ENVIRONMENTAL SCAN OF INDIGENOUS EDUCATIONAL AND ALLIED HEALTH ASSESSMENTS AND INTERVENTIONS

Final Report
July 6th, 2021
Firelight Research Inc.

EXECUTIVE SUMMARY

This report is an environmental scan of existing alternative and Indigenous-led educational and allied health assessments and interventions. It encompasses both **approaches to assessment**, and **assessment tool development**, with a focus on preschool to primary school-age groups. The findings collate information from both a literature review and key informant interviews, which are presented in the format of a reference guide, first outlining best practices and then providing recommendations for the Yukon First Nation Education Directorate (YFNED).

Current education data shows a disparity between Indigenous and non-Indigenous students in the Yukon. The Auditor General has specifically recommended that the Yukon Department of Education focus on First Nations learning gaps and outcomes. However, educational and health assessments are recognized to be culturally-biased, as they are based on Euro-Western developmental norms. They are also biased in terms of language if they do not reflect second-languages or dialects. Assessments are also recognized to sometimes cause harm or trauma, particularly if they are conducted without informed consent, or with the intent to label deficits in a child.

Nonetheless, assessments are often required to receive additional supports or therapy. Classroom-based and informal assessments are also critical to inform educators and other caregivers concerned with a child's development, especially in their early years.

Recognising that standardized assessments are problematic for Indigenous children, but that there are still instances where assessment information is needed for additional supports or to assist learning, this report summarizes key best practices in alternative assessments and interventions. Trends and best practices in alternative educational and allied health assessments, and related therapeutic interventions include but are not limited to:

1. *Approaches to assessment* (Section 3.1) which critically reflect on:

    - What is being assessed - this includes grounding Indigenous culture, recognising the entire environment around a child, assessing strengths, and assessing within a broader context of Indigenous-led education;

    - Who is involved in assessing - this includes involving caregivers, children themselves, empowering educators, incorporating community connections, and sharing assessment results; and,

    - How assessments are administered – this includes ensuring informed consent, providing supports and accommodations prior to assessments, assessing in an environment that is safe, waiting for an appropriate time for assessment, and conducting assessments repeatedly overtime alongside interventions.

2. Best practices for *assessment tools* (Section 3.2) comprise of:

    - General best methods that: adapt imagery or test-items to be culturally appropriate, recognize Indigenous language differences, establish local validity and reliability, compare skills to pre-determined criteria, observe children through play-based

activities, are designed around informal rubrics, allow for re-testing, and factor wellness into tool design;

- Educational and early childhood development (ECD) specific methods that: assess through classroom-based instruments, collect data relevant to educators, and reflect both Indigenous and provincial/territorial learning outcomes;

- Allied health specific methods that: acknowledge dialect differences, conduct assessments in Indigenous languages, train local health practitioners, and employ "pre-screenings" prior to other assessments; and,

- Alternative intervention best methods which: customize interventions based on evidence, incorporate home visiting programs, and develop long-term programs and holistic care.

Based on these identified best practices in alternative and Indigenous assessment, the report provides the following recommendations for the development of assessment tools specific for use with Indigenous learners in the Yukon:

1. Start from the beginning to determine the purpose(s) of assessment (Section 4.1);

2. Pilot assessments with knowledge-keepers (Section 4.2);

3. Centre Indigenous worldviews and language (Section 4.3);

4. Establish a thorough protocol for assessing Indigenous children (Section 4.4);

5. Hire dedicated staff (Section 4.5);

6. Focus on data tracking (Section 4.6);

7. Balance jurisdictions (Section 4.7);

8. Factor in costs and capacity (Section 4.8); and,

9. Critically consider assessments' role in further care (Section 4.9).

The development of assessment tools for use with Yukon First Nations children should be situated within Indigenous values and goals, as well as positioned within a clear understanding of jurisdictional control and the process of assessments, diagnoses and referrals, in order to have the highest positive impact on Indigenous learners.

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ACRONYMS AND ABBREVIATIONS

ACUL	Assessing Children's Use of Language
ADI	Autism Diagnostic Interview
AFN	Assembly of First Nations
AH	Allied Health
AHSUNC	Aboriginal Head Start in Urban and Rural Communities
AIDP	Aboriginal Infant Development Program
ASD	Autism Spectrum Disorder
ASQ	Ages and Stages Questionnaire
BCACCS	BC Aboriginal Child Care Society
BEADS	Beginning Early and Developing Strong (Treaty Education Alliance)
CARS	The Childhood Autism Rating Scale
CDC	The Child Development Centre (Yukon)
CHERPS	Children's Early Reading and Phonetic Sounds (Treaty Education Alliance)
CJBS	Chief Jimmy Bruneau School
DA	Dynamic assessment
DAPPLE	Dynamic Assessment of Preschoolers' Proficiency in Learning English
ECD	Early Childhood Development
ECE	Early Childcare Educator
EDI	Early Development Instrument
EYE - (TA/DA)	Early Years Evaluation (Teacher Assessment or Direct Assessment)
FNED	First Nation English Dialect
FNESC	First Nation Education Steering Committee (BC)
FSA	Foundational Skills Assessment

I-ChIPPA	Indigenous Child-Initiated Pretend Play Assessment
IEP	Individualized Education Plan
MFI	The Martin Family Initiative
MFNERC	Manitoba First Nation Education Resource Centre
MK	Mi'kmaw Kina'matnewey
MKSIS	Mi'kmaw Kina'matnewey Student Information System
NOW Play	Northern Oral Language and Writing through Play
OT	Occupational Therapist
PBIS	Positive Behavioural Interventions and Support
PT	Physical Therapist
SBSCFC	Step By Step Child and Family Centre (QC)
SLP	Speech-Language Pathologist
TEA	Treaty Education Alliance (SK)
TRC	Truth and Reconciliation Commission
UNESCO	United Nations Educational, Scientific and Cultural Organization
VIU	Vancouver Island University
YCAO	Yukon Child and Youth Advocate Office
YFNED	Yukon First Nation Education Directorate

GLOSSARY OF TERMS

Bootstrapping: Refers generally to a self-started process, or a process without external contribution.

Classroom assessment: Any assessment(s) which take place at the classroom level to gather evidence of learning, and information on what students can and cannot do, to further inform teaching.

Code-switching: In linguistics, this is a process where a speaker interchanges between two or more languages, dialects, or ways of speaking.

Culturally-safe: The Provincial Health Services Authority of BC defines Indigenous cultural-safety as: "the process of making spaces, services, and organizations safer and more equitable for Indigenous people by considering current and historical colonial impact and seeking to eliminate structural racism and discrimination."

Criterion-referenced: This refers to a test which compares an individual's skills against a pre-determined goal or "criterion." This compares learners directly to the desired goal, and does not compare learners to one another.

Dynamic assessment: This encompasses various assessment methods and approaches which identify skills and strengths, usually through active participation and responsivity of both the learner and the assessor.

Early years: For the purposes of this report, early years refers to roughly to children who are not yet in school, usually ages 0-6 (depending on location and context).

Intervention: According to the World Health Organization: "A health intervention is an act performed for, with or on behalf of a person or population whose purpose is to assess, improve, maintain, promote or modify health, functioning or health conditions."

Norm: In statistics, a norm represents the total responses of a standardized group in a test. A subject is compared against this norm.

Norm-referenced: This refers to a test which compares individual's performance to that of other individuals within a group, or the "norm," identifying whether the learner performed better or worse that other test-takers.

Non-standardized assessment: While non-standardized assessment examples can take a variety of forms, in general they refer to any evaluations that do not rely on a standardized tests (e.g., Boehm, EYE, FSA) often because the learner does not fit a standardized "norm," which is typically English and Euro-Western.

Local norms: Refer to norms where learners are compared to other students who share similar (local) characteristics or background with them (for example, Cree speakers in Manitoba).

Psychometrics: Is a specialist field in psychology focused on psychological measurement of skills, abilities, knowledge, and education, typically through means of testing and measurement.

Scaffolding: A process of breaking up learning or assessment to provide a structure and direct help to a learner. For example, previewing sections of text or questions, or prompting a student further.

Screening: In health, screening refers to a test, or a pre-test which scans for suspected difficulties or conditions. Unlike a formal assessment or test, screening does not diagnose an individual.

Standardized assessment: Standardized forms of assessment are formal assessments typically large in scope, administered by an assessor, which measure a child's abilities against a statistical norm (typically a Euro-Western baseline), thus comparing them to other children their age.

Teach-test-reteach: In regard to assessment, this refers to an approach where a learner is taught assessment material, then tested on the material. If they are unable to complete the test, they are then re-taught and given the opportunity to try the test again.

Therapy/therapeutic: Any treatment which helps an individual heal, recuperate, or recover, especially after an illness or identified difficulty. Thus "therapeutic" practices refer to those which contribute to therapy programs, interventions, and general healing.

Wrap-around services: A concept referring to programs and services which are flexible and holistic, where often a number of different types of services work together to provide a total program of support.

1. INTRODUCTION

1.1 PURPOSE AND SCOPE

1.1.1 Purpose

This report compiles examples of existing alternative assessment tools and approaches, strengths and weaknesses, trends and best practices, and recommendations for the Yukon First Nation Education Directorate (YFNED) in applying this information in the context of the Yukon. The purpose of this environmental scan report is to explore the current state of alternative[1] and Indigenous-led screening[2] and assessment approaches, and related interventions[3], in both educational and allied health assessments.

1.1.2 Scope

The specific age group addressed is preschool to primary school, focusing on ages 0-5 and Kindergarten to Grade 7. Under consideration are school-based, early childhood development, speech and language, cognitive, and behavioural assessments and screenings.

This report engages in both academic and policy literature, while also relying heavily on the knowledge of key informant practitioners and on-the-ground examples of alternatives (see Appendix C). In particular, leading institutions and individuals are highlighted, with the understanding that YFNED would like to collaborate on the development of their own assessment tools specific for use in the Yukon. For this reason, this report primarily encompasses the Canadian context, though international information is discussed when relevant.

1.2 ORGANIZATION OF THE REPORT

Section 1 (this section) provides a background to the purpose and scope of the research, a guide to how to use this report, and an explanation of limitations.

Section 2 of this report provides a brief contextual background to education and assessment in the Yukon, and the current issues as well as emerging strengths in the realm of assessment for Indigenous children in general.

Section 3 forms the bulk of the report and analysis, framed around a discussion of trends and best practices in assessment and intervention.

- Section 3.1 identifies trends and best practices in assessment approaches;

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[1] By "alternative" we aim to encompass any form of assessment that breaks current standardized assessment practices. Standardized forms of assessment are typically large in scope, administered by an assessor, and measure a child against a statistical norm (typically a Euro-Western baseline). Thus, "alternative" forms of assessment are typically small in scale, administered by an educator or parent, and track a child's progress throughout a year based on desired "criteria". In some cases, alternatives are designed to be specific to Indigenous cultures, or, are adaptations of standardized assessments to be specific to Indigenous cultures.

[2] By "screening" we refer to initial scans, which also can take the form of a tool or instrument, but usually happen prior to a more comprehensive assessment.

[3] By "interventions" we mean a broad range of special needs, community, or allied health supports and programs which often work with children pre or post assessment, but do not necessarily engage in assessing children themselves.

- Section 3.2 identifies trends and best practices in assessment tool development, beginning with overarching trends (3.2.1), and;

- Trends and best practices share similarities across disciplines, but Section 3.2 further breaks down trends unique to first educational and early childhood development (ECD) assessments (3.2.2), second allied health assessments (3.2.3), and third to related interventions (3.2.4).

While Section 3 reviews the current best practices in the field, Section 4 covers what YFNED can do with this information. Section 4 collects recommendations for YFNED provided by interviewees, and drawn from the literature, keeping in mind the desire to establish assessments for Indigenous learners in the Yukon.

Lastly Section 5 summarizes the main findings of the environmental scan, outlining next steps.

Additionally, readers may find useful supplemental context and detail to frame the report findings in the appendices. Appendix A describes the research methods and data analysis employed. Appendix B provides a brief overview of standard assessment and screening approaches in education and allied health settings, with a particular focus on the current context in the Yukon territory. Appendix C provides a brief but comprehensive overview of any of the examples of existing alternative and Indigenous-led assessments which are referenced throughout the report. Appendix D contains a list of interviewees consulted for this research, while the consent form and interview guide follow in Appendix E and F. Appendix G depicts a breakdown of relevant education and therapy assistant training programs. A glossary of terms and acronyms and abbreviations are provided in the front matter of this report.

1.3   HOW TO USE THIS REPORT

While the research for this report employed a broad environmental scan, the findings are presented in the style of a resource manual. The purpose of the stylistic choice – with multiple headings and subheadings - is to ensure broad readability, and an ease in finding specific information, best practices, and recommendations for readers coming from different backgrounds.

While reading this report it is central to keep in mind that this data was collected, and presented for, YFNED and their specific context as an advocacy organization in the Yukon. One interviewee emphasized they do not use the term "best practices" because each Indigenous community is unique, and this understanding should be carried forward when reading the following sections, acknowledging that examples can be learned from, but change in the Yukon must come from within communities.

1.4   LIMITATIONS

Examples of alternative assessments were collected from published literature and from interviewees. There are likely further examples of assessments which occur in individual communities, or at particular schools and centres which are not publicly available. Additionally, certain leading practitioners or Indigenous school boards were unable to participate in interviews due to personal time constraints. Additionally, a number of enthusiastic educators or health care providers indicated their interest in this growing field of research, but had no knowledge of Indigenous-led assessment and were thus not prioritized. We acknowledge and respect the countless dedicated people who work in a culturally-safe manner with Indigenous children across Canada every day.

Some interviewees had worked for particular First Nation schools or communities but could not disclose names due to privacy concerns, or the details of particular Indigenous-created assessment materials due to intellectual property rights. In these cases, assessments were talked about more generally.

Recognizing these limitations, this environmental scan covers leading assessments and approaches which are publicly available, spanning disciplines and geography, in an attempt to provide a comprehensive snapshot of the field.

2.   BACKGROUND AND CONTEXT

2.1   THE YUKON EDUCATIONAL STUDY CONTEXT

Traditional Indigenous lands cover the extent of the Yukon, with 14 First Nations and eight distinct language groups within the territory. Indigenous students make up 31% of the number of children enrolled in Yukon schools (in 2018-2019, 23% identified as Yukon First Nations and 8% as Other Aboriginals). Indigenous learners continue to have higher rates of poor assessment scores and outcomes, Individual Education Plans (IEPs), absentee days, and lower graduation rates than their non-Indigenous peers (see Appendix B; Yukon Department of Education 2020; Auditor General 2019).

The 2019 Report of the Auditor General, the Yukon Department of Education was reviewed in regard to whether programs were inclusive and reflected First Nations' learners. Based on the findings, it was recommended that:

> *The Department of Education should develop and implement a strategy to address the long-standing gaps in student performance and improve student outcomes, particularly those of Yukon First Nations and rural students. The strategy should include analyzing the root causes of poor student outcomes, defining performance targets, developing and implementing actions to reach these targets, and evaluating the effectiveness of these actions to improve student outcomes* (2019, 8).

An independent review of inclusive and special education in the Yukon was undertaken in 2020 as a partial response to the 2019 Auditor General's report. The interim independent review report highlighted the incongruence of standard assessments and inclusive education:

> *Some of the processes required to access special education services (e.g., formalized assessment) seem inconsistent with inclusive education approaches (Yukon Department of Education, 2015) …Thus, a key question is how the Department of Education can work to establish and deepen inclusive educational practices, while ensuring students have access to specialized services to equitably access learning opportunities.* (Yee 2020:5)

Thus, this environmental scan of alternative assessments is being released at an opportune time in the Yukon, where unfair outcomes between Indigenous and non-Indigenous learners are recognized by education authorities in the Yukon, and a focus on truly inclusive education approaches are currently being evaluated and prioritized (Yee 2020). How, why, and for what purpose assessments with Indigenous children in the Yukon are conducted are an integral component of the broader education environment.

2.2 CURRENT STRENGTHS AND WEAKNESSES IN INDIGENOUS ASSESSMENT

Currently, in the Yukon context, there is a paradox where Indigenous children are either "over-assessed" for learning difficulties, or, children do not have equitable access to assessment services. Children who do not have parents that advocate through official channels receive assessments much later. For this reason, there is a great deal of under-assessment, specifically for Indigenous students (Child and Youth Advocate, March 16, 2021). Underassessment is an issue because diagnoses can lead to much needed supports, such as Individual Education Plans (IEPs)[4] or therapy referrals. Even when assessments are available, the support families need post-assessment are not always available – this issue is present across the country.

More generally, the validity of standardized assessments is critiqued from different contexts around the world. There is a clear bias in using Euro-Western developmental norms for culturally diverse students – Indigenous or otherwise. This is well-recognized for Spanish learners or African-American student assessment in the United States, as well as for Indigenous communities in Australia (Philpott 2007; Gould 2008; Nelson-Barber and Trumbell 2007; Rae Banks and Neisworth 1995). There is a risk of misdiagnosing Indigenous children as having learning disabilities due to inappropriate standard psychometric methods (Gould 2008,650; Peltier 2011, 127).

In addition to validity, standardized tests do not consider the emotional impacts of diagnosing children. Standardized tests are often framed in negative-values and deficiencies. While labelling can justify funding needs, it has little regard for the emotional impact on the individual child or their family. Previous reports and literature cite a general lack of cultural-safety in assessment, including lack of parental consent or knowledge of what is occurring, or perpetuating clinical or harmful environments (Professor, Child and Youth Care, March, 30 2021; O'Hara and Rowlandson 2010, 46-47).

