizal** Only yesterday I was able to observe Louis sharing a snack with his classmate. I wrote down the BD in my notes: • GCO 1.1.5: Louis gives his classmate a biscuit when she asked him, "Can give me one?" during snack time in class. Let me quickly type that into the GCOWMR. It is good that Louis is starting to share with his peers. However, this seems to be the only time. There are no other BD to support this thread.
Team Leader states the inference statement. **Item 3.4:** **GCO Leader manages the meeting (e.g., facilitating equal contribution from all members).**	**Teacher Shufen** I think we have covered all the relevant threads for GCO 1.1. We will now move on to GCO 1.2—responding to and expressing emotions. Louis usually expresses his emotions by using physical means, e.g., crying loudly and throwing toys when he is angry, or jumping and flapping his arms when happy. Amy and Faizal, I believe we have some BDs that highlight this. **OT Amy** Yes, there are 2 BDs highlighted in the GCOWMR for GCO 1.2.1.

- GCO 1.2.1: Louis screams, cries loudly and throws the toy cars on the floor when his mother tells him using a stern voice and angry expression, "Cannot snatch and push didi, must share your toys" during play time at home.
- GCO 1.2.1: Louis looks at Teacher Shufen for a few seconds before continuing to dance when Teacher Shufen says loudly and with a pained look on her face, "Ouch, that hurts!" while holding on to her arm (after Louis accidentally bumped into her) during circle time at the EI centre.

For the home BD, it is unclear whether Louis was reacting to his mother's emotions, e.g., the stern voice or angry facial expression. He could also be expressing negative emotions because he was told that he must not snatch and push his brother, and had to share his toys.

The BD collected during circle time shows that Louis was unaware when you were hurt, and he needed prompts to be aware and know what to do in this situation:

- GCO 1.2.1: Louis pats Teacher Shufen's arm when she says with a pained look on her face, "Louis, it hurts so much here (points to the arm). Can you pat it?" (shows him how to do it) after Louis bumped into her during circle time at the EI centre.

Item 2.6:	
Team discusses functional performance primarily and integrates evidence on domain-based skills or capacity behaviour (where relevant).	**Teacher Shufen**

Teacher Shufen

Thank you, Amy, for raising this point.

Another BD was recorded during snack time, when I wanted to test whether Louis would react if I pretended to be angry. So, while he was eating, I called his name and showed him an angry frown. After Louis held my hand, I said, "It's okay, Louis", before walking away. The trigger for this behaviour is largely based on my intention to test Louis and is not part of a natural social interaction. Therefore, it is perhaps more accurate to say that Louis is beginning to recognize and respond to adult emotions, such as anger, when supported.

OT Amy and SLT Faizal

Yes, I agree.

Item 3.4: **GCO Leader manages the meeting (e.g., ensures that the team does not dwell on domain skills).** **Item 3.1:** **Team uses little jargon and provides clear explanations whenever necessary.**	**Teacher Shufen** Okay, let's move on to how Louis expresses his emotions. I have BDs for GCO 1.2.3 – expressing positive emotions: • GCO 1.2.3: Louis jumps and flaps his hands excitedly when he hears the 'Baby Shark' song being played during circle time in the EI centre. • GCO 1.2.3: Louis laughs loudly when OT Amy pushes him on the swing during outdoor time at the EI centre. I see that Amy, you have a BD on expressing negative emotions. Could you share that? **OT Amy** Yes. According to grandparents, this happened during outdoor time at Louis' preschool: • GCO 1.2.2: Louis cries loudly when his teacher says, "Water play is over. Time to put the toys away" during outdoor time at his preschool. I have noticed that Louis has difficulty modulating his emotions and that he struggles with social awareness. **Teacher Shufen** Let me see if I have understood this correctly. Can you explain in simpler terms? **OT Amy** Sure! Sorry about that. I have noticed that Louis sometimes finds it difficult to control his negative feelings, such as anger or sadness, and that he does not recognise social cues such as other's feelings or social rules like lining up. **Teacher Shufen** Thank you Amy for explaining it. I agree with you. There are other school and home BDs that show how Louis usually expresses anger or sadness by crying or shouting loudly as discussed above. If there is nothing else to add, shall we move on to GCO 1.3?

Item 3.3: **Good balance of** **contribution from all** **members.**	**OT Amy** Yes, I have nothing to add. Moving onto GCO 1.3 – following social rules, like I have briefly shared earlier, Louis has yet to demonstrate the ability to wait in a queue independently. Here is a BD showing that: - GCO 1.3.1: Louis stands with his peers for a few seconds before pushing past them in the queue to go up the slide, and steps on the foot of a peer when he sees the slide during outdoor time at the playground at EI centre. **Teacher Shufen** I have not seen Louis queuing up independently when using the toilet as well. However, if we hold his hands, he is able to stand and wait quietly in line with other adults like his grandmother and you. For example, - GCO 1.3.1: Louis stands quietly next to his grandma while holding on to her hand when his grandma holds his hand and tells him that they need to queue up to buy dinner at the chicken rice stall in the coffee shop. - GCO 1.3.1: Louis stands in line behind his classmates waiting to go on the play slide while holding OT Amy's hand when she holds his hand and says to him, "Louis, you have to get in line and wait your turn" during outdoor time at the playground in EI centre. As for GCO 1.3.2 and 1.3.3, Louis has yet to be exposed to rule-based games in the EI centre or at home. I do not have BDs relating to following unwritten social rules or expectations. Faizal and Amy, do you have anything to add? **OT Amy and SLT Faizal**
Item 2.1: Did the team **consider the three themes in** **each GCO?**	No, I don't have anything to add. I share the same findings. At this point, the team has discussed the three themes in GCO 1. [Team reviews the updated inference statement and if no further changes are required, team moves on to FAE justification.]

GCO 1 FAE Justification

For GCO 1 FAE justification, each EI team member justified their FAE by using the BDs discussed and inference statements. At the end, they agreed on the FAE that best describes Louis' current level of functioning in GCO 1, i.e., meeting Item 2.8 of the **GCO Meeting Checklist (Entry)**. Part of the EI team's discussion can be found in Table C-11.

Table C-11. *Excerpt from FAE Justification Discussion for GCO 1.*

Item 1.2: **All team members provided FAE for each of the 3 GCOs to the GCO Leader before the meeting.**	**Teacher Shufen** Let us now discuss the FAE for GCO 1. As we can see in the GCOWMR, Faizal has placed Louis' FAE at 19-24 months, while Amy and I have set it at 13-18 months. We will begin the discussion with the higher age band.
Item 2.8: **Substantial discussion between team members using evidence to support age estimates (e.g., explaining why an age band was chosen using BD examples and observations).** **Item 2.7:** **Team uses a variety of child development resources alongside ECHO's AE Reference appropriately when deciding on a FAE.**	**SLT Faizal** Sure. Let me explain why I gave an FAE of 19-24 months for GCO 1. We have at least 3 significant BDs in the EI centre and home routines where Louis initiates interactions with familiar caregivers or responds to them with affection, e.g., hugging his grandparents, smiling at his father, and using single words greetings (refer BDs 1, 2 and 3 in Table C-6). He not only initiates interactions with other children by using actions (e.g., looking and touching), but also asserts his needs when he wants to (e.g., taking a toy away from his brother) (refer BDs 4 and 10 in Table C-6). With reference to Healthy Beginnings[6], at 18 to 24 months, children show increased interest and assert independence when with other children. As for Louis' ability to express emotions, we have seen how he expresses a variety of emotions, e.g., happiness, anger, through actions (refer BDs 14-17 in Table C-6). Although screaming and throwing toys are not desirable, these behaviours are consistent with what is expected of a 19- to 24-month-old child as described in the ECHO AE Reference, i.e., expressing positive and negative emotions without restraint. Louis also imitates adults' reactions, e.g., copying me when I say "uh-no!" after crashing a toy car into a stack of blocks [refer BD 7 in Table C-6]. Given this evidence, I believe that Louis' current level of functioning in GCO 1 is at 19-24 months.

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[6] Healthy Beginnings: Supporting Development and Learning from Birth through Three Years of Age (Maryland State Department of Education, 2010)

Item 3.4: **GCO Leader manages the meeting (e.g., paraphrasing and summarising information, facilitating equal contribution from all members).**	**Teacher Shufen** Thank you, Faizal, for relating Louis' behaviour to what is expected of a child aged 19-24 months in terms of initiating/responding to interactions, asserting needs, expressing emotions and imitating responses. Amy, could you share your perspective on this?
Item 2.8: **Substantial discussion between team members using evidence to support age estimates (e.g., considering the frequency and range of behaviours observed).**	**OT Amy** Sure, Shufen. I agree with Faizal that Louis sometimes initiates and responds to interactions with familiar caregivers through actions and with affection. However, we do not have any BDs to show that Louis is able to maintain interactions, which children aged 19-24 months are able to do. Additionally, I have differing opinions about his interactions with his peers. If we refer to Healthy Beginnings[1]*,* there are examples of how children typically show increased interest and assert their independence with other children, we can see that Louis does not exhibit the same range of behaviours. For example, his parents have seen him looking at and touching the nose of another child [refer BD 4 in Table C-6], but we have not observed him paying attention to other children or imitating them while playing. According to the same guidelines, a child aged 18-24 months occasionally shows awareness and concern for other children's feelings. This is a behaviour that we have not yet observed in Louis.
Item 2.7: **Team uses a variety of child development resources alongside ECHO AE Reference appropriately when deciding on a FAE.**	**Teacher Shufen** I agree with Amy. In fact, according to the ECHO AE Reference, approaching and touching another child is one of the ways children aged 13-18 months show their interest in other children. At the EI centre, Louis plays alone most of the time, which Mary Sheridan[7] says is expected of an 18-month-old. What do you think of that, Faizal? **SLT Faizal** I agree that given the one BD we have collected, there is insufficient evidence that Louis is able to initiate interactions with his peers consistently and in a variety of ways.

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[7] From Birth to Five Years: Children's Developmental Progress (Sheridan, 2007)

Item 2.9: **All team members agree on the FAE for the GCO 1.**	**Teacher Shufen** I would add that in our earlier discussion we have significant BDs in which Louis consistently expresses his anger and joy through actions. But we have not observed him expressing other emotions. Looking at the Larimer County Age Anchoring Tool[8], we know that a 24-month-old child can express a wider range of emotions such as jealousy, sympathy, guilt and modesty. Putting it all together, do you agree that 13-18 months does represent his current level of functioning, but we can consider the next 'bridging' age band of 16-21 months based on what Faizal has shared? **SLT Faizal** I agree that the BDs I have highlighted do belong to the next age band. **OT Amy** I agree too since Louis does show to have emerging functional performance behaviours in the next age band.
EI team considers if Louis displays significant behaviours in the next age band.	**Teacher Shufen** Does Louis display significant behaviours in the next age band? **SLT Faizal** We have at least 2 BDs showing Louis interacting with his caregivers affectionately and with single word greetings and 1 BD, where he imitates my reactions (refer BDs 1, 2 and 5 in Table C-6). He is also starting to share his food as I shared earlier, and wait in line with the support of an adult (refer BDs 19 and 20 in Table C-6). **OT Amy** Based on what Faizal has shared, Louis does have some emerging functional performance behaviours in the next age band and I would agree for a 'bridging' age band. **Teacher Shufen and SLT Faizal** I agree.