Creating alternative assessment tools is time and staff-intensive and can be a costly endeavour. For this reason, numerous adaptations to existing tools have been established or suggested by early childhood care centres, organizations, and governments (Step by Step Centre, BCACCS, and the Government of the Northwest Territories respectively). Not all First Nations school boards or schools in Canada work on Indigenous-based alternatives to assessments (pers. correspondence, FNESC May 10, 2021), but Manitoba, Saskatchewan, Nova Scotia, and Kativik Indigenous school boards were identified as piloting their own assessments.

Most of the work done to date identifies existing assessments that are culturally-neutral (Thorley and Lim 2010; O'Hara and Rowlandson 2010; VIU 2013), rather than creating Indigenous assessment tools. However, there is a widespread recognition of the inadequacy of standardized assessments which is the turning point for change. Many of the key informant interviewees consulted for this report, and their related organizations, have addressed the inadequacy of standardized assessments in the past two decades through research and work within communities and schools.

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[4] The Yukon Department of Education recently redefined IEPs in October 2020, reserving them only for students with severe assistance needs. IEPs are protected by the Education Act and an important part of accountability in the Yukon. YFNED recently called for a reversal of this action. Many Indigenous families rely on IEPs to help their children succeed in school. See APTN for more information: https://www.aptnnews.ca/national-news/individualized-education-plan-iep-yukon/

Emerging strengths in Indigenous assessment include a number of guides published by leading institutions and researchers, geared towards therapists and early childhood educators (ECEs). These guides lay out "cultural safety models" - approaches to intervention practices, which anyone working in Indigenous communities should critically consider (Gerlach and BCACCS 2007; Byrne et al. 2020; VIU 2013). Publications often provide advice for how to carry out standardized tests in culturally appropriate ways, such as the Ages and Stages Questionnaire (ASQ) in Aboriginal Head Start Programs or similar programs (see Ball 2008; SBSCFC 2015).

It is crucial to note that despite universal strengths in alternative assessments, the diversity of Indigenous nations, cultures, and languages in Canada cautions any attempt to homogenize assessment for all Indigenous communities (Manager, BCACCS, April 13, 2021; Educational Consultant, April 1, 2021; Professor, Child and Youth Care, March 30, 2021). What works in one community and context may not be relevant for a neighbouring nation. Likely for this reason, to the best knowledge of this report data, there is currently no *standardized* Indigenous assessment in education, early childhood development (ECD), or allied health in Canada.

Establishing developmental norms across this diversity of Indigenous culture would be challenging. Norms provide a standard statistical baseline to which a child's development is compared. The examples in this report exemplify how communities have created assessments based on unique, local norms of their Indigenous childrens' development, not statistically-determined norms. Importantly, multiple interviewees highlighted that standardized assessment are not always needed, and that informal assessments can reveal a great deal about a child's development.

2.3   IDENTIFIED GAPS

During this environmental scan, a significant lack of in-depth studies of psycho-educational, occupational (OT), and physical therapy (PT) assessments with Indigenous children were identified (with the exception of the Indigenous Child-Initiated Pretend Play Assessment, I-ChIPPA). This gap is also discussed in Section 3.2.3. Shochet et al. 2020 argue for more culturally appropriate assessments and interventions for neurotypically different Indigenous peoples, such as strengths-based and supportive programming, but their review of the literature found a paucity of existing examples of alternatives. Similarly, Harrison et al. (2014) recommends relying on observations, using tests with greater flexibility, and minimising the impact of language and cultural differences when administering psycho-educational assessments to diverse communities.

Only modified *approaches* psycho-educational, OT, and PT assessments were identified by interviewees. Even then, modified approaches were not common, and typically employed on a case-by-case basis. While alternative and Indigenous-led assessments are burgeoning in the field of speech and language, and some classroom settings (see Appendix C), other sectors in allied health remain a gap. This could be an area for further future analysis.

3. FINDINGS: TRENDS AND BEST PRACTICES

Based on analyses of the interview data and literature, this section (Section 3) points towards overarching trends and best practices applicable to education, early childhood development (ECD) and allied health assessment and intervention. First, trends and best practices related to assessment approaches are listed (Section 3.1). This includes:

- Approaches to *what* is assessed (Section 3.1.1);

- *Who* is involved in assessments and intervention (Section 3.1.2), and;

- Approaches to *how* assessments are administered (Section 3.1.3).

Next, Section 3.2 lists trends and best practice specifically related to tool development and content. This is broken down into:

- General trends (Section 3.2.1);

- Trends in education and ECD tools (Section 3.2.3);

- Trends in allied health tools (Section 3.2.3), and;

- Trends in intervention program design (Section 3.2.4).

Trends and best practices are listed for ease and searchability, and any further details can be found in the case studies in Appendix C, or Figures 1,2, and 3 included within Section 3.

3.1 TRENDS AND BEST PRACTICES IN APPROACH

Approach refers to the assessment lens (i.e. *what* is being assessed), who is doing assessments, and how they are administered.

Even if assessment tools themselves have not been modified, First Nations have drastically changed how these tools are administered to make them culturally safe (Professor of Child and Youth Care, March 30, 2021). As explained by one interviewee, fundamental *approaches* to working with Indigenous children must be acknowledged and come alongside any Indigenous-specific assessments:

> *It begins with humility. I think certainly there's a huge responsibility on us to try and own, to try and recognize and own where the historical barriers have been…I don't know, to be honest with you, if we have a best practices we can share with you, because I think that it changes, all the time, and so I guess I feel that we need to do, is humbly acknowledge that maybe it hasn't been so great…there is opportunity now, and we have to embrace it, that there's many different ways of knowing and learning and doing and demonstrating in the case of assessment, and I think there's just wisdom in what's in front of us with all of the Indigenous people who have been here for millennia, in what are the fundamental approaches that can be used with children and youth to help them become capable people.* (Deputy Minister, Government of the Northwest Territories March 15, 2021)

Despite the differences in opinion or context, best practices in approach include (but are not limited to): reflecting Indigeneity, acknowledging broader environments, focusing on strengths and alternative education, building long-term relationships, supporting educators, providing consent and support, and integrating interventions alongside the assessment process.

3.1.1   What is the Lens of Assessment?

Ground and reflect Indigenous culture
Acknowledge the entire environment around a child
Assess children's strengths
Embed assessment within alternative curricula

Ground and reflect Indigenous culture

Leaders in creating alternative assessments emphasize that Indigenous culture, beliefs, and identity have to be foundational to the process. Leaders include communities that started from scratch to build an assessment that reflects being Indigenous, and contributes to their specific communities' aspirations for their children. This represents a significant break from utilizing Western-established norms of child development and success. The entire goal of assessment, and the indicators assessed, are created from Indigenous worldviews.

Two examples from Nunavut and New Zealand strongly reflect Indigeneity in their education and ECD assessments. For example, the Government of Nunavut (2008) related Inuit cultural perspectives of assessment to standard views of assessment to establish Ilitaunnikuliriniq Dynamic Assessment. Ilitaunnikuliriniq Dynamic Assessment is grounded in Inuit philosophy. Similarly, in New Zealand, the Māui tikitiki a Taranga assessment framework encompassed whakapapa (genealogy) as a crucial element of development to assess in preschool children. These examples show that a focus on Indigenous-specific identity and beliefs is a best practice in alternative, Indigenous-led assessments (also ECD Expert, April 19, 2021).

The Manitoba First Nation Education Resource Centre (MFNERC) also involves Elders' perspectives on knowledge acquisition when assessing First Nations' learners in their schools, by supporting teachers to understand this unique perspective. This is a crucial best practice because Elders' viewpoints acutely focus on the Indigenous *process* of learning:

> *In an Elder's perspective that's the learning process, that you watch, you view, you listen, you learn, and you live it, you don't get a grade on it, because if you don't learn how to do it you're going to go hungry…there's no grading on it except to be able to live a good life, and so mino pimatisiwim [the good life/well-being] this is the objective of education is to develop the skills, the knowledge and the values needed without grading to live a good life, and how we do that is classroom teachers to support learning, [this] is more important than the grades we give on a report card.* (Instructional Resources Analyst, March 19, 2021)

Acknowledge the entire environment around a child

Multiple interviewees stressed that educators and assessors must consider the role and the influence of the entire environment surrounding a child when assessing development or learning (ECD Expert, April 19, 2021; Manager and Indigenous Advisor, April 13, 2021).

This moves away from a practice of clinically treating individual children, or removing children from a group (O'Hara and Rowlandson 2010, 75). Instead, group dynamics and external environments are recognized as central factors affecting a child's behaviour or development.

A proactive method to consider environmental factors is to educate and support all students, not just those with perceived problems. Some intervention programs or assessments identified in this scan operate from this premise, such as the Moe the Mouse Speech and Language Development Program, or First Nations English Dialect Code Switching (see Appendix C). This program and assessment respectively work with an entire classroom to support all learners in an environment (rather than working with a child as an individual).

This best practice of recognising, assessing, and intervening within entire environments such as a whole preschool, also opens educators to the possibility of considering external stressors that could be affecting a child's development or learning. External stressors could include intergenerational trauma, instability at home, or food insecurity. Acknowledging how children interact and develop not only at school, but also at home, on the land, around the community - allows educators to better interpret and act on assessment results, by understanding where a child has support, where they face barriers, and what interventions can support them.

> *I think there needs to be – I see this triangle of assessment [multiple assessments] – to think about how you look at different environments and how environments play out in assessments differently for a child …what is it based on? Is it based on the child['s needs] or is it based on the educator['s needs]?* (ECD Expert, April 19, 2021)

> *How often [do] we indicate there's a problem with the person, instead of a problem with what's around the person? So you know, we really need to be considering the systems in which we find children, the environments in which we find children, the experiences that children are living through, the people that are supporting the children - it [developmental or learning difficulties] may not have anything to do with the child's development whatsoever and may be due entirely to the environments in which we find children, or place children, or nurture children, or don't nurture children.* (Manager, BCACCS, April 13, 2021)

Recognizing the role of surrounding environments, and that children's behaviour and development is directly linked to environments, the BC Aboriginal Child Care Society (BCACCS) thoroughly assesses their ECE *programs* themselves. The idea is behind this is to ask: is the *child* really failing or is it my *program* and support that is failing them? (Manager and Indigenous Advisor, April 13, 2021). Rather than assuming there is a problem with an individual child, BCACCS first assesses and considers the environment around a child, in this case the environment of ECD programming at preschools.

Assess children's strengths

In considering what to assess and the lens of assessment, monitoring a learner's strengths is paramount, in order to properly reflect what they can achieve, rather than highlighting deficits.

It should be noted that the very idea of "assessing" may be antithetical to a culturally-based value of accepting each child for who they are (Ball and Lewis 2011; ECD Expert, April 19, 2021). For example, during MFNERC roundtables, Cree elders did not have a direct translation for the word "assessment" (from those interviewed). Rather, they know that everything already exists inside each child (Instructional Resources Analyst, March 19, 2021). One Indigenous ECD expert explained how many Elders have told her that the word "assessment" is a colonial word, and very deficit-based. Elders use the words "gifts", and consequently understanding a child's gifts is an Indigenous gauge of assessment (ECD Expert, April 19, 2021). Thus, in designing an assessment it is critical to focus on a child's strengths.

Gerlach (2007) argues for a strengths-based lens of children, in order to build trust between family members and community, and a therapist or educator (also VIU 2013; Peltier 2011). If we foster children's strengths, they begin to master skills and succeed (Child and Youth Advocate, March 16, 2021).

Embed assessment within alternative curricula

Case studies consistently demonstrated that where alternative assessments have had the greatest traction and success is when they have been accompanied by overall changes in curriculum frameworks.

In the context of Nunavut, making assessment Indigenous-led grew out of wider process to change the entire education system to encompass Inuit principles. Since 2000, the government of Nunavut has focused curriculum on inclusive education, critical pedagogy, and traditional language. Ilitaunnikuliriniq Dynamic Assessment was used in the context of alternative curriculum and education systems:

Ilitaunnikuliriniq is a collaborative and collective process that emphasizes the interdependence, growth, success, and importance of the group. Competition solely for the sake of winning is therefore inappropriate and weakens one's responsibility to the group. To respect this belief, the education system must carefully consider how to value achievement in Nunavut schools. Collaborative achievements should become increasingly important and individual achievement should be viewed in light of the contribution that it makes to expanding the learning of the whole community. (2008, 32)

As explained by Earl and Katz:

Because assessment is intertwined with other dimensions of schooling, it is not possible to change one without changing the others. Significant changes in assessment will involve not only educators, but also parents and members of the wider community. (2006, 69).

Along this vein, interviewees pointed out similar holistic curriculum initiatives, such as the Government of the Northwest Territory's Dene Kede curriculum, which is informed by Dene philosophical concepts of lifelong learning (Instructional Resource Analyst, March 19, 2021). At the Best of Both World Bilingual Preschool, New Zealand, the Māui tikitiki a Taranga assessment framework is similarly situated in NZ's larger Te Wāhriki curriculum (created in the late 1990s) which provides diverse, Maori ways of looking at child development.

Recognition of what made them [Early childhood care providers] Māori, what they valued, how they viewed the world and how this was reflected in centre practice and assessment processes was key to the development of understandings, as was the realisation that Māori assessment did not have to parallel Pākehā or Western assessment; that it was acceptable to be different; that in fact difference was crucial if it was to make sense to Māori (Rameka 2011, 246).

Best practices in determining what to assess clearly happens through a lens which reflects being Indigenous, and often within wider curriculum overhauls which uphold Indigenous communities.

3.1.2   Who is Involved in Assessments and Interventions?

> **Engage in long-term relationships with families and caregivers**

> **Allow children to self-assess**

> **Empower educators and practitioners through training to do assessments well**

> **Involve school-to-community connections**

> **Share assessment results with caregivers and ensure they understand them**

Engage in long-term relationships with families and caregivers

Key informant interviews and the literature repeatedly underscored that educator or therapists' involvement in assessment should be based in long-term relationships with a families and caregivers.

Investing time in long term relationships (which can be challenging while working in institutional settings) is critical in order to form trusting relationships (Child and Youth Advocate, March 16, 2021; Occupational Therapist, March 1, 2021). This sentiment was expressed by nearly all interviewees in some capacity, and is repeated in the literature, particularly around early childhood development programs and interventions. Gerlach, Browne, and Greenwood's (2017) research on Aboriginal Infant Development Programs (AIDPs) in BC found that:

> *Workers described spending extensive amounts of time fostering relationships often over the course of many months or even years. Also, once established, relationships often lasted beyond the typical timeline of an infant development programme. AIDP workers frequently stayed with families until their children were school age in order to provide support with the transition into the educational system* (2017, 5).

Similarly, the Yukon's Child Development Centre (CDC) states that their best practice is their overarching family-centred philosophy. They strive to work with families at the family's pace, and they consistently work in, and return to, communities to build long-term relationships. Another therapist expressed the value of practicing in a community long-term:

> *Having relationships in the community [is a best practice], like I think it should be required of specialists to make some of kind of a commitment to be present in the community, so that they can observe, and listen, and do self-effacing about the kinds of tests they're reaching for and believing in, at face value …what I had to do was go through this whole process of trying to uphold the way I was trained to do the work, using those tests, delivering the bad news to the parents you know, and then programming to correct speech, you know so that everybody would sound the same and all these things, it took me about 10 years to really be able to make my approach culturally-relevant and appropriate, and then only way I was able to do that was being in the community, being a big part of it…I started to realize what I could do, and what was more important to look at around communication. So you know if clinicians, you know we're in the post-TRC context in Canada, so*

every clinician should already know this. (Indigenous Speech-Language Pathologist and Professor, March 24, 2021).

Similar to building long-term relationships with family, authentic relationships between practitioners and children should be established. Particularly in school settings, educators' relationship to a learner should be central. One interviewee explained an instance where an interviewer was working on a Schedule for Early Number Assessment (SENA) with a student. Depending on who the interviewer was, the student demonstrated vastly different levels of comprehension in math. According to the interviewee, this is because:

> *…you have to have that relationship with the student in order for them to feel comfortable to share what they know with you. And I think that's true for anything.* (Instructional Resource Analyst, March 19, 2021)

Allow children to self-assess

A best practice related to building relationships with learners is to directly involve students in assessment, which can help them build a strong sense of self and identity.

For example, the Manitoba Assessment Model—a First Nation-led assessment—honours a learner-centred approach:

> *Best practices involve learners in assessment. Every child can set goals. Every child should be given opportunities to practice and demonstrate learning without grading...Best practices in assessment build the confidence, self-esteem and self-belief of every child.* (MFNERC 2014, 8)

By self-assessing, students can evaluate how they can currently do something, and also how to do it better next time, which is inherently strengths-based, and reflects Indigenous values as discussed in section 3.1.1:

> *Elders say all learning comes from within you, you have it within you to learn and to grow and to be strong depending on your motivation and how you want to engage with whatever is being shared with you.* (Instructional Resources Analyst, March 19, 2021)

Furthermore, when students are involved in and understand the assessments that their teachers develop for them, they feel both comfortable and proud in their competency to complete a task (Instructional Resource Analyst, March 19, 2021).

Empower educators and practitioners through training to do assessments well

Alongside extended family, educators and teachers should be involved in assessments as a best practice, rather than restricting assessment processes to only outside experts or psychometricians.

For example, a crucial focus in the Manitoba Assessment Model is on training and bolstering the capacity of their own teachers. The Manitoba Assessment model asks: what is the capacity of school staff in their training? And what kinds of professional development supports are required to utilize and

support assessment for learning across the school system? (MFNERC 2014). Empowering classroom teachers was cited as a best practice by one interviewee, particularly for remote Indigenous communities. The role of a community teacher is a vital link, because a child can receive a diagnosis from an occupational therapist (OT) or physical therapist (PT), but at the end of the day, the learner returns to the classroom and their teacher has to work with them. Thus, educators should be trained, supported and involved in assessments and interventions (Professor, Faculty of Education, March 10, 2021). Similarly, allied health workers and therapists should receive thorough training in cultural safety, to at the very minimum, be able to deliver any assessment in the best way possible (Speech Language Pathologists, April 12, 2021).

Involve school-to-community connections

Assessments that connect learners' achievements to their community and home life were highlighted as critical best practices in order to build positive student identity and share assessment information with caregivers.

For example, the Treaty Education Alliance (TEA) in Saskatchewan focuses on community involvement in their First Nations developed classroom assessments (see Appendix C). TEA's entire approach includes ongoing community engagement through the process of "goal setting" within their individual school communities. There is a focus on fostering students to be "Nation Builders"—where learners can support the strengths and gifts of the nation in their schools. This is achieved by integrating First Nations communities within schools.

The Manitoba Assessment Model's approach blends provincial requirements with Elders' perspectives on learning (based on roundtable feedback from Elders). The Manitoba Assessment Model also works to engage entire families: MFNERC hosts community engagement meetings with teachers and families to explain academic learning in schools, and to help understand what assessment is used for. For example, they hosted a bingo night on assessment in one community (Instructional Resources Analyst, March 19, 2021). The home-to-school connection is also fostered through new developments in technology, such as using iPads in the Help Me Tell My story language assessment, where assessment information can be shared efficiently with caregivers through online platforms.

Share assessment results with caregivers and ensure they understand them

After an assessment is administered, a best practice is ensuring families are the first to know about the results of assessments (Professor of Child and Youth Care, March 30, 2021), and that families have the capacity to interpret these results.

Involving families in assessments should not stop once the assessment has ended, but needs to continue so that parents and caregivers can be supported in interpreting assessment results for their children (Manager and Indigenous Advisor BCACCS, April 20, 2021). Results from an assessment, or any diagnoses, can be confusing or hurtful (especially they present their child as having a deficit). Parents should be empowered to understand what this means for their child and supported through any additional referrals and services needed.

3.1.3   How are Assessments and Interventions Administered?

Deliver assessments with cultural safety and consent
Provide supports and accommodations prior to assessments
Conduct assessments in safe spaces
Have caregivers administer assessments
Wait for an appropriate time to administer assessments
Repeat assessments over time and compare results
Conduct assessments to occur alongside interventions

Deliver assessments with cultural safety and consent

A best practice for administering alternative assessments involves establishing a culturally-safe protocol for assessment, regardless of the actual assessment tool used.

Some protocols followed by practitioners in the field include continually ensuring informed consent, as well as building relationships with families prior to and throughout the assessment or intervention process as discussed in Section 3.1.2. It is critical to not traumatize or retraumatize a child by putting them in an unsafe environment with a stranger, and parents must be informed if an assessment such an Early Development Instrument (EDI) is administered when their child registers in public school (Professor of Child and Youth Care, March 30, 2021).

> *The incredible importance of informed consent. Although sometimes we ask families for consent, or we have it in our registration processes for schools, or whatever, it's not really – it's [not] set up in a way where we talk about what is actually going to happen, or what is going to happen with the information, or that a lot of time and effort is put into providing informed consent. The other thing that we talk about is the number of times that assessments are done and nothing happens after the assessment. So, we determine that maybe we have some concerns about development, and it just goes on the file, or it just gets used to get additional funding, or additional staffing, but it's actually not as part of a plan for changing curriculum, environment, approach, et cetera. And sometimes, further to that, it is inappropriately used to measure the effectiveness of the program, rather than support the child...you end up treating children like commodities rather than actually trying to figure out where they are now and where the family is hoping them to get to, designing cohesive supports, and adapting, and adapting the things around the child...* (Manager, BCACCS, April 13, 2021)

Following consent, assessments should only be administered by therapists after a relationship with the family has been established. Assessments are the last option in therapeutic support and should only conducted if the family wants them to be. One therapist stated that she always explains that assessing is just one piece of the puzzle and not reflective of the whole child (Occupational Therapist, March 1, 2021).

Provide supports and accommodations prior to assessments

Another best practice in approaching assessment administration is to deliver support and accommodations to a child *prior* to any assessment.

Assessments and diagnoses should always be a second step which is only pursued if supports do not help a child (Professor, Faculty of Education, March 10, 2021). Supports could take numerous forms, such as extra encouragement or attention in a classroom or childcare setting, providing more time to complete tasks, or engaging in conversations with caregivers. Most times, interviewees stressed that authentic supports will help a child who has a suspected learning difficulty, and that formalized testing or referrals to a paediatrician and specialist are therefore unnecessary if supports are effective (Professor, Faculty of Education, March 10, 2021).

Conduct assessments in safe spaces

In order for assessments to authentically reflect children's abilities, they must be conducted in a safe space, where there is trust and belonging.

As expressed by the Yukon's Child and Youth Advocate, learners need an environment where there is trust, safety, belonging, representation in order for them to flourish. For some Indigenous children, an environment where there is trust and safety may be out on the land. For this reason, the Yukon's Child and Youth Advocate (March 16, 2021), the Nunavut Department of Education (2008), and MFNERC (March 19, 2021) recommend doing assessments on the land. The Nunavut Department of Education's Ilitaunnikuliriniq Dynamic Assessment follows this best practice by specifically requiring students to demonstrate their skills in "real life settings" (2008, 54). An interviewee working with Inuit communities reiterated this practice, stating assessments should be administered on the land or through problem-solving tasks:

> *Inuit always say that you need to learn in the space… it's like on the land learning…the education system is based on a really colonial system, and taking our students out of that colonial system really helps engage with many of them, and that ability, which outside of the classroom, it's almost as if its frees people to think differently, and allows them to teach things not on a chalkboard, but rather in showing, and doing, and observing, which is what Inuit are always saying is "you have to observe, you have to learn by seeing"… So when it comes to assessments, you know, are assessments better done in that kind of context versus in a sterile, four-walls environment where people do get a little more intense about things, or because it's not a familiar place for them they get intimidated…I would suggest for the Yukon First Nations they probably have a very similar perspective as Inuit when it comes to colonialism and just the whole institutionalization of everything…creating that safe environment I think is critical in terms of assessing people properly…those little elements add up to a lot when it comes to assessing people properly.* (Anonymous, April 9, 2021)

Have caregivers administer assessments

In addition to assessing in safe spaces, caregivers themselves can also administer assessments, or deliver related intervention services, in order to ensure comfort and cultural safety in the assessment process.

For example, the Aboriginal Infant Development Program (AIDP) in BC engage Elders as program-deliverers for ECD services (Gerlach, Browne, and Greenwood 2017). Families can also be involved in the actual administration of an assessment instrument. With consent, caregivers can fill out or complete parent-response assessments, such as the Ages and Stages Questionnaire (ASQ) at the Step By Step Family and Child Centre, or the adapted Mac-Arthur Bates Communicative Development Inventory (CDI) assessment use in Nunavik communities. Interviewees described parents enjoying this process. Additionally, parent-administered assessments were cited as a crucial best practice because they opened communication channels between educators and parents (Director, Coordinator, and Program Supervisor Step By Step Child and Family Centre, March 17, 2021).

Wait for an appropriate time to administer assessments

It is key to wait for the appropriate time to ask questions, screen, assess or make referrals in order to respect relationships with families as discussed in Section 3.1.2, and honour informed consent as mentioned at the beginning of this section.

For instance, AIDP cites time sensitivity as a core component of their program approach (Gerlach, Browne, and Greenwood 2017), as well as one therapists' practice working in rural First Nations communities (Occupational Therapist, March 1, 2021). Similarly, the Yukon's Child Development Centre will only administer a formal assessment alongside their programming if a family specifically requests it. This in general means any assessment or intervention practices are first and foremost responsive to families (Gerlach, Browne, and Greenwood 2017, 2).

Repeat assessments over time and compare results

A further best practice in administering assessment is to repeat assessments over time and collect comparative information and results to guarantee a holistic picture of a child's development.

Non-standard assessments (i.e., any assessment methods that do not rely on standardized norms) are shown to work better if they are done more frequently and consistently over an extended period of time (Gould 2008, 648). Having "multiple tools in your toolkit," and use varying assessments at the same time, allows multiple vantage points on how a child is doing, including how they interact at home and with caregivers (Manager and Indigenous Advisor, April 20, 2021; ECD Expert, April 19, 2021; Professor, Child and Youth Care, March 30, 2021).

Conduct assessments to occur alongside interventions

An interviewee who worked in ECD intervention and assessment in Nunavut stressed a best method in conducting assessment is to surround the whole child with rehabilitation, therapy, and interventions in order to not silo support to institutional settings.

For example, working in various infant and family programs, this interviewee explained how they iteratively conduct assessments that intertwine with interventions naturally (Educational Consultant, April 1, 2021). Additionally, multiple interviewees stressed that if an assessment is being administered,
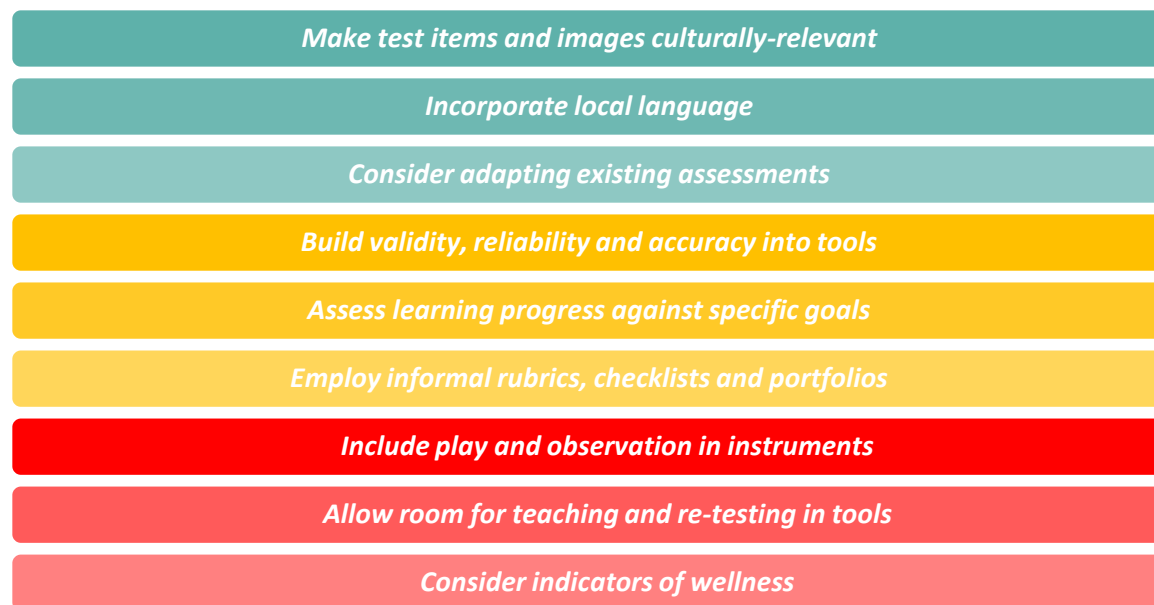
services always need to follow (Professor of Child and Youth Care, March 30, 2021). At minimum, if deficits are pointed out in a child, positive supports and services should come out of the process.

3.2   TRENDS AND BEST PRACTICES IN TOOL DEVELOPMENT

Methods of culturally-safe assessment approaches discussed in Section 3.1 are related to best practices in developing assessment instruments themselves. However, there are some specific best practices for *tool* development, as will be discussed in the following section, broken down into general trends (Section 3.2.1), trends specific to educational assessment (Section 3.2.2), trends specific allied health assessment (Section 3.2.4), and trends specific to designing alternative intervention programs.

All alternative and Indigenous-led assessment tools identified in the literature and key informant interviews are presented in Figures 1, 2, and 3.

3.2.1   General Trends

Make test items and images culturally-relevant
Incorporate local language
Consider adapting existing assessments
Build validity, reliability and accuracy into tools
Assess learning progress against specific goals
Employ informal rubrics, checklists and portfolios
Include play and observation in instruments
Allow room for teaching and re-testing in tools
Consider indicators of wellness

Make test items and images culturally-relevant

A key proven methodology in alternative tool-development—and the practice most visible in the academic literature—is the necessity of making tools, and test examples, images and items, culturally relevant so that learners respond well to the questions being asked of them.

This could be as simple as selecting images or toys for an assessment by using objects found in the child's culturally-specific environment, such as in the Indigenous Child-Initiated Pretend Play Assessment (I-ChIPPA) in Australia, where certain animals from the Pilbara region and Indigenous dolls are used (Dender and Stagnitti 2011). Similarly, the Moe the Mouse Speech and Language Development Program box includes materials that are, or can be, adapted specifically for different First Nations community contexts. Some interviewees have worked on tool-development with Elders, community, members, and

local artists to include Indigenous poetry, publications or art in their assessment instruments (Assessment Lead, May 5, 2021; Anonymous, April 23, 2021).

However, Gould 2008 cautions developing Indigenous-specific assessment tools through solely changing graphics or items to reflect culture, as it is also crucial to incorporate culturally-unique approaches to learning and communication in tool development:

> *It is very important to note that 'modifying existing tasks' does not mean taking a currently available published test and attempting to 'Aboriginalize' it by creating a parallel version where non-Aboriginal themes and pictures have simply been replaced with Aboriginal ones, and where Aboriginal syntax, morphology, and phonology are considered in the analysis of the data. No matter what the assessment task may look like on the surface, if the administration of the test or assessment follows non-Aboriginal ways of communicating, it will continue to be problematic for Aboriginal children to respond appropriately and to the best of their ability.* (Gould 2008, 646)

For example, one speech-language pathologist (SLP) and former teacher in Nunavik recounted her experience trying to conduct classroom-based assessments as a *qallunaat* or someone from down south. In the south, we always ask a question and expect an answer. However, Nunavik ways of learning are to watch, and only do or answer when they feel ready. Many non-Indigenous communities in North America are used to learning from mistakes, but for her Nunavik students, the emphasis is on long periods of observing, until they are ready to do a task without practice. For example, when making seal skin boots, you cannot try and fail—you get one chance or the boot is ruined. This anecdote helps explain why some students will wait until they are very sure before giving an answer in an assessment (Speech-Language Pathologist, April 19, 2021). Without this in-depth cultural knowledge and reflexivity, classroom assessments could poorly represent students' actual strengths.

Incorporate local language

Another best practice alongside making tools culturally-specific is to incorporate local language(s), and different ideas of language use and purpose, to ensure learners feel comfortable, as well as remove bias in testing children in their second language.

In some cases, assessments have been translated or designed to be in a child's first language, such as Inuktitut (Educational Consultant, April 1, 2021), and in other instances the assessor is someone who has knowledge of the child's non-English language or dialect and can account for this difference in a sensitive and respectful way (Peltier 2011). Because there are often specific cultural expectations around language and communication, it is best practice to create a tool that assesses for these expectations (Speech-Language Pathologist, April 19, 2021; also see Section 3.2.3). Thus, it is a crucial that practitioners take time to learn from cultural informants in the community, and incorporate language and differences in language use, in assessment instruments.

Consider adapting existing assessments

In some cases, adaptation to existing standardized tools are recognized as the quickest and simplest way to make assessment culturally-appropriate, and collect additional information that a community wants to know, especially where new tool creation is not yet feasible.

For example, Kahnawake and other First Nations communities across Canada have adapted the Ages and Stages Questionnaire (ASQ), the Aboriginal Head Start in Urban and Northern Communities

(AHSUNC) has modified the Brigance screening (VIU 2013, 16), and Peterson et al. (2021) have modified the Dynamic Assessment of Preschoolers' Proficiency in Learning English (DAPPLE). An adaptation of a typically assessed category in an existing assessment could look like "gross motor skills" being linked to skills demonstrated when out on the land exploring and learning. Similarly, indicators of "communicative skills" could be talking, singing and humming in traditional language.

The ASQ in particular is a popular assessment that Indigenous communities across Canada have adapted. Kahnawake's Step by Step Family and Child Centre's leadership in this is well-recognized by interviewees (see Step by Step 2015 and Appendix C). In BC, 89 out of 140 BC First Nations consulted stated they liked the ASQ, because they are able to change the content of the test items to be culturally-specific (Professor, Child and Youth Care, March 30, 2021). Some noted that the ASQ or Nipissing District Development Screen have test items that are simpler to adapt (Manager and Indigenous Advisor, April 20, 2021), whereas current SLP assessments are more challenging to adapt (Professor, Child and Youth Care, March 30, 2021). Similar standardized tools in early years, such as the Early Development Instrument (EDI) have also been adapted for use with Indigenous children. The Government of Northwest Territories modified the EDI in partnership with the Offord Centre, the original EDI tool developers (Deputy Minister and Assistant Deputy Minister, Government of the Northwest Territories, March 15, 2021).