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[8] Larimer County Age Anchoring Tool (n.d.)

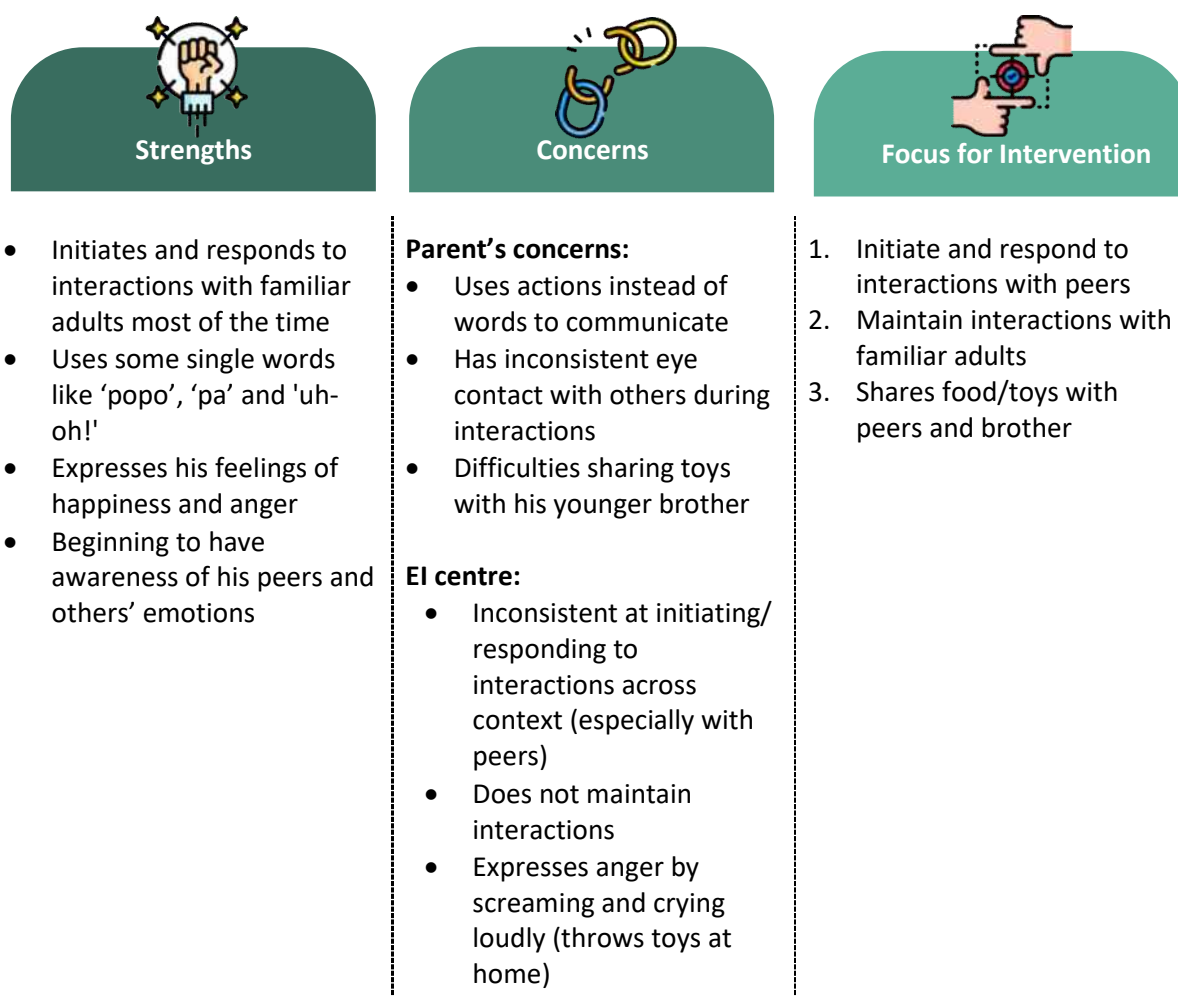The EI team agreed to bridge Louis' FAE for GCO 1 to 16-21 months (see Table C-12).

Table C-12. *Louis' FAE for GCO 1.*

For GCO 1, the child's functional behaviour is best represented by:	*13-18 months*
For GCO 1, does the child exhibit significant functional behaviour in the next age band?:	Yes *16-21 months*
For GCO 1, do we agree that the child's functional age is _____?:	Yes *16-21 months*

The EI team continued the discussion for GCO 2 and GCO 3 for the remainder of the GCO Meeting. They also discussed and agreed that Louis does not exhibit challenging behaviours.

Before ending the GCO Meeting, the EI team summarised Louis' overall strengths and concerns and identified the focus for his intervention in each GCO (see Figure C-4). This step met the criteria for Item 2.11 of the *GCO Meeting Checklist (Entry).*

Figure C-4. *Louis' Strengths, Concerns and Focus for Intervention in GCO 1.*

Strengths

- Initiates and responds to interactions with familiar adults most of the time
- Uses some single words like 'popo', 'pa' and 'uh-oh!'
- Expresses his feelings of happiness and anger
- Beginning to have awareness of his peers and others' emotions

Concerns

Parent's concerns:
- Uses actions instead of words to communicate
- Has inconsistent eye contact with others during interactions
- Difficulties sharing toys with his younger brother

EI centre:
- Inconsistent at initiating/ responding to interactions across context (especially with peers)
- Does not maintain interactions
- Expresses anger by screaming and crying loudly (throws toys at home)

Focus for Intervention

1. Initiate and respond to interactions with peers
2. Maintain interactions with familiar adults
3. Shares food/toys with peers and brother

After the GCO Entry Meeting

GCO Summary

The EI team consolidated the inference statements and significant BDs discussed during the GCO Entry Meeting to form the GCO Summary.