One interviewee referred to the process of adaptation they observed in BC First Nations communities as "bootstrapping" assessments. In "bootstrapping," a nation would include what they want to know about child development, adding categories to a standardized test like the ASQ, or through employing informal assessment tools alongside formal ones. This collects information on child development that is community-generated, and not norm-based, but based on other kids in the community (Professor, Child and Youth Care, March 30, 2021).

Build validity, reliability, and accuracy into tools

When developing assessment instruments, the validity, reliability and accuracy of the tool itself should be analyzed prior to use, to guarantee the instrument's usefulness for Indigenous learners.

Some interviewees, particularly those who worked in assessment design or psychometrics, stressed the importance of YFNED understanding validity, reliability, accuracy (Assessment Lead, May 5, 2021) during the initial process of creating assessment tools. However others, particularly those working in interventions and ECD, stated the best practice is to have a strong understanding of how all children learn and develop (not just those with special needs) on an informal basis (Manager BCACCS, April 20, 2021), or that informal observations and interviews can almost always tell educators what they need to know about a child regardless of a test's statistical validity (Professor, Faculty of Education, March 10, 2021; see also Rowan 2013).

Assess learning progress against specific goals

When students are evaluated based on teacher's or community's pre-determined goals, or criteria, this is known as "criterion-referenced assessment." This is a key best practice because it avoids bias in standardized testing and can monitor strengths-based progress throughout a year.

In criterion-referenced assessment, the learners' personal progress over time is noted against learning goals (for example, "what changed from fall to spring?"), rather than progress being measured against Euro-Western statistical norms. While not explicitly using the terminology "criterion," assessing learners' progress against goals is a hallmark of Nunavut's model, especially in their desire to move away from the grade system (2008). MK also strives for assessment that is learner-oriented and not a used as a competition against other learners (Executive Director, Indigenous Education Organization, March 31, 2021).

Employ informal rubrics, checklists, and portfolios

In designing assessment instruments, it is best practice to develop various rubrics, checklists, portfolios, or surveys that can be used by educators in order to track observations over time in a flexible manner. This is crucial because informal tools developed by, or for, educators are flexible and self-designed, thus they can easily incorporate multiple best practices mentioned in this Section (3.2.1) such as cultural images, local language, and monitoring progress throughout the year.

In practice, employing these types of instruments can take the form of creating a comprehensive child portfolio. A portfolio can include various assessment results, surveys, and checklists compiled in one place to observe how they relate to one another. Narrative "stories" about a child's development can also be useful informal tools easily incorporated into a portfolio (Professor, Child and Youth Care, March 30, 2021; Rowan 2013). Portfolios can also include art, images, or activities for or about children in order to engage them and their families in tracking a child's strengths.

As well as portfolios, straight-forward development observation checklists can be important assessment tools for classroom teachers. Checklists can help monitor oral language, in English and First Nations languages (Instructional Resource Analyst, March 19, 2021; Coles-Ritchie and Charles 2011).

Informal assessment methods can reveal a great deal of information about how a child is doing (VIU 2013; Gerlach 2007; Manager, BCACCS, April 13, 2021). In Alison Gerlach's guide on early intervention therapy prepared for BCACCS in 2007, she quotes a culturally-safe practice of informal assessment (through developmental milestones). As explained by an SLP working with Indigenous children:

> *As an experienced clinician, I don't use standardized assessments very often out of respect for how the family may see their child. Instead I talk to the parents and/or grandparents and ask them about where their child is at and where they would like them to be... I use developmental milestones to help guide their concerns and dreams. We then focus on lessening their concerns through early intervention.* (Gerlach 2007, 30).

Include play and observation in instruments

Observation and play are critical to incorporate in assessment tools because developmental milestones, surveys, and checklists can be completed by educators through non-invasive, comfortable methods such as watching children play.

Some experts underscore that play is a cultural practice, and a observing a child's interactions during play is an authentic form of assessment - this can be done through video-recordings that are then analysed for patterns (Peterson McIntyre, and Glaes-Coutts 2018; Peterson et al. 2021). Play-based assessment is a recognized best practice in ECD because:

> *[In play] Children make sense of experience, impose structure on tasks according to their funds of knowledge, and engage in ongoing problem-solving and thinking… Play is also recognized as a culturally-and contextually situated practice, where 'everything that children play at, or play with, is influenced by wider social, historical and cultural factors'.* (Wood 2013, 8 as in Peterson, McIntyre, and Glaes-Coutts 2018, 789).

Relatedly, observation-based assessment (Peterson, McIntyre, and Glaes-Coutts 2018; Anderson 2016; Harrison et al. 2014; Ball 2007; O'Hara and Rowlandson 2010) is a recognized best practice, whether through play or other means in a classroom-setting. Making observations moves away from the practice of scoring a pass/fail on a singular question. In a survey of screening practices of Aboriginal Early Childhood programs in BC, Ball (2007) discovered that many programs relied on skilled staff to make constant observations using some type of checklist or chart. This can discern whether a child is on-track, and also opens conversations with parents and guardians about their impressions of their child's development (Ball 2007).

O'Hara and Rowlandson (2010, 71) refer to the process of observation-based assessments as establishing "local norms procedures." For example, by recording "regular" talk of 4-or 5-year-olds over time and compiling language samples, locally referenced norms can be collected, and an enormous amount of information about a child's development can be gathered in a culturally sensitive manner (O'Hara and Rowlandson 2010; Professor, Department of Learning and Education March 9, 2021; Speech-Language Pathologist April 19, 2021).

Examples of non-invasive observation-based assessments are the Help Me Tell My Story tool conducted with a puppet and on an iPad, or NOW-Play's Assessing Children's Use of Language (ACUL) assessment conducted through observing play and recording videos.

Allow room for teaching and re-testing in tools

Assessment instruments should be designed to include space for prompting, teaching, and subsequently re-testing learners, because probing further can reveal an individual's process of learning, and thus help educators better target needed supports.

In both educational and allied health assessment tools, the flexibility provided by criterion-referenced, observation-based assessments also accompanies room for allowing mistakes and "scaffolding" (Anderson 2016). As explained by Anderson:

> *Using dynamic assessment which allows the evaluator to scaffold and prompt in the presence of errors, the process of learning would be revealed rather than the learning that results, which can be much more valuable when planning intervention. If a child scores 0 on an item in the FPSLST-2 [Fluharty Preschool Speech and Language Screening Test – Second Edition], the examiner assumes that he/she does not know the concept. However, if the examiner were able to probe or scaffold*

further, he or she might become aware that there is some form of conceptual understanding by the student and that the examiner need only introduce a small amount of information to solidify its full understanding in a variety of contexts (2016, 115).

If an educator models a task during an assessment, and a child can then repeat it, their ability is recognized rather than marked as a deficit, and educators can better plan supports around processes of learning:

In dynamic assessment [DA], if the S-LP's prompts, questioning, or modelling leads to the child's successful completion of the task, the language skill or understanding is within the child's Zone of Proximal Development - thus DA can provide info on how the child learns and the learning processes that may need to be targeted in intervention (Peterson et al. 2021, 4).

Along the same vein as the practice of dynamic assessment and scaffolding, the "test-teach-retest method" is cited as a key best approach by one Indigenous SLP. In the test-teach-retest, method, an SLP carries out a test on an area of speech or language to see where a student has strong, borderline, or no language skills. Based on this initial assessment, the SLP sets up a short-term intervention, and then retests the child. One SLP explained that frequently, when they retest Indigenous children, they have later picked up the language skills. If the student is not grasping the language skill by the time of the retest, the next step is to start to think of outside issues interfering with the child's language learning abilities (Indigenous Speech-Language Pathologist and Professor, March 24, 2021; see also Peterson et al. 2021).

While most of the literature regarding dynamic assessment, scaffolding, and test-teach-retest relates to SLP assessments, it is a best practice that can be applied to all assessments (see Ilitaunnikuliriniq Dynamic Assessment, Government of Nunavut 2008), as its core principles of emphasising the learning process are relevant to other educational outcomes.

Consider indicators of wellness

Finally, an emerging best practice which can be widely employed is incorporating wellness checks into assessment tools to facilitate a holistic understanding of a child's development, and relationship to learning.

One interviewee noted that wellness checks should be conducted alongside, or as a portion of classroom-based assessments, so teachers can build their relationship with students and understand a child's day to day engagement with learning (Instructional Resource Analyst, March 19, 2021).

3.2.2   Examples of Indigenous-led and Alternative Educational and ECD Assessment Tools

Section 3.2.1 covers overarching best methods in alternative assessment tool-development applicable to all fields, however interviewees and the literature also pointed towards unique practices in the context of school-settings. Modifications to standard assessments, and Indigenous-led assessment examples from school and preschool-settings can be found in Figure 1. ECD assessments are included in Figure 1, as they often occur in a similar setting as a school – for example a preschool or centre, and also frequently contribute to school readiness. However, best practices specifically associated with ECD

assessments have been covered in throughout the previous (Section, 3.2.1) and this Section (3.2.2) primarily focuses on additional best practices relevant to classrooms.

Best practices in educational assessment are to:

Assess through classroom-based tools

Design tools to collect educational data relevant for teachers

Reflect both Indigenous and provincial/territorial learning

Figure 1: Identified Examples of Alternative Educational and ECD Assessments

Alternative Educational and ECD Assessments	Purpose and Context
Ilitaunnikuliriniq Dynamic Assessment	•Assessment of student learning, classroom assessment, as part of the Inuit Qaujimajatuqangit (IQ) holistic curriculum approach •Nunavut
Canadian Council for Learning (CCL) Holisitic Lifelong Learning Mo	•Classroom educational assessment model •Aspired to be used by First Nations, Metis, and Inuit Canada-wide
Help Me Tell My Story	•Holistic assessment, with a focus on language learning •Used by the Saskatchewan Department of Education, and potentially other jurisdictions in Canada •Developed by the Saskatchewan Ministry of Education with First Nations and Metis learning experts and SLPs
Manitoba Assessment Model (MNFERC Adapted)	•Assessment of student learning, classroom assessment •Used in Manitoba First Nations' schools
Treaty Education Alliance (TEA): Balanced Literacy	•Literacy learning assessment •Includes a number of assessment tools: Beginning Early and Developing Strong (BEADS), Children's Early Reading and Phonetic Sounds (CHERPS) •Developed and used by Fort Qu'Appelle First Nation communities, Saskatchewan
Mi'kmaw Kina'matnewey (MK) Literacy Assessment	•Assessment of student learning in literacy, classroom assessment •Used in Mi'kmaq schools, Nova Scotia
Modified Ages and Stages Questionnaire (ASQ)	•Developmental early years screening tool - standardized test modified per community's needs • Step by Step Child and Family Centre, Kahnawake, Quebec; potentially some Aboriginal Head Start centres in BC; and the Government of Nunavut ECD programming
The Māui tikitiki a Taranga assessment framework	•Early childhood holistic development assessment •Developed and used by Maori communities in New Zealand, at the Best of Both World Bilingual Preschool
Modified Brignace Screen, Aboriginal Head Start in Urban and Northern Communities	•Early childhood development assessment - standardized test modified per community's needs •Suggested to be modified for Indigenous communities involved in Aboriginal Head Start in Urban and Northern Communities
Learning Stories in Nunavik (Narrative assessment)	•Early childhood holisitic assessment and approach •Used in ECD centres in Inukjuak, Nunavik
Northwest Territories' Modified Early Development Instrument (EDI)	•Early childhood development assessment - standardized test modified per Indigenous childrens' needs •Used by the Government of the Northwest Territories
Sylix Stages of Child Development Chart	•Early years development model/chart created with community •Used in Aboriginal ECD centres in the Okanagan, BC

Assess through classroom-based tools

An effective method to incorporate the best practices outlined in the previous section (Section 3.2.1), including criterion-referenced, and observation-based assessments, is through classroom-based assessment. This is a key best practice as classroom-based assessments can facilitate adaptations for diverse Indigenous learners, reflect culture, and can assess multiple types of learning without diagnosing children.

According to one interviewee, classroom-based assessment is now fairly universally accepted as a best practice and is frequently taught in education programs to prospective teachers in Canada (Instructional Resource Analyst, March 19, 2021). Classroom-based assessments encompass assessment *for* learning, assessment *of* learning, and assessment *as* learning. Assessment *for* learning means teachers monitor a child's learning to get feedback on how a student can learn better—which is then incorporated in teaching. Assessment *of* learning is when teachers check what curriculum or tasks students have learned to date (for example, giving a report card). Lastly, assessment *as* learning is when students self-assess (as mentioned in 3.1.2) or asses their peers, to reflect on what they have learned and relate it to their lives (Earl and Katz 2006). Often classroom-based assessments include a combination of these approaches, which is a best practice because it encourages and monitors a students' progress, and improves teaching (rather than assessing for a diagnosis only).

Earl and Katz's 2006 report produced in collaboration with the Western and Northern Canadian Protocol for Collaboration in Education contains: descriptions of classroom-based assessment processes that enhance learning, case studies from classrooms, and suggestions. Fundamentally, they underscore that classroom-based assessments can be adaptive and iterative, and designed by individual teachers and schools. This is particularly relevant for Indigenous learners, as there is a great diversity in contexts across nations and schools, and standardising assessments for Indigenous children may not be culturally adequate (see Section 2.2; Philpott 2007). Instead, teachers can be supported to create classroom-based assessment criteria and tools (i.e. a rubric or checklist, see 3.2.1) that will clearly reflect Indigenous students' learning (Instructional Resource Analyst, March 19, 2021).

One example of Indigenous-led classroom-based assessment comes from Nova Scotia. Currently, MK is working on their own independent Grade 7 literacy assessment which encompasses culturally relevant items, a best practice also discussed in Section 3.2.1. Thus far, 130 Mik'maq items have been sourced to display on the assessment. These items are artefacts of Mik'maq culture: stories, poetry, and other experiences that Mik'maq learners can tangibly relate to and see reflected in their daily lives—for example lacrosse, or the poetry of Rita Joe (a Mik'maw poet and songwriter). The hope is assessing literacy in a culturally-relevant way will provide more depth of analyses and also show students to perform better than on a test using Euro-Western materials or reading samples (Assessment Lead, May 5, 2021).

Design tools to collect educational data relevant for teachers

A best practice for educational assessment tool design is to ensure that it gathers student data relevant to teachers, and that this information is also accessible to educators. This is crucial because having access to data about student learning can help educators better target supports and interventions individuals or classrooms may need.

Classroom-based assessment of learning data needs to be relevant to teachers and caregivers, and immediately available and accessible. Interviewees with experience designing and researching assessments stressed that information collected about a student's learning needs to be useful to the teacher (Director of Assessment, Government of Saskatchewan, March 15, 2021). Fundamentally, monitoring student's learning through an assessment should occur so that teachers can better support, and better teach, their pupils. As one example, in Saskatchewan as soon as the Help Me Tell My Story holistic assessment by the teacher is complete on the iPad, the data is immediately available on an online portal accessible to the teacher and child's caregiver.

Reflect both Indigenous and provincial/territorial learning achievements in results

Lastly, when reporting information collected from educational assessment tools for Indigenous learners, data should not only reflect provincial and territorial learning requirements, but also Indigenous learning goals. This is an imperative practice to honour an Indigenous-lens of assessment as discussed in Section 3.1.1, and celebrate achievements unique to Indigenous values.

For example, one interviewee working in Manitoba First Nations schools stressed that when educators provide assessment data, such as through report cards, the card's subject categories should reflect firstly, culture, and secondly, provincial curriculum. To properly reflect a child's learning achievements in an Indigenous way, assessment results should include Indigenous culture. Especially, if there is a land-based or language program at school, assessment data should reflect these Indigenous-specific teachings that have been incorporated in curriculum (Instructional Resource Analyst, March 19, 2021). In essence, alternative educational assessments should go above and beyond reporting on provincial and territorial requirements to give validity to Indigenous-specific achievements.

3.2.3   Examples of Indigenous-led and Alternative Allied Health Assessment Tools

While many, if not all, of the general trends in best practices of assessment tool development in Section 3.2.1 are relevant for allied health, this section covers additional best practices specific to speech and language, occupational therapy, and psycho-educational or learning differences assessments. Currently, the majority of alternative or Indigenous-led assessments in allied health focus on language learning. This is somewhat to be expected, as the inadequacy of language assessments administered in English to multi-lingual children is starkly visible in everyday interactions, whereas difference in motor skills in a preschool could be less immediately obvious. As such, only modifications to occupational and physical therapy, and psycho-educational assessments were identified in this environmental scan.

While language acquisition is a critical component of school success, for the purpose of this report, speech and language assessments have been included under the umbrella of allied health tool examples in Figure 2, and not education tool examples (Figure 1). This is primarily due to the well-documented social determinants of health in language learning, such as high prevalence of otitis media [hearing loss] (Ball 2009, 25; Peltier 2011) which negatively affects language acquisition, and the practice of screening for language delays which can require therapeutic support (i.e. speech-language therapy services).