GCO 1: Positive Social-Emotional Relationships

Describes how the child relates to other people, expresses emotions, responds to emotions of others and follows rules of social interaction.

Louis initiates and responds most of the time to interactions with familiar adults, such as his caregivers and teachers. He does this by looking at them briefly, smiling, hugging them or imitating their actions. and occasionally uses single words to greet them. However, he may not consistently respond to others, for example when he is playing at home. He is beginning to notice his peers and tries to initiate interaction by touching them. However, this behaviour is not yet consistently observed. Louis is starting to share with others (e.g., food) under the guidance of the teacher at the EI centre. Some examples of the behaviours observed:

- Louis takes two cars and pushes them across the table to the teacher as he says, 'Oooom' when he sees Teacher Shufen walking towards him during playtime in the EI centre.
- Louis crashes a toy car into a stack of wooden blocks and says, "Uh-no!" after he sees the SLT do the same action and (SLT) says, "Oh no, the car crashed!" during playtime at the EI centre.
- Louis gives his classmate a biscuit when she asks him, "Can give me one?" during snack time in class.

Louis usually expresses his emotions by using physical means (e.g., crying loudly and throwing toys when he is angry, or jumping and flapping his arms when happy). He is beginning to recognise and respond to adult's emotions, such as anger, with support. Some examples of the behaviours observed:

- Louis screams, cries loudly and throws the toy cars on the floor when his mother tells him (using a stern voice and angry expression), "Cannot snatch and push didi, must share your toys" during play time at home.
- Louis jumps and flaps his hands excitedly when he hears the 'Baby Shark' song. being played during circle time at the EI centre.

Louis requires adults to hold his hand to wait in a queue in a social context. For example,

- Louis stands quietly next to his grandma while holding on to her hand when his grandma holds his hand and tells him that they need to queue up to buy dinner at the chicken rice stall in the coffee shop.

Functional Goals Formulation

The EI team identified GCO 1 goals for Louis' IEP by considering all information gathered during the GCO Entry Process. The P-CAT format was used as a guide for formulating functional goals (refer to **Appendix 8.6.1: Functional Goal Writing Template**) and an example is provided in Figure C-6.

Figure C-6. *Steps Taken by EI Team When Writing Functional Goals.*

	Considerations	Functional Goal
Purpose (P)	**Parents' priority:** • Louis plays with his friends **Focus for intervention:** • Initiate and respond to interactions with peers	Louis will initiate interactions

Context (C)	**Circumstances in Louis' natural environment:**
	• People, routine, places:
	   o brother, play time, at home
	   o classmates, play time, in EI centre
		with his brother during play time at home and his classmates during play time in the EI centre.

Action (A)	**Louis' current stage of development:** • Most of the time: plays alone, does not pay attention to other children or imitate them • Once: demonstrate interest in another child (approaches and touches child's face) **Next achievable stage of development:** • ECHO AE Reference: 19-24 months – Initiates interactions with other children (e.g., hand a toy) • From Birth to Five Years: Children's Developmental Progress (Sheridan, 2007): 20 months – develops friendship – mutual imitation • Healthy Beginnings: Supporting Development and Learning from Birth through Three Years of Age (Maryland State Department of Education, 2010): 18-24 months – plays near other children, initiates request with other children **What promotes Louis' level of engagement:** • Strengths: can initiate interactions using actions and single words with familiar adults	We know that Louis can do this when he uses actions or single words to initiate an interaction (e.g., offering toys, pointing or reaching out, copying the actions or sounds the other child makes), especially when it comes to toys that interest him (e.g., cars, balls, bubbles).
Timeframe (T)	**Opportunities to show behaviour:** • Attends EI programme 3-days a week • He has play time at home daily **Others:** • What is an achievable level of behaviour? • How long should the behaviour be displayed for it to	for twice a day (once at home and once at EI centre), 3 days a week, across 4 consecutive weeks.

Louis' goals for GCO 1 include:

> Louis will initiate interactions with his brother during play time at home and his classmates during play time in the EI centre. We know that Louis can do this when he uses actions or single words to initiate an interaction (e.g., offering toys, pointing or reaching out, copying the actions or sounds the other child makes), especially when it comes to toys that interest him (e.g., cars, balls, bubbles), for twice a day (once at home and once at EI centre), 3 days a week, across 4 consecutive weeks.

> Louis will maintain interactions with his parents during dinner time at home and his teachers during circle time and playtime in the EI centre. We know Louis can do this when he uses gestures (e.g., waving, pointing, shaking or nodding his head), single words (e.g., 'hello', 'yes', 'no', 'bye') to initiate and respond for 2 or more consecutive exchanges, 3 times a day (once at home and twice at EI centre), 3 days a week, across 4 consecutive weeks.

PTC at Week 10

The GCO Summary and proposed functional goals for IEP were sent to Louis' parents a few days before the PTC.

During the PTC, the EI team reviewed and explained the GCO Summary with Louis' parents, they referred to *Appendix 7.5.6: Explaining GCO Summary to Families*. The EI team finalised Louis' FAEs and GCO Summary after his parents agreed to the GCO Summary and functional goals for the IEP.

D. GCO Review/Exit Process

This section illustrates components of the GCO Review and Exit Processes that are different from the GCO Entry Process.

Specifically, the following key components are illustrated:
- GCO Review/Exit: Understanding the Child in Natural Routines
  - Progress relating to functional goals
  - Progress relating to GCOs

- GCO Review/Exit: Summarising and Evaluating Child Profile
  - GCO Review/Exit Meeting: Goal Discussion
  - GCO Exit Meeting: Transition Plan Discussion

Once again, only the BD collection for GCO 1 and discussion in GCO 1 during the GCO Review/Exit meeting are illustrated to keep the case study succinct.
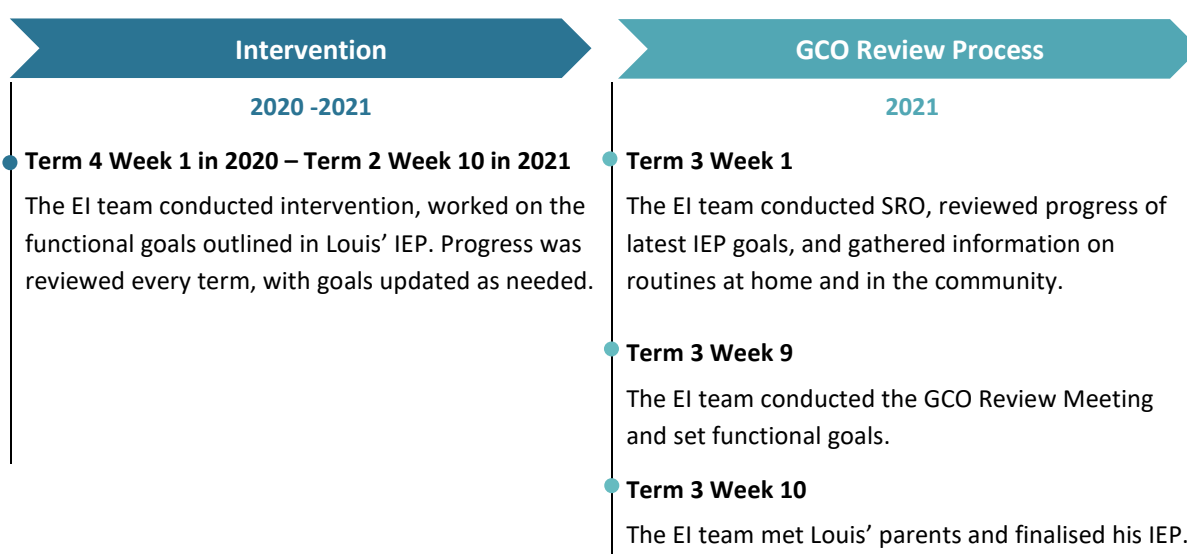
Timeline for GCO Review Process in 2021

At the end of 2020, Teacher Shufen and OT Amy held a handover meeting with Teacher Weilin, who had been assigned to teach Louis' class for 2021.
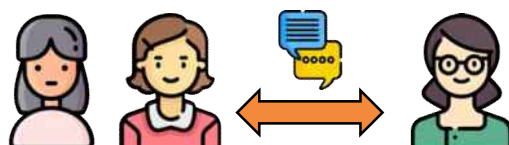
OT Amy and SLT Faizal continued to support Louis as part of the EI team in 2021. During the intervention period, they monitored Louis' progress across the 3 GCOs, updated his goals and adjusted his intervention plans as needed (see Figure C-7).

Figure C-7. *Timeline for Louis' GCO Review Process in 2021.*

Intervention	GCO Review Process
2020 -2021	**2021**
Term 4 Week 1 in 2020 – Term 2 Week 10 in 2021 The EI team conducted intervention, worked on the functional goals outlined in Louis' IEP. Progress was reviewed every term, with goals updated as needed.	**Term 3 Week 1** The EI team conducted SRO, reviewed progress of latest IEP goals, and gathered information on routines at home and in the community. **Term 3 Week 9** The EI team conducted the GCO Review Meeting and set functional goals. **Term 3 Week 10** The EI team met Louis' parents and finalised his IEP.

In Week 1 of Term 3 in 2021 (within 12 months after the GCO Entry Meeting), the EI team began Louis' GCO Review Process by collecting significant BDs through SRO. They also collected home BDs from Louis' caregivers using various methods (e.g., phone calls, Observation Sheet, and informal conversations with grandparents at drop-off and pick-up).

Understanding the Child in Natural Routines

To prepare for the GCO Review Meeting, the EI team gathered and recorded functional performance behaviours specific to Louis' progress relating to:

1. His goals (to collect goal-specific BDs)
2. Other significant behaviours that he shows across the 3 GCOs (to collect GCO-related BDs)

This process helped them understand how Louis was progressing and his current level of functioning in his natural routines.

Progress Relating to Functional Goals

The EI team observed Louis in specific routines relating to his functional goals and recorded these observations as goal-specific BDs. During the intervention period, the EI team had consistently communicated with Louis' caregivers for intervention updates as part of progress monitoring. Specifically, for the GCO Review Process in Term 3, the team communicated with caregivers to gather more updated information before the GCO Review Meeting (see Figure C-8 and Table C-13).

Figure C-8. *EI Team's Plan for Collecting Home BDs During GCO Review Process.*

Staff	Method of Collection	Period of Collection in Term 3
	Check-in with grandparents at pick up/ drop off	Weekly
	Telephone call with father	Week 6
	Observation Sheet	Weeks 3 and 8

Table C-13. *Observation Sheet for Louis.*

Goal 1: Louis will initiate interactions with his brother during playtime at home. We know that Louis can do this when he uses actions or single words to initiate an interaction (e.g., offering toys, pointing or reaching out, copying the actions or sounds his brother makes), especially with toys that interest him (e.g., cars, balls, bubbles), once a day, 3 days a week, across 4 consecutive weeks.