Additional best practices specific to allied health are to:

Acknowledge dialect differences
Conduct assessments in a child's first language
Train local health practitioners
Carry out "pre-screenings" prior to standardized assessments

Figure 2: Identified Examples of Alternative Allied Health Assessments

Alternative Allied Health Assessments/Screenings *(including speech and language)*	Purpose and Context
Northern Oral Language and Writing through Play (NOW Play)'s Assessing Children's Use of Language (ACUL)	•Language assessment •ACUL was created with teachers geared towards what teachers needed to know (including Indigenous educators) •Used in multiple provinces in Canada
First Nations English Dialect Code Switching	•Language assessment, therapeutic approach •Developed by Indigenous SLP •Used in Ontario
Inuktitut and English Language Screening Tool	•Language screening tool •Kindergarten screening tool used in all classes, now used by Inuit Special Education educators teachers •Used in Nunavik and Nunavut (adapted to each community)
Inuktitut Adaptation of the MacArthur-Bates Communicative Development Inventories (CDI)	•Early language tool - parent report instrument •Used in Nunavik, adapted by Kativik School Board to be in Inuktitut
Child Development Centre's Internal Autism Spectrum Disorder Prescreening*	•screening tool to determine if formal ASD assessment is necessary (*not Indigenous-specific, but modified to be culturally-safe for all children) •Used in the Yukon
Inuvialuit Regional Corp (IRC) Psycho-Ed Prescreening	•screening tool to determine if formal assessment is necessary •Used in Inuvialuit, Nunavut
Modified Dynamic Assessment of Preschoolers' Proficiency in Learning English (DAPPLE)	•Standard speech and language assessment - modified to distinguish language deficits from difference with Indigenous children •adapted by local First Nations educators •Used in an Oji-Cree community in northern Ontario
Indigenous Child-Initiated Pretend Play Assessment (I-ChIPPA)	•standardized assessment to observe play - used for developmental disbailities, learning disorders, and physical immobility - modified culturally-appropriate materials for Indigenous children •Used in Pilbara region, Western Australia, potentially elsewhere in Australia

Acknowledge dialect differences

In order to assess Indigenous children fairly, language assessment tools need to be adapted to reflect how the structure of language or vocabulary is acquired differently in Indigenous languages.

This can be achieved through acknowledging First Nations English dialectal differences and building "code-switching" into assessments (Indigenous Speech-Language Pathologist and Professor, March 24, 2021). Supporting "code switching" is one tangible example. As explained by one Indigenous SLP, this involves making Indigenous children familiar with the English sound system through listening and ear training—for example, to have them learn the difference between vowels and consonants that are

different in their own First Nation English Dialect[5] (FNED). They can then learn to differentiate and "switch" between language used at home and at school (Indigenous Speech-Language Pathologist and Professor, March 24, 2021; Peltier 2017,13; See Appendix C).

FNED is an important aspect of self-identity and community connection (Peltier 2011), thus acknowledging its validity is a strengths-based practice in SLP. This supportive language practice comes from a place of a strength, where rather than seeing Indigenous children as "at risk," educators can:

> support the child's autonomy as a learner by appreciating cultural differences and by striving to acquire cultural competence (Peltier 2017, 8).

Conduct assessments in a child's first language

Another strengths-based best practice identified during interviews is conducting assessments in local languages themselves (such as Cree, Inuktitut, or Mi'kmaq, See Appendix C). This is important because it reinforces the validity and identity of Indigenous language-learners (Educational Consultant, April 1, 2021; Indigenous Speech-Language Pathologist and Professor, March 24, 2021; Shaeffer 2020). According to global evidence in a 2020 United Nations Educational, Scientific and Cultural Organization (UNESCO) report, early years learning in one's home language leads to better future outcomes for both children and their nations (Shaeffer 2020, 7).

For example, in order to gauge success and learning in realms other than English-language acquisition, children can be tested in their "best language":

> Most kids, for me, if I want to find out "does the kid have a problem with language?", you need to check their first, their best language, to see whether they have a problem in their best language, because if they're super-duper good in their best language, then they'll probably get a second language later if they want sort of thing, so one always tries to do it [an assessment] in their best language…and almost always you have to do it in Inuktitut, so we work very closely with the Special Education teacher, or regional counsellor, or somebody who's Inuit so almost all our assessments are a joint affair with Inuit who can administer the tests and also give us their feedback on how they feel about the answers, to how the child was. So, kind of a cultural but also linguistic joint-evaluation. (Speech-Language Pathologist, April 19, 2021)

These best practices decolonize assessment because they recognize First Nations languages, dialects, and speech patterns as fundamentally valid. In particular, there is a move to distinguish language deficits from difference, which can help children receive supports if needed, without pathologizing them.

Additionally, some education bodies are championing Indigenous language use among students and documenting how this supports overall learning and language development. For example, MK collects data on Mi'kmaq language acquisition in their own independent data repository (Executive Director, Indigenous Education Organization, March 31, 2021).

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[5] A First Nation English Dialect (FNED) is a dialectal form of speech present in the home and community talk of many Indigenous people, both in rural or urban settings. FNEDs are evident among both Aboriginal people who speak their ancestral language, and those who do not (Peltier 2011, 128).

Many First Nations have done the work of translating assessments for various subjects, but there is a call to shift focus to empowering and measuring a learner's fluency in Indigenous languages (Instructional Resource Analyst, March 19, 2021). For First Nations, "language is our sovereignty…we need to have that language strong in our communities" (Instructional Resource Analyst, March 19, 2021). Similarly, MK stresses that language is what makes their work and success unique as an Indigenous organization, and it continues to be an ongoing goal in Mi'kmaq communities (Executive Director, Indigenous Education Organization, March 31, 2021). An emerging best practice is thus working with First Nations community leaders in assessing Indigenous language acquisition (not just English language-development) to monitor and document the success of First Nations learners in mastering their own language, and subsequently their own culture and identity.

Train local health practitioners

Another best practice in allied health assessments is to train and support community members and caregivers to monitor a child's development (see also Section 3.1.2), rather than relying on outside clinical expertise.

When discussing the process of developing an Inuktitut language acquisition assessment (currently in-progress), one interviewee expressed the need for informal, strengths-based tests that could fit into broader allied health programs:

> *I don't think that's [norm-referenced tests] particularly comfortable. I think what we want to do is kind of have big, open, flexible ideas that don't require specialized expertise in terms of assessment, so that somebody working with a child, you know in a home situation or in an early childhood classroom could say "oh this is weird, what's happening here?", and then we can provide some things like "try this, try this, try that". And then based on what you find, "here's what you can try next, this might help". A more loosely, holistic approach to supporting a child in difficulty rather than emphasizing the assessment piece of it. You know in Indigenous communities that relationship, trust, close observation piece is how children learn, how children are taught, so that's one of the strengths in Indigenous communities we would want to draw on. So, we don't want it to be a stressful, foreign testing situation. We want it to be part of a growth continuum for a child.* (Educational Consultant, April 1, 2021)

The ability of ECE or allied health therapists to administer informal assessments is critical for relationship building as mentioned in Section 3.1, and also because it decreases the need for complex trainings specific to standardized tests, and decreases the need for assessors to enter remote communities in a potentially harmful way.

Carry out "pre-screenings" prior to standardized assessments

Interviewees working with behavioural and psychoeducational backgrounds stated that current best practices in this field primarily centre on conducting "pre-screenings" in order to ensure that standardized assessments are only employed if absolutely necessary, as supportive interventions and programs can often be just as effective (see Section 3.2.4).

Interviewees shared knowledge of various informal pre-screenings conducted by therapists or early childhood caregivers who already know the child (see Appendix C). The purpose of a pre-screen is to ensure standardized assessments are only conducted if they are truly needed, and if so, that they are done in a culturally-safe manner. One interviewee explained that in their Indigenous context, if a

psychoeducational assessment is needed, the test can be administered in Mi'kmaq - this has happened multiple times. While there is no formal Mi'kmaq psychoeducational assessment, it can be customized upon request (Executive Director, Indigenous Education Organization, March 31, 2021).

3.2.4   Examples of Indigenous-led and Alternative Intervention Programming

The purpose of this section is to highlight promising best practices specific to intervention and therapy programs. An intervention program refers to an activity or set of activities designed to improve overall health or encourage behaviour change through prevention, planning and management. Therapy refers to any treatments which help someone recover or heal.

While the general best practices outlined in Section 3.2.1 should be kept in mind for Indigenous-centred interventions, this section mentions additional best practices in intervention programs which do not necessarily focus on an *assessment* component. Nevertheless, the interconnectivity between assessments and supportive interventions is underscored as a key approach in Section 3.1.3, and:

> *methods and perspectives that contribute towards collection of effective assessment are also important for the creation of culturally supportive and enriching therapy methodologies for Aboriginal children.* (Gould 2008, 646)

Best practices specific to intervention are to:

Customize interventions based on evidence
Incorporate home visiting
Develop long-term interventions within continuums of care

Figure 3: Identified Examples of Alternative Interventions

Alternative Interventions	Purpose and Context
Modified Positive Behavioural Support Interventions (PBIS)	•Supportive behaviour intervenitons •Used by Chief Jimmy Bruneau School NWT, Behchokǫ (Dene & Tłı̨chǫ Nation)
Aboriginal Infant Development Programs	•Early childhood supports offered to families with infants at risk or diagnosed with developmental delays •Includes home visits, activities, and assessments •Used across BC
Wikwemikong Board of Education Special Education	•Various learner supports interventions (behavioural, learning, and physical therapies) •Available for Wikwemikong Anishinabe learners in Ontario
Cree Neurodevelopmental Diagnostic Clinic	•Allied health interventions and diagnostics centred in Cree values •Run by the Cree Board of Health and Social Services of James Bay, Quebec
Moe the Mouse (and Fly with Akweks)	•Early speech and language resource/activity that uses Indigenous toys and stories to enhance language development •Modified for various communities by BCACCS and BC First Nations (Sylix for example); modified by Kahanawake First Nation; potentially modified by other communities
TigaTalk	•Television program encouraging language development in both English and Cree, focuses on speech sounds in different place-based settings •Aired by APTN
Child Development Centre (CDC)*	•General family-centred and family-paced approach to intervention services, including any desires for assessments (not Indigenous-specific) •Operating in the Yukon
British Columbia Aboriginal Child Care Society (BCACCS)	•General family-centred and consent-based approach to intervention services, including any desires for assessments •Focus on highly trained, culturally-safe ECE's and assessors •Operating across BC
Inuit Home Visiting Programs (Aqquimavvik Society)	•Home visiting program to support families and deliver Inuit parenting programs, to surround families with support •Operating across Nunavut

Customize interventions based on evidence

Customizing interventions to be appropriate to each child and family's situation (Peltier 2011, 134) is a best practice in alternative interventions because modifying therapy where necessary can account for trauma and build trust.

The best way to customize any intervention appropriately is to employ a three-pronged approach to evidence-based practice, asking: what do I know? What does the family know? And what does the research tell me? (Speech Language Pathologists, April 12, 2021). Combining these three streams of information, a therapist can then work to design something which best suits a particular family.

Customizing assessments is a key facet of intervention programming because they can ensure a family's informed consent (see Section 3.1.3), and be trauma-informed and built on trust (Manager and Indigenous Advisor BCACCS, April 13, 2021; also Ball and Lewis 2011). In explaining her overall process of

assessing, treating and working in classrooms with children who speak a First Nations English Dialect (FNED), Peltier explains how and why she came to customize her approach to language intervention:

> *I have come to understand that this perceived difficulty in service provision may stem from a mismatch between professional attitudes on one hand and the community values and ways of doing and knowing among Aboriginal peoples on the other hand. As well, each family and community has a distinct history that should be considered. Early learning background and experiences with medical and educational institutions significantly influences client receptivity* (Peltier 2011, 127).

By customizing a language program for a particular First Nations community, Peltier shows how interventions can continue to uphold Aboriginal parenting or culture while providing therapy in unique ways (Peltier 2011).

Incorporate home visiting

One interviewee explained a best practice in intervention is utilizing home visiting in order to facilitate family engagement, and support trust in a safe, familiar environment (the home).

Particularly in ECD, home visiting can allow health and support services to be provided to families who may not otherwise seek it out or may not have access to service centres or workers. Additionally, home visiting is culturally relevant for communities where visiting is socially accepted and respected (for example, in Nunavut as explained by one interviewee). Home visiting can also be supportive through its ability to holistically target prevention and early intervention (McLennan et al. 2020, 76-77; Educational Consultant, April 1, 2021):

> *[home visiting] is important on a number of plains—you need to provide those supports and build that relationship in the child's environment where they feel most comfortable. At the same time, you are working with the child and building that relationship with the child, and with the family, who is the first level of support for that child… we were developing a treatment plan for the child and much of it was developed outside, but then the family could bring it to the home and reinforce it in the day to day.* (Educational Consultant, April 1, 2021)

Home visiting represents a situation where intervention is not siloed to be only provided in institutional settings. One example an interviewee shared, was of a child who was hard of hearing in an ECD centre in Nunavut. The centre received funding to teach sign language, but they insisted that everyone learned to sign—the educators, the other children, and all the families. If only one child's support assistant could sign, that would have isolated the child, but by teaching everyone to sign, the child was integrated within the whole community (Educational Consultant, April 1, 2021).

Home visiting is also used in AIDP programs in BC in order to achieve family engagement in ECD programming and high-quality provider-family relationships (Gerlach, Browne, and Greenwood 2017).

Develop long-term interventions within continuums of care

Intervention programs that happen consistently, over long periods of time, were stressed by interviewees to be of utmost importance because they are more meaningful to children and can authentically exemplify and celebrate a child's achievement over time.

One educational consultant and ECD worker with decades of experience in Inuit communities explained their reasoning for long-term, continual interventions:

If you're trying to support a child and a family…to be able to begin a meaningful program—and it can't be, you know, once every six weeks or six months, it's got to be day by day, on-going, you got to be building the relationship with the child and family and providing continual supports so that you know a child can see their progress, that they are making headway, that they're developing, that they're hitting some of those milestones. Because you know we all need to feel successful. If you are constantly put in a situation where you're failing meeting the expectations time and time again, you just give up. So, the big part of it is knowing the child you are working with, and taking those little…tiny steps towards some milestone, little incremental support is what is going to get that child to accomplishment. (Educational Consultant, April 1, 2021)

Long-term, customized interventions and therapy with a family or individual can be effective opportunities to meaningfully incorporate the other best practices listed in this report in Sections 3.1 and 3.2, because knowing and working with a family long-term allows for family-involvement, flexibility, and in-depth cultural understanding.

Ultimately, a long-term, committed, intervention should occur within a continuum of care. In practice this means interconnecting education and health services and establishing partnerships across service sectors within a continuum (Educational Consultant, April 1, 2021; Peltier 2011; McIntosh et al. 2011; Ball 2009). Thus, a long-term intervention could be the focal point of care provided for a family, or one support within a broader health continuum.

In the 2020 report "Putting People First: The Final Report of the Comprehensive Review of Yukon's Health and Social Programs and Services," McLennan et al. recommends that holistic whole-person care (including cultural approaches to healing) is available for every Yukoner, with specific attention to the challenges Yukon Indigenous peoples face. McLennan et al. suggests everyone has one primary caregiver than can integrate specialists such as OTs when needed (2020, 48). A continuum of care and holistic care is a desired best policy, but one that is not yet operational, at least within the scope of the data reviewed.

4. RECOMMENDATIONS FOR YFNED MOVING FORWARD

Given the diversity of Indigenous communities in the Canada, and the breadth of experience of the expert interviewees, there are a myriad of best practices in alternative assessment. While Section 3 outlined these trends in best practices in assessment approach, administration and tool development, Section 4 lays out recommendations for how YFNED can practically apply practices with First Nations learners in the Yukon. A continued emphasis on early childhood development is a tangible direction where YFNED can focus their efforts to have a high impact in the realm of assessment and intervention, particularly if jurisdictional and logistical considerations are well-managed.

Based on the study findings, it is suggested that YFNED:

1. Start from the beginning to determine the purpose(s) of assessment (Section 4.1);

2. Pilot assessments with knowledge-keepers (Section 4.2);

3. Centre Indigenous worldviews and language (Section 4.3);

4. Establish a thorough protocol for assessing Indigenous children (Section 4.4);

5. Hire dedicated staff (Section 4.5);

6. Focus on data tracking (Section 4.6);

7. Balance jurisdictions (Section 4.7);

8. Factor in costs and capacity (Section 4.8); and,

9. Critically consider assessments' role in further care (Section 4.9).

4.1 DETERMINE THE PURPOSE OF ASSESSMENT AND WHAT RESULTS MEAN

YFNED should have a careful conversation about why assessments are needed, which assessments are needed, and what the collected information informs (Professor, Faculty of Education, March 10, 2021; Assessment Lead, May 5, 2021).

As exemplified throughout this report, multiple assessments are used for varying reasons in educational, ECD, and allied health contexts. For example, in school-settings, do assessments *enhance* learning or *measure* learning outcomes? (see Section 3.2.2 and Earl and Katz 2006). The desire for particular types of assessment should come from both YFNED and communities' needs.

Once YFNED clearly determines the purpose of an Indigenous-specific assessment, and what they want assessment data to provide for Indigenous children, a sound basis for interpreting data results should be established. For example, if a lot of children score "no" on an assessment, YFNED and communities should critically consider *why* students may have scored "no". We can ask: what other factors—besides a presumed learning difficulty—could account for this answer? (see also Section 3.1.1 on environmental factors).

Indigenous communities in particular should lead the interpretation of assessment findings, and determine what it means for their children, in their context (Professor of Child and Youth Care, March 30, 2021). One interviewee explained how assessment tools themselves are not always at fault, but rather a lack of understanding, collaboration, and interpretation between those assessing children, versus families:

> *Maybe we need to understand the child is learning two-languages at home, maybe the child isn't getting a lot of oral language exposure in the home, and the problem isn't language processing, you know sort of neurological, it's you know, "would the parents like to engage in more oral language interaction with their child?" and they [caregivers] may say "no", you know, "my child has one foot in the spirit world and I think we should be as quiet as possible with these children so they can be forming their own personality and spirit…it's not culturally what we want to do", or they might say "oh we didn't realize we need to be talking more with our children and boosting their speech-language development in that way." So again, it's not necessarily that the tool was wrong, it was that it wasn't interpreted in a way that was relating to the cultural and experiential context of the children"* (Professor of Child and Youth Care, March 30, 2021).