BD No.	Date	Action: What did Louis say or do?	Trigger: What did Louis see or hear that led to the action? (If Louis was supported or prompted by parents, please specify)	Routine
4	25 Aug 2021	Louis crashes into his brother's toy car and says, "Bang"	when he sees his brother's car	Playtime
5	30 Aug 2021	Louis says, "Didi" ('younger brother' in Mandarin) and rolls the ball to his brother	when his mother passed a ball to Louis	Playtime

The EI team clarified with parents the information on the Observation Sheet to ensure clarity and presence of all ATC components (e.g., clarity for BD 4 in Table C-13). Some examples of the goal-specific BDs collected at the EI centre, at home and in the community can be found in Table C-14.
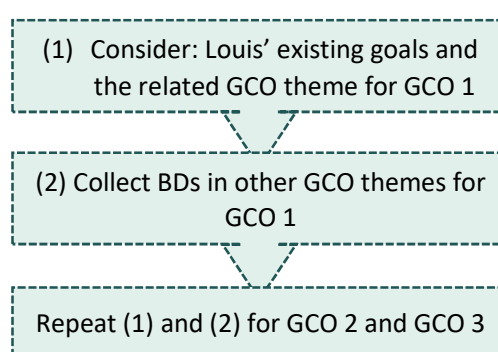
Table C-14. *Goal-Specific BDs Collected based on Louis' Functional Goals for GCO 1.*

Louis' Goals for GCO 1	Examples of Goal-Specific BDs:
Louis will initiate interactions with his brother during play time at home and with his classmates during play time in the EI centre. We know that Louis can do this when he uses actions or single words to initiate an interaction (e.g., offering toys, pointing or reaching out, copying the actions or sounds the other child makes), especially with toys that interest him (e.g., cars, balls, bubbles), for twice a day (once at home and once at EI centre), 3 days a week, across 4 consecutive weeks.	**EI centre:** Louis passes a toy cup to his peer and says 'drink juice' when his peer smiles at him while pretending to eat from a plate during play time in the EI centre. *Drink juice* — *Bang!* **Home:** Louis pushes a toy car towards another toy car his brother is holding and says, "Bang!" before looking at him (brother) when he sees his brother pushing a car across the floor during play time at home.
Louis will maintain interactions with his parents during dinner time at home and his teachers during circle time and play time in the EI centre. We know Louis can do this when he uses gestures (e.g., waving, pointing, shaking or nodding his head), single words (e.g., 'hello', 'yes', 'no', 'bye') to initiate and respond for 2 or more consecutive exchanges, for twice a day (once at home and once at EI centre), 3 days a week, across 4 consecutive weeks.	**EI centre:** Louis points to the toy banana and says, "Want nana (banana)" and converses with Teacher Weilin (Weilin: "There you go. Would you like to buy anything else?"; Louis: "Sawberry" (strawberry); Weilin: "Oh, these strawberries are very sour, you know; Louis: "No want!", Weilin: Okay. How about watermelon?"; Louis: "Yes, melon" when he sees Teacher Weilin standing at the pretend grocery store during circle time at the EI centre. **Home**: Louis says "Sawberry (strawberry)" when he gives his mother his bowl (after mummy asks, "Do you want strawberries or blueberries?"), and laughs as he says, "no, no, no" when he sees mummy (pretending to) put blueberries in his bowl during dinner time at home [interaction repeats for 2 rounds].

Progress Relating to the 3 GCOs

In addition to the goal-specific BDs for GCO 1, other significant GCO-related BDs were also recorded as they provided the EI team with additional information on how Louis built positive socio-emotional relationships with others.

To make the process of collecting GCO-related BDs more efficient, the EI team first considered Louis' existing goals and the GCO themes they related to (e.g., GCO 1.1. and GCO 1.2) before collecting BDs in other GCO themes (e.g., GCO 1.3). The EI team did the same for GCO 2 and GCO 3. The goal-specific BDs and the GCO-related BDs provided the EI team with a holistic understanding of Louis' overall progress and helped the team be aware of any changes in his current level of functioning after one year of the intervention.

(1) Consider: Louis' existing goals and the related GCO theme for GCO 1

(2) Collect BDs in other GCO themes for GCO 1

Repeat (1) and (2) for GCO 2 and GCO 3

Summarise and Evaluate Child's Profile

The EI team prepared for the GCO Review/Exit Meeting similarly to the GCO Entry Meeting. The difference is that both goal-specific and other GCO-specific BDs were collected and entered into the GCOWMR. Teacher Weilin also included Louis' previous FAEs in the GCOWMR and drafted the inference statements.

GCO Review Meeting: FAEs and Goal Discussion

Unlike the GCO Entry Meeting, after summarising updates to Louis' family, social and education background, the EI team proceeded to present Louis' previous FAE in GCO 1 (from 2020). Following this, they discussed the progress of his goals. Next, the EI team proceeded to discuss Louis' present FAE and BDs in GCO 1. Table C-15 provides an excerpt of the flow of discussion.

Table C-15. *Excerpt from GCO 1 Discussion During GCO Review Meeting.*

Item 1.6: **Team provides a brief update about Louis and family (< 3 minutes).** *Note*: *Only provide updates and not details that are already known/ previously shared during the GCO Entry Process.*	**Teacher Weilin** We have verified Louis' particulars. Now, let us talk about the child and the family updates. **OT Amy** The family has recently moved, and Louis is attending a new preschool, Love Preschool, for a month. Nothing has changed in the caregiving arrangements. Louis has also settled in well at school and no longer cries at drop-off, as reported by his grandparents last week. There are no further updates.