Thus, collaboratively and clearly determining the purpose of an Indigenous-led assessment tool, and the assessment results, is a recommendation for YFNED.

4.2   PILOT ASSESSMENTS WITH NATIVE-LANGUAGE SPEAKERS

It is recommended that YFNED review and establish validity, reliability, and accuracy through pilot-tests of tool development (see Principles for Fair Student Assessment 1993) or, informally achieve validity, reliability and accuracy through consultation with cultural informants (e.g., Elders, knowledge-keepers etc.). This can ensure the effectiveness of any YFNED assessment tools.

In order to achieve validity informally, and evaluate the efficacy of a screening tool, it is recommended that YFNED work with community members and native-language speakers to verify the validity of an assessment tool. Dench, Cleave, Tagak, and Beddard (2011) explain the importance of this approach from developing language assessment with Inuit learners in Qikiqtani:

> *In developing a local screening instrument, cultural, linguistic and content validity are important constructs, but a formal assessment of an instrument's statistical properties is also desirable (McGroarty et al., 1995). [However] It is sometimes not possible to do a full evaluation of psychometric properties such as reliability, validity, and sensitivity. This is particularly true when working with a relatively small population...Content validity can be assessed by having experts review the items to determine their relevance. When working with culturally or linguistically distinct communities, including Inuit communities, it is important that cultural informants, native speakers of the language, be used as experts to ensure linguistic and cultural appropriateness.* (2011, 170-171)

> *If you go back to traditional knowledge, Elders are wisdom/knowledge keepers. They would be able to assess child characters and be able to guide those pieces. We are missing the relationship piece, the Elder piece, and the community piece. We are dependent on institutions, when the assessment should be coming from the community.* (ECD Expert, April 19, 2021)

By determining the purpose of assessment through working with communities, and checking for validity with cultural informants, YFNED can and should consider the linguistic and cultural diversity of each involved community, taking the time "to do the whole process in a good way" (Professor of Child and Youth Care, March 30, 2021). This is recommended to guarantee effectiveness in tool development.

4.3   CENTRE INDIGENOUS WORLDVIEWS AND LANGUAGE

Alternative assessments for Indigenous learners should be truly led by Indigenous beliefs, communities, and educators in the Yukon, and if possible, have a strong Indigenous language component. While some interviewees pointed out the support experts can provide, every interviewee stressed that any new assessment needs to be driven from the community, not from outside expertise.

While what communities want from an Indigenous assessment will likely vary, multiple participants suggested that YFNED should assess Indigenous ways of knowing, rather than modifying test items or graphics of standardized tests, because basic modifications ultimately still assess, and reaffirm, western knowledge and values.

> *There have been companies that bubble up and they make a reading app you know that has tipis and canoes, and you know First Nations schools will definitely choose that over anything else. But the problem is they end up being used out of the Indigenous context, and so now it's stereotypical—you know what I mean? So, all it is is the same strategies to teach literacy or oral language skills that are based on a western value system, like children should ask questions, and children should talk and be able to tell me a story about what they did on the weekend or you know, those conceptions are foreign to our people. So, even though these nicely packaged programs, or apps that are meant for Indigenous children are now coming out on the market, they still miss the mark (Indigenous Speech-Language Pathologist and Professor, March 24, 2021).*

> *When you're reading assessments, they don't reflect the Indigenous worldview, they're very quantified and they're very systematic, and I just don't think that's a true picture, and I don't think that's validity if you think about it, I just don't think it is. It's objective, it gives the wording for people to look at it and say "OK I can relate to this, I've seen this in other studies", but it doesn't give a true picture, and I think that's what we're missing in a lot of our Indigenous research projects, is that it needs to be very reflective and aligned to an Indigenous worldview. And we need to decolonize, because the more that we keep aligning to the colonial perspective, we're take away from the knowledge that already exists in the way that we do things...I want to think about intention and positionality, because there's lots of power within research, and there's lots of power with knowledge, and knowledge translation. And I think that we're in a time where we need to keep resurging our ideas instead of reading old ways of doing things (ECD Expert, April 19, 2021).*

In particular, these interviewees recommended YFNED consider the spiritual and cultural development of a child, alongside other typically assessed developmental norms (Manager and Indigenous Advisor, April 13, 2021; ECD Expert, April 19, 2021). "Seeing the spiritual child" (ECD Expert, April 19, 2021) means observing and understanding connection to language, land, ancestors, teachings, culture and ceremonies.

Similarly, the Yukon's Child and Youth Advocate recommends going to the Truth and Reconciliation Commission (TRC) and grounding any newly developed assessments in TRC findings in order to employ "an Indigenous-lens first" (March 16, 2021). Indigenizing assessment would mean grounding it in Indigenous values, and ideally conducting an assessment on the land or in a comfortable environment (Child and Youth Advocate, March 16, 2021). The Innu School Board also underscored that a shift to learning on the land is important to learn culture, history, and for enjoyment (Executive Director, Indigenous School Board, March 19, 2021) (see also Section 3.1.3 on conducting assessments in safe spaces). Relatedly, MFNERC suggested building on the strength of Treaty Education Alliance's self-developed assessments (see Appendix C), as the context of their assessments are First Nations-based,

and the criteria comes from language and land (Instructional Resource Analyst, March 19, 2021). Therefore, it is highly recommended that YFNED centre land, and reclaiming language (see also Section 3.2.3 on language) in creation of new assessment tools, as this could be how YFNED sees students succeed and perform better.

While grounding Indigenous world views is suggested as an overarching approach, it is also suggested that YFNED bear in mind that tools have to be uniquely developed by, or modified for, each nation, and that one tool cannot be standardized for all Indigenous peoples as a homogenous group (Educational Consultant, April 1, 2021). One interviewee suggested the most practical way to achieve sensitive modifications for different nations is to identify and build off of the strengths and the "protective and supportive factors" in a particular community. In many cases, protective and supportive factors are community and family relationships, which should be incorporated in assessments to understand what they bring to a child's learning and development (Educational Consultant, April 1, 2021).

One interviewee also recommended YFNED look at existing data within a nation to form the parameters of assessment or the instrument items used, whether this is data from a nation's archives, past reports and interviews, or traditional knowledge held orally by Elders. If some of the information about Indigenous values in child development is already developed, it is suggested that YFNED honour this knowledge (Anonymous, April 23, 2021).

Similarly, one Indigenous ECE and academic stressed the importance of first following any Yukon First Nations' protocols and including the knowledge of Elders, not just the knowledge of leading academic institutions (ECD Expert, April 19, 2021). Crucially, YFNED should ask each community what they wanted assessed (Occupational Therapist, March 1, 2021), and this desire should form the basis of any developed tools and their related test items.

4.4 ESTABLISH A PROTOCOL FOR ASSESSING INDIGENOUS LEARNERS

Establishing a rigorous, culturally-safe approach to the entire process of assessment is critical for YFNED to institute because it can be applied to both new, Indigenous-developed assessments, but also existing assessment instruments. This is a key component to consider if territorial jurisdiction mandates that current assessments like the Boehm and EYE still have to be administered in the Yukon.

An "assessment protocol" (Professor, Child and Youth Care, March 30, 2021) refers to establishing a specific, step-by-step procedure of how YFNED would assess Indigenous learners. This encompasses both the "what," "who" and "how" of assessment approach discussed in Section 3.1, as well as the best practices in tool development discussed in Section 3.2. Principally, the specific components of an assessment protocol should be determined by community and based on what each community wants to assess as discussed in Section 4.1., as well as based in free, prior, and informed consent (Manager and Indigenous Advisor, BCACCS, April 13, 2021; see also Section 3.1.3). It is suggested YFNED outline a step-by-step protocol for assessing learners as a key component of ensuring community ownership, consent and cultural-safety.

4.5 HIRE DEDICATED STAFF

Additionally, YFNED should hire the right team of people to carry out an assessment protocol, and administer assessments, interventions, and provide therapy.

A dedicated team of staff means those that are willing to invest long-term relationships, as mentioned in Section 3.2.2 and 3.2.3. As explained by an Indigenous SLP with experience working in remote communities,

> *A lot of the time clinicians act like they're so busy, and they're really proud that they have a waiting list of 200 children, like to me that's an embarrassment, because do you really believe that two or 300 children need to see you? I doubt it. I've been there, I know that is not true. So, if an Indigenous organization is going to bring in specialists, that should be one of the requirements right up front because the clinicians who don't have relationships with Indigenous people, it's because they feel they don't need them, they don't need that in their life. So, let them go work somewhere else, you know we can find the find people who can do this, and that's what's going to create the change, so I think there's a lot of pressure on us to spend money and find someone who will come to the community, but it shouldn't just be anybody. I would rather see someone who's willing to create relationship, observe and listen, I think they're the ones who deserve to be with our children and families, and it's a good investment… I would say that should be one of the recommendations [for YFNED].* (Indigenous Speech-Language Pathologist and Professor, March 24, 2021).

Interviewees who have experience collaboratively developing Indigenous assessments also underscored the importance of staffing an assessment team. They recommend that YFNED needs a robust steering committee with dedicated people in order to develop assessment tools (Assessment Lead, May 5, 2021). Ideally, this steering committee or assessment team could ensure any assessment protocol established by Yukon First Nations is honoured.

4.6   FOCUS ON DATA TRACKING

Multiple interviewees advised that YFNED should focus their attention to early childhood development, especially collecting and monitoring early years data (Professor, Faculty of Education, March 10, 2021; Education Consultant, April 1, 2021).

YFNED could establish data repositories, or, encourage the longitudinal tracking of Indigenous early childhood development. Manitoba and New Brunswick have similar data repositories which collate information throughout a child's early years, allowing them to track overall development (Professor, Faculty of Education, March 10, 2021). This allows for a holistic picture of a child. For example, MK has their own Mi'kmaq data repository (MKSIS) where all their student information is tracked, but the intellectual property belongs to communities (Executive Director, Indigenous Education Organization, March 31, 2021). This is a recommended course of action for YFNED because this data gives indications to which interventions are making a difference, where supports are helping, and what the priorities need to be for an organization like the Directorate (Professor, Faculty of Education, March 10, 2021). Lastly, one interviewee stressed that YFNED monitoring data may be crucial in order to advocate for funding or other supports in general, and that this data can bolster policy positions (Anonymous, April 14, 2021).

In particular, one interviewee underscored the excellent timing if YFNED develops their own early years assessment tools and data collection, given the new Martin Family Initiative (MFI) early childhood development program beginning in the Yukon. A key recommendation is that the assessment should come along with the MFI early years program, to truly establish strong relationships between Indigenous-led assessment and intervention (see also Section 3.1.3 and Section 3.2.4).

4.7   BALANCE JURISDICTIONS

When developing alternative assessments, YFNED should carefully consider the role, use, and influence of assessments in different institutional settings.

Jurisdictions where YFNED has more control or influence is where alternative assessment and intervention should be targeted. For example, what development milestones are assessed, and how, would vary in a provincial school system versus a local First Nation preschool. As explained by Mi'kmaw Kina'matnewey (MK), who have designed multiple assessments both within the Nova Scotian provincial system and independently:

> *I would say that other nations as well, who have control of their education, is that is what makes you distinct, language is something that makes you very distinct, your language and your culture, and so putting a higher priority on that through education, through community-based programming, for revitalization efforts… that is the story of our success, in our graduation rates, it is from control – local control—for our education* (Executive Director, Indigenous Education Organization, March 31, 2021).

If standardized, territorial assessments still have to be conducted in mainstream schools, it is recommended that YFNED directly target these through modification, or, pilot Indigenous-led assessments for use in completely different jurisdictions—anywhere where alternative assessments could benefit communities directly (for example, an MFI early years program etc.).

4.8   FACTOR IN COSTS AND LOCAL CAPACITY

Interviewees with experience in tool development recommended YFNED carefully factor in the costs of tool development and local capacity (Instructional Resource Analyst, March 19, 2021; Manager, BCACCS, April 13, 2021; Assessment Lead, May 5, 2021).

For one, collecting enough Indigenous test material for an assessment tool can be time-consuming. For example, for MK's Gr. 7 reading assessment, they gathered over 130 Mi'kmaq text samples (Assessment Lead, May 5, 2021). One interviewee suggested YFNED begin tool development with a pen and paper "pilot" and then branch out to using more complex technology such as iPads, apps, or other online school-to-home technology (Assessment Lead, May 5, 2021). The cost of any translation or supporting local artists to develop graphic materials for instruments should be considered (Anonymous, April 23, 2021), particularly in this pilot stage.

Logistically, the amount of variation of language and culture can make it challenging to establish any developmental norms for Indigenous children (Professor, Child and Youth Care, March 30, 2021; Director of Assessment, Government of Saskatchewan, March 15, 2021; Manager, BCACCS, April 13, 2021). While this may not be the goal—observing patterns of children's learning can reveal a great deal of information as explained in Section 2.2 and 3.2.1—it is nonetheless a factor YFNED must consider in tool development, particularly considering which jurisdictions Indigenous-assessments may apply to (see Section 4.7). One interviewee recommended YFNED reach out to those working in assessment in the Yukon Department of Education for assistance, training or guidance, and to ensure Indigenous-led assessments mirror any curriculum goals (Assessment Lead, May 5, 2021). Additionally, one participant suggested YFNED should seek national and international partnerships and involvement, particularly through the Assembly of First Nations, to establish coordination and action on Indigenous-led culturally-safe assessment (ECD Expert, April 19, 2021).

4.9   CRITICALLY CONSIDER ASSESSMENTS' ROLE IN REFERRALS AND FURTHER CARE

Overall, it is advised that YFNED consider the role and place of referrals, diagnoses and funding, as well as the prevalence of this cyclical pattern within the Yukon: where is it effectively in place, or contrarily, where is this cycle not serving Indigenous children? The jurisdictional control of assessments within the Yukon as mentioned in Section 4.7 will assist YFNED in considering where assessment and diagnosis can better help Indigenous learners, if at all. It is important and encouraging to note that what works for Indigenous kids—an assessment that is supportive and therapeutic, culturally-safe, strengths-based, and grounded in community consent and culture—likely works for all learners (Child and Youth Advocate, March 16, 2021; Director of Assessment, Government of Saskatchewan, March 15, 2021).

5. CONCLUSION

5.1 SUMMARY

This report summarizes current strengths and weaknesses in assessment for Indigenous learners, emerging trends and best practices in alternative assessments and related interventions, and recommendations for YFNED moving forward in developing their own assessments for use in the Yukon. On the whole, interviewees and the literature point to best methods of assessment being approaches and tools that are based on consent, community, educator and caregivers' needs, and grounded in strengths-based perspectives.

A number of experts observed that to their knowledge, there are currently no *standardized* Indigenous-specific assessments within Canada. However, non-standardized, informal, or criterion-referenced assessments based on community or teacher-determined goals can glean a great deal of data about a child's development and learning. These practices are cited to be more culturally-safe, flexible, and responsive to families. Furthermore, the validity of informal or non-standardized tests can be verified by community knowledge-keepers.

Despite the fact that Indigenous-led assessment is an emerging field, interviewees identified a number of recommended actions YFNED can take in developing their own tools for use with Yukon First Nations learners. Recommendations include centering Indigenous perspectives and establishing a comprehensive assessment protocol depending on the needs and jurisdiction of different First Nations communities, hiring dedicated staff, and focusing on data tracking. In particular, understanding development in early years was widely recognized as a key area for positive impact.

The trends and best practices outlined throughout this report are considered a minimum to ensure cultural-safety and access to assessments and services. Some interviewees underscored that the highest achievable outcome would be to assess Indigenous ways of knowing and being in the world, and specifically recommended that YFNED pursue this goal if they have the opportunity to create Indigenous-led assessments.

5.2 NEXT STEPS

An inspiring outgrowth from this research was a desire among interviewees to share teachings about culturally-safe assessment, and to connect with different communities and researchers across the country. To honour this aspiration, YFNED and Firelight Research Inc. will be hosting an online "meet-and-greet" event on Indigenous-led assessments in June 2021. This meet-and-greet will be an opportunity to determine how practitioners can work together collaboratively in potentially designing Indigenous-led assessment tools.

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APPENDIX A: METHODS

6. DATA SOURCES

6.1 LITERATURE REVIEW

The environmental scan undertook a systemic literature review to identify publications on the topic of alternative and Indigenous-led assessment. The review focused on the Canadian context, but also included articles from the United States, Australia, and New Zealand. The review sought to answer the following research questions:

a) How have educational assessment tools been created, adapted, or tailored for use with Indigenous populations in Canada, and what are best practices in the educational assessment of Indigenous students?

b) What are the existing First Nations approaches, and "culturally safe" approaches, to Allied Health (OTP, SLP, Educational Psychology) in Canada?

→Do these non-standard approaches to education assessment and Allied Health assessment provide services without cultural bias?

c) What can the YFNED learn from the above to create, adapt, or customize their own assessment tools for use in the Yukon with First Nation students?

→ Who can YFNED connect with to create, adapt, or customize their own assessment tools for use in the Yukon with First Nation students?

Electronic databases were examined for applicable peer-reviewed publications including EBSCO (encompassing PsycInfo, ERIC, Education Source, Academic Search Premier, and Teacher Reference Centre), ProQuest, SpringerLink, LexisNexis Academic, SAGE Research Methods Online, and the Native Health Database.