Item 2.1: **Team presents previous FAEs of Louis.**	**Teacher Weilin** Thank you, Amy. Louis' FAE for GCO 1 from his GCO Entry Meeting is 16-21 months.
Item 2.2: **Team discusses if goals are met/not met for each GCO where relevant. Progress for each goal is supported by at least 1 BD example.**	**Teacher Weilin** We will begin by discussing if Louis has achieved the following GCO 1 goals: Goal 1: Louis will initiate interactions with his brother during play time at home and his classmates during play time in the EI centre. We know that Louis can do this when he uses actions or single words to initiate an interaction (e.g., offering toys, pointing or reaching out, copying the actions or sounds the other child makes), especially with toys that interest him (e.g., cars, balls, bubbles), for twice a day (once at home and once at EI centre), 3 days a week, across 4 consecutive weeks. During playtime at the EI centre, Louis frequently initiates play with his friend. For example: • GCO 1.1.1: Louis passes a toy cup to his peer and says, "Drink juice" when his peer smiles at him while pretending to eat from a plate during playtime in the EI centre. **OT Amy**
Item 2.5: **Team checks whether the BDs discussed for GCO 1 has been generalised in different settings - at least 2 BDs from the EI centre and 2 BDs from home/ community are collected (*Guidelines for the GCO Process*).**	Louis was also observed initiating interactions during ball activities, both at home and at the EI centre, using actions and sometimes single words, such as: • GCO 1.1.1: Louis calls his classmate's name ("Anna") and kicks a ball towards her (classmate) when he sees her walking towards him during outdoor time at the EI centre. • GCO 1.1.1: Louis calls, "Didi" and rolls a ball to his brother after his mother passes the ball to Louis during play time at home. **SLT Faizal** Louis' parents have also observed that Louis initiates interactions with his brother during other activities he likes, such as playing with toy cars.

> GCO 1.1.1: Louis pushes a toy car towards another toy car his brother is holding and says, "Bang!" before looking at him (brother) when he sees his brother pushing a car across the floor during

When I asked Louis' father for more information, he shared that Louis would wait for his brother's response after he had initiated the 'crash'.

> GCO 1.1.2: Louis looks at his brother and laughs when his brother says, "Oh no! Accident!" (after Louis has crashed into his brother's car) during playtime at home.

Teacher Weilin

Thank you, Amy and Faizal. Given the BDs collected, would we all agree that Louis has achieved the goal?

OT Amy and SLT Faizal

Yes.

Teacher Weilin

Okay, let us move on to the next goal in GCO 1:

> Goal 2: Louis will maintain interactions with his parents during dinner time at home and his teachers during circle time and playtime in the EI centre. We know Louis can do this when he uses gestures (e.g., waving, pointing, shaking or nodding his head), single words (e.g., 'hello', 'yes', 'no', 'bye') to initiate and respond for 2 or more consecutive exchanges, 3 times a day (once at home and twice at EI centre), 3 days a week, across 4 consecutive weeks.

Item 2.2:
Team discusses if goals are met/not met for each GCO where relevant. Progress for each goal is supported by at least 1 BD example.

What goal-specific BDs do we have?

SLT Faizal

We have a home BD that shows Louis maintaining interaction with his mother:

Item 2.5: **Team checks whether the BDs discussed for GCO 1 has been generalised in different settings - at least 2 BDs from the EI centre and 2 BDs from home/ community are collected (*Guidelines for the GCO Process*).**	GCO 1.1.3: Louis says, "Sawberry (strawberry)" when he gives his mother his bowl (after mummy asks, "You want strawberries or blueberries?"), and laughs as he says, "No, no, no" when he sees mummy (pretending to) put blueberries in his bowl [interaction repeats for 2 rounds] during dinner time at home. According to his father, Louis does not show similar behaviours in maintaining interactions with other caregivers like himself. **Teacher Weilin** There was an occasion when Louis maintained interaction with me during a circle time role play after I had read a book to the class about going to the supermarket: GCO 1.1.3: Louis points to the toy banana and says, "Want nana (banana)" and converses with Teacher Weilin (Weilin: "There you go. Would you like to buy anything else?"; Louis: "Sawberry" (strawberry); Weilin: "Oh, these strawberries are very sour, you know"; Louis: "No want!", Weilin: "Okay. How about watermelon?"; Louis: "Yes, melon" when he sees Teacher Weilin standing at the pretend grocery store during circle time at the EI centre. **OT Amy** There are only 2 BDs that show Louis can maintain interactions with adults at home or the EI centre. I would say that he has partially achieved this goal, but he will need more time to show more of these behaviours. **Teacher Weilin and SLT Faizal** I agree.

After determining Louis' progress on the GCO 1 goals, the team discussed and justified Louis' FAE in GCO 1 with BDs. The EI team eventually agreed that Louis had progressed, and his GCO 1 FAE was at 22-27 months.

The EI team then proceeded to identify new functional goals for the next IEP and collated the GCO Summary. Both the IEP and GCO Summary were shared and discussed with Louis' parents before it was finalised.

The GCO Review Process was repeated in 2022, during Louis' third year in the EI centre.

GCO Exit Meeting: Update on Transition Plans

The GCO Exit Process was initiated in Louis' fourth year in the EI centre (2023). The GCO Exit Meeting took place during Week 9 of Term 3 on 2023 (within 12 months of last GCO Review Meeting in 2022), and Louis' transition plan was shared and finalised in Week 10 of Term 3 after the EI team met with his parents (see Figure C-9).

Figure C-9. *Timeline for Louis' GCO Exit Process in 2023.*

Intervention	GCO Exit Process
2022-2023	**2023**
Term 4 Week 1 2022 – Term 2 Week 10 2023 The EI team conducted intervention, worked on the functional goals outlined in the IEP. Progress was reviewed every term, with goals updated as needed.	**Term 3 Week 1** The EI team conducted SRO, reviewed progress of Louis' latest IEP goals, and gathered information on routines at home and in the community to plan for his exit. **Term 3 Week 9** The EI team conducted the GCO Exit Meeting and summarised Louis' progress and transition plans. **Term 3 Week 10** The EI team met Louis' parents and finalised his GCO Summary and Transition Report.

During the GCO Exit Meeting in Week 9 of Term 4, 2023, Louis' transition plan was discussed (see Table C-16) after the EI team discussed and agreed on Louis' FAEs in all 3 GCOs and summarised his profile. The transition plan discussion included the following:

- Louis' next intended/confirmed educational placement after he graduates from the EI c entre
- His parents' plans (e.g., to proceed or defer placement in mainstream/sped school)
- EI team's support measures/recommendations (e.g., interim focus of the intervention, the preparation/support needed for the next educational placement)

Table C-16. *Excerpt from the Discussion on Louis' Transition Plan at the GCO Exit Meeting.*

Item 1.6: **Team updates the information on transition placement for exit case**	**Teacher Lina** As we know, Louis will graduate from our programme at the end of the year. Let's take some time to talk about his transition plans. **SLT Faizal** Certainly. Louis' parents have told us he was accepted at Sky SPED School. Parents know what to expect as they attended the school's open house, but they are concerned that Louis may have difficulty adjusting to a new school. They wanted to know if we have any recommendations to support Louis in the transition.
Item 2.12: **Team summarises the child's overall profile of strengths, concerns and appropriate focus for intervention.**	**Teacher Lina** We can highlight Louis' strengths and the areas parents can support him to prepare him for his SPED education. For example, under GCO 1, • Louis can maintain social interactions with adults and peers during familiar routines using 3- to 4-word phrases most of the time. • He is also more consistent when sharing common objects (e.g., art materials) with his peers and can wait for his turn in queue. His parents can continue to help him learn to calm down when he gets upset and give him more opportunities to take part in simple games. For now, • He can calm himself down with the help of an adult and use words to express his emotions (e.g., anger or frustration), but sometimes, it takes up to 30 minutes. • He is starting to enjoy and participate in simple games (e.g., Bingo) by following simple rules. **SLT Faizal** I agree. Parents can also teach him certain social rules (e.g., using an indoor voice in the classroom and queuing to buy food). In addition, as Louis finds it difficult to get used to new environments and routines, parents can ease the transition by showing him pictures of his new school, reading him social stories about starting school and familiarising him with his new school uniform and the route to school.

Teacher Lina

Thank you, Faizal. Those are great recommendations, and I have included them in Louis' transition plans.

A final GCO Summary was the collated and included in Louis' Transition Report.

Ending Note

This is the end of the illustrated case study, with focus on GCO 1, across all 3 GCO Processes.

Moving Forward

The ECHO implementation – specifically the implementation of the GCO Process – has been a challenging but, hopefully, meaningful process for everyone in the last 5 years. At end of the day, it's about building a framework for supporting our children in the EI centres grow their functional abilities, so that they can participate more functionally and meaningfully in everyday life. This common aim ties us all together. So, whether you are an EI staff, ECHO Technical Assistance team member, a concerned caregiver or ECDA, we now have common language and process by which we can think, speak, act, and impact positively the development trajectory of each child in a more holistic manner, supporting especially our caregivers who are key to their child's growth. Our common vision should be to see our EIPIC children be more independent, play well with peers, participate more fully in all areas of life (e.g., classroom, playground, restaurants) and doing so together with their family, friends and loved ones. We hope to see this within their time in EIPIC, and, hopefully, also translating into the future beyond their early years.

Moving forward, ECDA would like to continue supporting the EI centres in getting more out of the ECHO Framework. ECHO 2.0 will start in April 2024, with continued support by the Technical Assistance team by CPH, KKH and NUH, and CPH will be taking the lead in this. ECHO 2.0 will focus on further streamlining the GCO Process, facilitating a stronger link between a child's functional age estimate and the goals cum intervention that follow, as well as developing a framework to help each SSA self-monitor and maintain the quality of their GCO Process. The overall aim is to make the GCO Process more relevant, efficient and effective so that we continue to do our best for the children under our care.

I thank all who have been involved in this ECHO journey for the past 5 years. In spite of ongoing challenges, I trust you can find the good that has come out of this journey. I look forward to more good years ahead, working together for the common good.
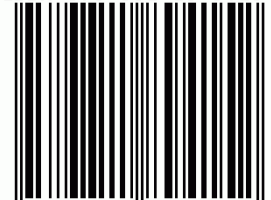

Peter Tan
Director
Community Psychology Hub

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This publication aims to provide guidance on the practice of functional assessment using the Global Child Outcomes (GCO) Process within early intervention centres in Singapore. It gives an outline of the development of the ECHO Framework as well as detailed description of the GCO Process. These are aligned with the key principles of early intervention and contextualised to the early intervention setting in Singapore. A case study is then presented to facilitate the application of the GCO Process within the early intervention centres. The final chapters touches on how the processes can be supported and sustained. It is hoped that the ECHO Practice Guide will provide the necessary support for early intervention practitioners who are new to the ECHO Framework, and be a useful reference for the experienced ones in their journey with the children they serve.