Search terms were selected to identify articles addressing alternative assessment for Indigenous children in preschool and primary school. Following testing of search terms in the databases, the following search string was selected, linked with Boolean operators:

(Indigenous OR Aborigin* OR "First Nation" OR "First Nations" OR Inuit OR Inuu OR Métis) AND ("Educational Assessment" OR "Educational Evaluation" OR "Educational Screening" OR "Educational Measurement" OR "school readiness" OR "Psychoeducational Assessment" OR "Competency-based Assessment" OR "Standards-based" OR "Educational performance" OR "School performance" OR Boehm OR "Early Years Evaluation" OR "Foundation Skills Assessment" OR "Educational Monitoring" OR "Occupational Therapy" OR "Physical Therapy" OR "Speech-Language" OR "interven*" OR "culturally safe" OR "practice model" OR "Early Development Indicators") AND (Child* OR Youth OR Grade OR Elementary OR Preschool OR Kindergarten OR "early childhood")

The time of publication selected was after 1990 and the language in which the document was published was English. To further refine results, exact duplicates were removed and only scholarly journals were

searched. In JSTOR, modified search strings were used due to limits on Boolean operators, and the above string was broken into shorter segments. Additionally, in JSTOR searches were restricted to articles and research reports given the high volume of materials.

The Indigenous Studies Portal (iPortal) was also searched manually given limits to Boolean operators, and results were refined by only searching under the category of "Education".

For articles to be included in the literature review, they had to meet the following criteria and focus on:

1. At least one Indigenous population; AND

2. An aspect of non-standard, Indigenous educational OR Allied Health assessment/intervention, either broadly or specifically; AND

3. Pertain to early childhood, i.e., preschool to Grade 7; AND

4. Concern the Canadian context (if the literature gap is too large, include US, AUS, NZ)

Additionally, publications were sourced from related works cited, advocacy and governing organizations, and from Key Informant interviewees. Following the systemic literature review using Boolean search strings, and collecting articles based on recommendations, in total, 58 articles were reviewed, coded, and compiled in an Annotated Bibliography. A full list of citations referenced can be found following the Conclusion of this report.

An internet search was also conducted to discern therapist, health, and education assistant training program options relevant to YFNED. This information was supplemented by interviewee's suggestions, and has been compiled into a database for YFNED's reference (see Appendix F).

6.2   KEY INFORMANT INTERVIEWS

Primary data was collected through 20 Key Informant interviews with 26 unique individuals. Key informants included professionals and practitioners from across Canada, of both Indigenous and non-Indigenous heritage, including: university professors, Deputy Ministers, education and Early Childhood Development experts, teachers and principals, certified Occupational Therapists and Speech Language Pathologists, and members of various First Nations education organizations and Indigenous school boards (see Appendix D).

Key informants were identified through the literature, as per YFNED's recommendation, and via snowball sampling techniques (Bernard 2006, 192). Interviews were conducted from March 1, 2021 to May 5, 2021, and lasted approximately 40 minutes to 120 minutes in duration. Interviews were conducted with one or two Firelight Research Inc. staff, and all interview audio and notes were recorded digitally. Interviews were conducted via remote video-conferencing software (i.e., Zoom) and telephone. Interviews followed a semi-structured format, including open-ended and closed questions (see Interview Guide in Appendix F).

6.3   DATA ANALYSIS

Primary interview notes were recorded in an Excel table organized by interview questions, and secondary notes were recorded by hand and through direct audio-to-text digital transcription via Google

Pixel technology. Primary notes were reviewed and coded using an iterative process of identifying themes, and then grouping information by theme (Bernard 2006, 492-494). Secondary notes were reviewed where necessary for verification, for example to obtain verbatim quotes, proper spelling, or expand on an example only noted in brief during an interview. Additionally, direct quotes from interviewees are used throughout the report to illuminate themes derived from the data analysis and coding process.

APPENDIX B: STANDARD ASSESSMENTS IN THE YUKON

STANDARD EDUCATIONAL ASSESSMENT AND SCREENING APPROACHES IN THE YUKON FOR INDIGENOUS STUDENTS

Types of standardized assessments used varies by province, and even by individual schools or early childhood centres in Canada. The general practice is that schools or ECD programs will do an initial screening or an assessment and may refer a child for more specialized assessments (for example, with an occupational therapist), where the child would face further assessments. To provide an overview of standard assessments, this Appendix outlines the three major assessments currently used by the Yukon Department of Education. The Yukon follows the BC curriculum and administers the Early Years Evaluation (EYE) and Boehm Test of Basic Concepts (Boehm-3) in early years, and the Foundational Skills Assessment (FSA) at the grade school level (Yukon Department of Education 2020).

The Boehm Test of Basic Concepts Third Edition (Boehm-3) is a comprehensive assessment used to monitor progress for Kindergarten students, and to identify students at risk for academic delays. This test is typically administered twice a year, and is scored in three categories: "no concern", "classroom intervention", and "needs investigation" (Yukon Department of Education 2020, 17). In the most recently available fall data (2018-2019 school data), 38% of Yukon First Nations and 22% of Other Aboriginal students scored "needs investigation", compared to 14% of non-First Nations learners (Yukon Department of Education 2020, 17).

The Early Years Evaluation – Teacher Assessment (EYE-TA) evaluates aspects of early childhood development in five domains that are closely related to school preparedness and literacy skills, including social skills, cognitive skills, and motor skills among others (Willms 2010; Yukon Department of Education 2020, 19). The EYE is administered and scored online, either conducted by an assessor (the EYE Direct Assessment (DA)), or a teacher (the EYE Teacher Assessment (TA)). The EYE results are depicted in three tiers: "can achieve tasks", "experiencing some difficulty", and "experiencing significant difficulty". In the most recently available data (2018-2019 school data), Yukon First Nations and Other Aboriginal learners are more highly represented in categories of concern than their non-First Nations peers. For example, in the Fall EYE-TA evaluation Yukon wide, 20% of Yukon First Nations and 12% of Other Aboriginals scored "experiencing significant difficulty" in the cognitive skills section, compared to 4% of non-First Nation learners (Yukon Department of Education 2020, 19). Yukon First Nations and Other Aboriginals also scored higher in "experiencing some difficulty" and "experiencing significant difficulty" in the language and communication domain than non-First Nation students (Yukon Department of Education 2020, 19).

The Foundation Skills Assessment (FSA) assesses students in grade 4 and 7, observing how students are progressing in foundation skills of reading, writing, and numeracy. The assessment is typically administered in the fall. Students are scored as "extending", "on track", and "emerging". Similarly to the Boehm and EYE-TA, Yukon First Nations and Other Aboriginals educational data showed disparities to non-First Nations learners. For example, 43% of Yukon First Nations, and 30% of Other Aboriginals in grade four scored "emerging" in reading, compared to 14% of non-Indigenous learners (Yukon Department of Education 2020, 29-30).

This assessment data brings into question the root cause of educational gaps, including the culturally validity of standardized tests.

STANDARD ALLIED HEALTH ASSESSMENTS AND INTERVENTIONS

An important distinction in the field of allied health is that in the Yukon a child does not need an official diagnosis to receive supports. For example, a child does not need an Autism Spectrum Disorder diagnoses to receive classroom supports (ECD Program Coordinator, April 12, 2021). In the Yukon, allied health assessments can be delivered through private consultancies, or assessment clinics such as those hosted by the Learning Disabilities Association of Yukon (LDAY), or non-profit organizations such as Child Development Centre (CDC) who deliver their services and assessments free of cost. Additionally, through the Response to Intervention Model, the Yukon school system will identify special needs or diverse abilities and provide supports through their Student Support Services, which can include more formalized assessments if required (Government of Yukon 2021).

Specifics on the assessment tool types are not publicized, however it is presumed that current education-psychology, emotional-behavioural, speech-language, occupational therapy, and physical therapy assessments in the Yukon are standardized. For example, Autism Canada lists multiple types of screening tools currently in use, which include early childhood development assessments such as the Ages and Stages Questionnaire (ASQ) as well as The Childhood Autism Rating Scale (CARS) and The Autism Diagnostic Interview – Revised (ADI-R).

In terms of related allied health interventions, according the Government of Yukon, Children's Disability Services assistance - which include additional supports such as behavioural, occupational, physical, and speech-language therapy - are available in all communities if a child has been diagnosed or identified as possibly having autism spectrum disorder by a qualified health care professional.

It is also prescient to note that an independent review of the Yukon's special education program is currently being conducted by Nikki Yee and is slated for release in spring of 2021.

APPENDIX C: ALTERNATIVE ASSESSMENT: CASE STUDIES

1. Ilitaunnikuliriniq Dynamic Assessment

Principles of fair and appropriate assessment form a foundational part of Nunavut's Inuit Qaujimajatuqangit (IQ) curriculum. The approach and methods of assessment are multiple types of classroom-based assessments which are conducted over time by teachers, with the involvement of caregivers, generally referred to as Ilitaunnikuliriniq Dynamic Assessment. According to the Government of Nunavut's Report "Foundation for Dynamic Assessment: Ilitaunnikuliriniq as Learning in Nunavut Schools" (2008), classroom assessment in Nunavut schools:

…involves setting individual learning goals and measuring success in achieving those goals; assessment reviews each student's achievement of their learning goals against curricular outcomes and benchmarks, not against the progress of other students; assessment emphasizes determining what students know and can do and celebrating successful learning; assessment involves parents and other significant family members in meaningful, on-going ways (19).

In this context of IQ curriculum, foundational Inuit beliefs about assessment include dynamic assessment, continuing learning, continuous progress, and learning for the future (Government of Nunavut 2008, 22). In regard to specific assessment tools, this approach requires any measurements which provide information about how learners process information, understand, and the strategies they use in their learning. Examples of tools used in Ilitaunnikuliriniq Dynamic Assessment include portfolios, exhibits, presentations and performances (2008, 27). There is a strong emphasis on demonstrating skills in real-life settings, as well as on providing support and training for teachers to ensure success in this method of assessment (2008, 27).

2. Māui tikitiki a Taranga Assessment Framework

The Māui tikitiki a Taranga assessment framework was created by the Best of Both World Bilingual Preschool, a Māori/English bicultural, bilingual early childhood service located in Papakura, South Auckland, New Zealand (Rameka 2011, 251). It was established to serve families in lower socio-economic neighbourhoods, and strives to bridge gaps in school success by preparing children to walk in both worlds.

The preschool's approach to assessment is situated in New Zealand's larger Te Wahriki curriculum (created in the1990s) which in general provides diverse ways of looking at child development and education. The Māui tikitiki a Taranga assessment framework is modelled after a popular ancestor hero known throughout Polynesia. Notably, Māui tikitiki a Taranga uses Māori language and concepts as indicators in assessment. Best of Both World's assessment framework mirrored the hero's personality structures and includes indicators of:

- Mana: Identity, pride, inner strength, self-assurance, confidence;
- Manaakitanga: Caring, sharing, kindness, friendship, love, nurturance;
- Whanaungatanga: Developing relationships, taking responsibility for oneself and others, tuakana/teina;
- Rangatiratanga: Confidence, self-reliance, leadership, standing up for oneself, perseverance, determination, working through difficulty;

- Whakatoi: Cheekiness, spiritedness, displaying and enjoying humour, having fun, and;
- Tinihanga: Cunningness, trickery, deception, testing limits, challenging, questioning, curiosity, exploring, risk-taking, lateral thinking (Rameka 2011, 251).

The goal of the framework is to have assessment support the development of a strong Māori identity, reflecting Māori perspectives a child's place in the world, using traits and characteristics that can be encouraged in ECD settings (Rameka 2011, 254). In regard to specific assessment tools, the preschool educators use a mix of tools including checklists and photographs.

3. Manitoba Assessment Model, Manitoba First Nations Education Resource Centre (MFNERC Adapted)

The Manitoba First Nations Education Resource Centre (MFNERC) was established by the Assembly of Manitoba Chiefs to provide education, administration, technology, language and culture services to First Nations schools in Manitoba. Manitoba First Nations and MFNERC are leaders in alternative classroom-based assessments, particularly in regard to training educators in First Nations schools and communities in the best practices of assessment.

While First Nations students complete provincially mandated assessments, MFNERC also places a strong emphasis on classroom-based assessments that continually run parallel to these standardized assessments. One example is the Manitoba Assessment Model. MFNERC has released a number of policy documents based on literature reviews and consultations with Elders that ground their purpose and justification for assessing learners through this model:

Classroom teachers focus attention on success criteria and provide clear learning targets for learners. Learners use daily classroom-based conversation and descriptive feedback to address learning gaps aside from testing regimes for understanding and application. Assessment of learning is communicated to parents and caregivers using the strengths, challenges, next steps framework (oral and written) to support continual assessment for learning (MFNERC 2014, 5).

In outlining learning priorities (see MFNERC 2014), MFNERC developed templates for educators, including an Assessment Planning Template, Manitoba Assessment Model diagram, and a guide on Adapted Terminology in assessment.

Through MFNERC's work with 58 First Nations schools and 49 First Nations in Manitoba, they have worked in and around educational assessments in an innovative, First Nations-led manner including: evaluating the provincial assessment model and recommending practices to identify potential cultural bias and barriers, identifying First Nations implementation challenges, data collection issues, the availability of follow-up support, and the overall relevance to First Nations educational requirements. MFNERC has also focused on reviewing and analysing the use of assessment data to improve learning for all First Nations students (2014, 6). Currently, an ongoing and desired focus of MFNERC's assessment model is supporting First Nations oral language fluency and land-based learning.

4. Treaty Education Alliance (TEA) Balanced Literacy

Treaty Education Alliance (TEA) is an educational initiative serving the First Nation Schools in Treaty 4 territory. Their core services and programs include curriculum and Indigenous-led assessment from early years to Grade 12, as well as "Whole Child Wellness" supports (special education needs and needs aligned with Jordan's Principle), and "Nation Builder" engagements which include on the land learning

and education about treaty rights. TEA has created a number of Literacy and Numeracy assessment templates and materials.

In particular, their Literacy assessments are relevant to this report and YFNED due to their focus on early years and language acquisition for bicultural learners. TEA's Balanced Literacy approach to assessment encourages students to communicate effectively in their daily lives. In regard to specific assessment instruments, TEA developed Beginning Early and Developing Strong (BEADS), a sight-word program, and Children's Early Reading and Phonetic Sounds (CHERPS), which promotes the learning of phonemes through sound, speech, and combined instruction with letter knowledge. TEA has also developed a graphical Balanced Literacy model, as well as a number of resources for educators and caregivers for the BEADS and CHERPS program (for more information see educationalliance.ca).

TEA's overall assessment and educational approach includes ongoing community engagement through the process of goal setting within specific communities. There is a focus on fostering students to be their own "Nation Builders" throughout school, by centering the strengths and gifts of each nation, and including communities in schools.

5. Mi'kmaw Kina'matnewey (MK) Literacy Assessment

Mi'kmaw Kina'matnewey (MK) is a team of chiefs, staff, caregivers and educators who advocate for the educational interests of communities in Nova Scotia, and protect the educational and Mi'kmaw language rights of the Mi'kmaq people.

Currently MK is working on their own independent grade seven Literacy Assessment. In 2020, MK reviewed grade three and grade 8 assessment data and noticed gaps in literacy learning which are not assessed by provincial tests. In order to better understand what is happening in literacy learning for their Mi'kmaq students, MK composed two teams: an assessment steering committee, and a team of seven teachers from MK schools, to meet every two weeks to develop a literacy assessment (Assessment Coordinator, May 5, 2021).

In the pilot Literacy Assessment, MK is taking time to incorporate reliability and validity measures. The assessment is composed of Mik'maq cultural items and writing samples, so that literacy can be assessed in a culturally relevant way, hopefully removing any cultural bias or error from literacy assessments that use Euro-Western items and contexts (Assessment Lead, May 5, 2021). Conducting their own Indigenous-led literacy assessment is crucial for MK, because MK gathers students' assessment data, analyses it, compares learning outcomes in their schools, and then invests resources where they are most needed to support Mik'maq educators and schools (Assessment Lead, May 5, 2021).

6. Help Me Tell My Story

Help Me Tell My Story is a holistic assessment developed by the Saskatchewan Ministry of Education in partnership with First Nations and Metis learning experts and SLPs. Help Me Tell My Story is used in pre-Kindergarten and Kindergarten to promote and measure language learning. The assessment is administered through the use of a puppet, Aski, and is conducted together with a teacher and student on an iPad. Help Me Tell My Story also developed digital story books, which include books in Cree, Dene, and Michif.

The Saskatchewan Ministry of Education states that Help Me Tell My Story is based on students' existing strengths. Furthermore, once the activity is completed, assessment results are available to teachers and

caregivers immediately online (Director of Assessment, Government of Saskatchewan, March 15, 2021). Receiving assessment results is a key component of Help Ne Tell My Story so that learning activities can also take place at home to help promote the ongoing development of oral language (additional learning ideas and activities are provided). Caregivers also have opportunities to provide information about their child's language learning.

The puppet Aski, or a modified puppet based on this assessment model, is also used by other First Nations schools in Canada, such as in Mik'maq schools (O'Hara and Rowlandson 2010).

7. Modified Ages and Stages Questionnaire, Step by Step Child and Family Centre, Kahnawake

In 2007, the Step By Step Child and Family Centre (SBSCFC) examined and adapted the Ages and Stages Questionnaire (ASQ) for their community in Kahnawake, Mohawk Territory (see Step By Step Child and Family Center "Finding our Way" 2015). ASQ modifications have been used in Aboriginal Infant Development (AIDP), and other ECD programs across Canada working with Indigenous communities, so SBSCFC took an in-depth analyses of the assessment to see if it was culturally-relevant for their context (Ball 2008; SBSCFC 2015). SBSCFC was an early leader in adapting assessment tools, gathering experts in ECD and assessment to discuss the ASQ in relation to Indigenous children. In particular their modification to the ASQ focuses on a community-based process including engaging families, providing adequate training, constantly reviewing their practice, and using the ASQ primarily as a relationship and capacity building tool with families (SBSCFC 2015).

In terms of specific tool adaptations, SBSCFC changed graphics to make the ASQ culturally-recognisable and appealing (for example, through a familiar logo, and including space for pictures of the child or family), editing jargon-filled language, changing instructions for educators and assessors to be more culturally relevant, carefully reviewing each test item, and adding items to the assessment that are relevant to the community (for example "Mohawk" along with "English" and "French" as languages spoken at home) (SBSCFC 2015, 14-18).

The ASQ has also been modified in Nunavut, particularly due to the ASQ's flexibility in language. One interviewee explained that because Inuktitut language is acquired differently than English, they translated the ASQ into Inuktitut and tried to "revamp" it. For example, identifying vocabulary, in English is straightforward (pronouns, nouns, verbs), but in Inuktitut sentences are built by adding aspects onto a word. The adapted ASQ accounted for this different way of seeing language (Educational Consultant, April 1, 2021).

8. Assessing Children's Use of Language (ACUL), NOW Play

Northern Oral Language and Writing through Play (NOW Play) was a collaborative research project and partnership, held from 2013-2020 (phase one). NOW Play aimed to improve Indigenous children's educational achievement, language, and cultural knowledge; contribute to theory in Indigenous education, ECD, language and literacy learning, as well as to strengthen research and teaching capacity in northern Indigenous communities (for more information see now-play.org).

The NOW Play project designed an assessment geared towards what teachers wanted to know about their students' oral language, called the Assessing Children's Use of Language (ACUL). Through the process of observing children in play settings, the teachers and a research team analysed verbal and non-verbal communication according to what the children were able to achieve in Kindergarten and

Grade one (Professor, Department of Learning and Education, March 9, 2021). Through observing play, the team identified 35 types of "utterances", or purposes for using language. They grouped the purposes that children use language for into six broader categories (playing with sounds, satisfying needs, directing, disagreeing, getting along, connecting and explaining). These categories correlated well with the kind of language-use expected in school settings.

ACUL's approach to assessment is observing play, watching for patterns, describing these patterns, and looking for what children most commonly do at certain times of the year rather than basing language learning off of standardized developmental norms (Professor, Department of Learning and Education, March 9, 2021).

9. First Nations English Dialect Code Switching

Sharla Peltier, an Indigenous SLP, created an approach to language learning and assessment, known as First Nations English Dialect (FNED) "code-switching" through her work with First Nations communities in Ontario (see Peltier 2017; 2011). Code switching is both a positive support intervention and an approach to assessing and understanding Indigenous learners' language acquisition. It recognizes that Indigenous children live in bicultural environments, where different languages, dialects, or "codes" are spoken at home versus at school, thus children will present first and second language abilities which should be seen as strengths (Peltier 2017, 10). The primary goal of code-switching is to help learners discern and "switch" between different variations of language.

Dialect code switching essentially increases awareness of the speech sound system differences between FNED and standard English. Practical classroom activities are used to reinforce applying code switching to different situations. Students then learn to discriminate FNED sounds from those of standard English using visual, auditory and kinaesthetic perceptual skills (Peltier 2011, 131).

This approach is particularly useful for distinguishing between speech differences versus impairments, and children can be monitored if further intervention with an SLP is required. In this way, children's overall language acquisition is strengthened, while First Nations forms of speaking are also preserved. Importantly, Peltier states:

> *I do not evaluate FNED as being less correct or inferior at any time. I do believe that many Aboriginal people, myself included, live in two worlds and it is important to be able to code-switch in order to function at our best whether at work in the mainstream society or within the First Nation community where they have been socialized and where they feel belonging"* (2011, 132).

10. Psycho-educational Assessment Pre-screenings

The purpose of a pre-screen is to ensure standardized assessments are only conducted if they are absolutely necessary.

For example, one interviewee knew that the Inuvialuit Regional Corporation ECD workers frequently conduct a psycho-educational pre-screening for Inuit children prior to suggesting any formalized assessment (Anonymous, April 9, 2021). Similarly, the Yukon's Child Development Centre (CDC) workers have developed and Internal Autism Spectrum Disorder pre-screening process. While the pre-screening was not designed exclusively for Indigenous children, a significant number of the families the CDC works with are Indigenous, and this cultural context continually informs their practice. As explained by a member of staff at CDC:

The screening tool…is completed by our therapists who already know and work with children referred to our ASD [Autism Spectrum Disorder] Diagnostic team. It provides more background information to help determine the formal and informal assessments that would most appropriately collect the information needed to inform diagnosis. I agree that it is not Indigenous-specific but does fit into our wider approach of assessment and intervention from a family-centered perspective. (Program Coordinator and SLP, pers. correspondence April 23, 2021)

Sensitive approaches to pre-screening ensure cultural safety is paramount in psycho-educational assessments, even if the assessments are not modified, in a similar manner to AIDP and BCACC's approach to early years assessments (see Appendix C number 14 and 15).

11. Inuktitut Language Screening Tool

An Inuktitut and English Language Screening Tool was developed in collaboration with teachers, SLP students, and university faculty for use in the Qikiqtani region of Nunavut (Dench et al. 2011). The team strove to include the social context, and the construct of the Inuktitut language in instrument development, and native Inuktitut speakers were involved from the beginning to ensure cultural appropriateness.

The screening tool is straightforward, short, allows for mistakes and self-correcting (See Section 3.3.1), uses locally relevant images, and is based in narratives (Dench et al. 2011, 173). The tool consists of four language assessment tasks based on Inuit socio-linguistic studies. The first task is "following directions", which evaluates student's ability to follow instructions, reflecting the way older Inuit mothers judge language learning. Second, "comprehension of affixes/sentences" assesses student's oral comprehension of basic concepts in Inuktitut, with culturally-relevant pictures. Third, "picture naming" assesses expressive vocabulary by having learners label pictures. And fourth, "informal language sample and rating," is conducted through a story retelling task about themes familiar to the Baffin region, which was later replaced with a sentence repetition task (Dench et al. 2011, 172).

The screening tool was conducted in every school in the region, for every student, at the beginning of Kindergarten which generated a great amount of data. The screening tool is now used by Special Education teachers in the region (SLP, April 19, 2021).

12. Indigenous Child-Initiated Pretend Play Assessment (I-ChIPPA)

There are currently no standardized occupational therapy assessments designed specifically for Australian Indigenous children (Lim and Thorley 2020), mirroring similar concerns in the Canadian context of bias and discrepancy in testing. In Australia, the Indigenous Child-Initiated Pretend Play Assessment (I-ChIPPA, based off of the non-Indigenous specific ChIPPA) is used as a pre-screening for young children if there is concern about play abilities, usually before an occupational therapy referral (Dender and Stagnitti 2011).

 Dender and Stagnitti worked in collaboration with Indigenous Elders in the Pilbara region to use culturally appropriate play materials that are given to a child during the I-ChIPPA assessment. The modified ChIPPA also recognizes that Indigenous children prefer to play in social groups, rather than alone, so the pre-screening is scaled to account for group play (Thorley and Lim 2010, 7). While relatively new in its development, the I-ChIPPA is unique as an Indigenous-specific OT screening, as no Indigenous-specific OT screens or assessments in Canada were identified through the literature or

interviews for this report (though culturally-safe approaches to therapy, intervention and standardized assessments were, see Section 3.2.3, 3.2.4 and 5.2).

13. Positive Behavioural Interventions and Supports, Chief Jimmy Bruneau School

Chief Jimmy Bruneau School (CJBS) in the Northwest Territories modified a socio-behavioural intervention approach to be specific to the Tłı̨chǫ Nation cultural context. Positive Behavioural Interventions and Support, or PBIS, is a three-tiered framework supporting student success. It is not Indigenous-specific, but it is alternative based on this reports' definitions (see footnote 1).

Tier one of PBIS provides universal school-wide supports in a proactive manner, tier two supports students who are at risk for developing more serious problem behaviours by building skills, and tier three provides individualized supports for students who need intensive attention (see pbis.org). PBIS was successfully adapted by Chief Jimmy Bruneau School because:

> *PBIS is not a rigid practice, [and] features can be adapted to support cultural values and beliefs specific to a school and community population. As shown in the case study, the adoption of PBIS at CJBS supported the beliefs and values of the Tłı̨chǫ Nation. Culturally relevant PBIS practices are a core aspect of the curriculum, and the local community, especially Elders, is incorporated into the school community.* (McIntosh et al. 2014, 251)

Many of the core principles and components of PBIS are consistent with Indigenous approaches to supporting social behaviour and positive social and emotional development. Common strategies used at Chief Jimmy Bruneau through PBIS include teaching and modelling core social values as school-wide expectations, acknowledging prosocial behaviour, incorporating the family and community into the school, and seeking to understand the underlying causes of any problem behaviour (McIntosh et al. 2014, 243).

14. Aboriginal Infant Development Program (AIDP) BC

Aboriginal Infant Development Programs (AIDP) in British Columbia offer support to families who are at risk for, or have infants diagnosed with, developmental delays. AIDP programming is voluntary, centred on families, and provided for children ages 0-6. AIDP workers deliver home visits, activities, and developmental or family needs assessments through a culturally-safe approach. AIDP also assists families in accessing other health, social, and community services. The program is funded by The BC Association of Aboriginal Friendship Centres and the Ministry of Children and Family Development (AIDP 2021).

AIDP workers take an alternative, culturally-safe approach to ECD interventions when working with Indigenous caregivers by taking longer with family files, building rapport, and delaying administering assessments:

> *AIDPs workers, who typically have training in early childhood education, provide intervention through a combination of home visiting, outreach and group programming for Indigenous families with young children…a tacit relational perspective of family well-being and a broad and socially responsive scope of practice are key characteristics of AIDPs. (Gerlach, Browne, and Greenwood 2017, 3).*

As explained by one AIDP employee, they strive to make the program fit the family. Giving choice to the family is key to AIDP interventions and programming, recognising that in the past, families have not

always had choice in interactions with services, institutions, and other programming (Gerlach, Browne, and Greenwood 2017).

15. BC Aboriginal Child Care Society (BCACCS) ECD Programs

The British Columbia Aboriginal Child Care Society (BCACCS) is an advocacy, research, and service based organization that ensures every Indigenous child in BC has access to spiritually enriching, culturally based, high quality ECD services. BCACCS offers a variety of services including hosting two preschool programs, outreach, resources, and training to support ECEs and the Indigenous children and families they serve.

In interviews and in BCACCS publications, informed consent (of parents and caregivers) is repeatedly highlighted as a key value, as well as excellence in cultural-safety training of staff, and flexibility in intervention delivery. BCACCS's focus is on modifying overall assessment approaches to be as culturally-safe as possible, recognising that diagnostic tests are needed in some cases, or cannot always be adapted for Indigenous learners (Manager and Indigenous Advisor, BCACCS, April 13, 2021; also see Gerlach 2007; VIU 2013).

16. Moe the Mouse Speech and Language Development Program

Moe the Mouse is an early speech and language resource and activity that uses Indigenous toys and stories to enhance language development. It was designed for the BC Aboriginal Child Care Society (BCACCS) to be culturally responsive and adapted for use in different contexts.

Activities and materials in the Moe the Mouse "curriculum box" help educators and caregivers provide opportunities for practicing language skills in a natural setting. Moe the Mouse language activities can help children develop social language use, comprehension of spoken words, vocabulary, speech sounds and pronunciation, and expression of feelings and ideas. A training program is also provided by BCACCS for caregivers and educators as part of the program (for more information see www.acc-society.bc.ca).

Given its flexibility and focus on caregivers, Moe the Mouse Speech and Language Development Program has been modified for various First Nations communities across BC, as well as modified by communities in eastern Canada such as Kahanawake First Nation (O'Hara and Rowlandson 2010), and is used by Manidoo Gi-Miini Gonaan ("The Great Spirit is Giving") day care centres in Manitoba (Braun 2013).

17. Inuit Home Visiting Programs (Aqquimavvik Society)

Multiple home visiting program are, or have been, in operation across Nunavut, such as through the Small Steps program, or parenting and pre/post-natal programs. One interviewee is currently involved in home visiting initiatives through the Aqquimavvik Society. They explained how home visitors are members of the community that are well-respected, non-judgemental, and calm (Educational Consultant, April 1, 2021). In Inuit communities, visiting and community gathering is expected, so home visiting is "a natural piece" of ECD intervention. Some home visiting programs created developmental boxes that home visitors take with them, and kids love visits, because ECE workers come in with toys, food, tea, and sit down to chat (Educational Consultant, April 1, 2021).

Home visiting, at least in the context of Nunavut, is culturally-appropriate, well-received, flexible, and an excellent approach to surround families with support based on their specific needs. Home visiting as an approach to intervention is also used in AIDP programs (see Appendix C number 14).

18. Modified Mac-Arthur Bates Communicative Development Inventories (CDI)

The Mac-Arthur Bates Communicative Development Inventories (CDIs) are assessment tools completed by parents to indicate children's abilities in early language, such as vocabulary comprehension, associated gestures, and grammar.

One former teacher who is now an SLP, worked as a research assistant with a team from Kativik to modify the CDI test items to better reflect the local needs of a village in northern Quebec. As a teacher in the village, she met with different "experts": anyone working with kids, in day cares, schools, as well as caregivers. The goal of this process was to ask local experts their opinions about different parts of questionnaire. For example, which words would be appropriate for kids to asked at different ages?

Once the CDI items were appropriately modified, caregivers filled out the assessment about their own children, with help from local SLPs or educators if needed (Speech-Language Pathologist, April 19, 2021).

19. Modified Dynamic Assessment of Preschoolers' Proficiency in Learning English (DAPPLE)

Dynamic Assessment of Preschoolers' Proficiency in Learning English (DAPPLE) is an assessment that gathers information on bilingual children's English language learning. In a project conducted by Peterson et al. (2021), an Indigenous educator worked with a local community in Ontario to develop a dynamic assessment tool through modifying the DAPPLE.

Researchers held a focus group with four ECEs from an Oji-Cree nation and asked questions regarding language assessment (Peterson et al. 2021, 5). Based on this feedback, the vocabulary learning and expressive language portions of the DAPPLE were modified to incorporate culturally relevant topics, test items, and approaches for the Oji-Cree children.

The modified DAPPLE was administered using "teach-test-reteach" methods (see Section 3.2.1), allowing children to re-try as well as be prompted. Children who completed the assessment with support, but did not require full SLP services, met with an Indigenous ECE once a week to engage children in conversation (Peterson et al. 2021). According to the authors, a strength in their modification to DAPPLE was:

involving a local Indigenous educator who was familiar with the children's use of their community's First Nations English Dialect, [aiding in] recognizing and recasting children's use of nonstandard grammatical patterns. (Peterson et al. 2021, 1)

APPENDIX D: INTERVIEWEES

Interview #	Name	Title and Affiliation
1	Caitlyn DeBruyne	Manager and Occupational Therapist, Northern Therapy Services, and member of the Occupational Therapist Indigenous Health Network
2	Dr. Shelley Stagg Peterson	Professor, University of Toronto, Department of Curriculum, Teaching and Learning OISE and NOW Play Project
3	Dr. David Philpott	Professor, Memorial University Faculty of Education
4	Kevin Tonita	Director of Assessment, Government of Saskatchewan
5	Rita Mueller and Shannon Barnett-Aikman	Deputy Minister and Assistant Deputy Minister of Education and Culture, Government of the Northwest Territories
6	Annette King	Yukon Child and Youth Advocate, Yukon Child and Youth Advocate Office (YCAO)
7	Natalie Beauvais, Melissa Lasante, and Sonia Nicholas	Executive Director, Pedagogy and Resource Services Coordinator, and Program Supervisor, Step by Step Child and Family Centre, Kahnawake
8	Brenda Delorme	Instructional Resources Analyst, Manitoba First Nation Education Resource Centre (MFNERC), (former Assessment and Reporting Team Lead)
9	Kanani Davis	Director of Mamu Tshishkutamashutau Innu Education (MTIE)
10	Dr. Sharla Peltier	Assistant Professor, University of Alberta, Faculty of Education, and Indigenous Speech-Language Pathologist
11	Dr. Jessica Ball	Professor, University of Victoria, School of Child and Youth Care
12	Blaire Gould	Executive Director, Mi'kmaw Kina'matnewey (MK) (Indigenous Education Organization)
13	Shirley Tagalik	Educational Consultant, Inukpaujaq Consulting
14	Anonymous	Program Manager, ITK (Inuit Tapiriit Kanatami)
15	Michelle King and Rachel Moser	Program Coordinators and Speech-Language Pathologists, The Child Development Centre

Interview #	Name	Title and Affiliation
16	Kirsten Bevelander and Jennie Roberts	Resource and Referral Manager and Provincial Indigenous Advisor, BC Aboriginal Child Care Society (BCACCS)
17	Catherine Dench and Catherine Genest	Speech-Language Pathologists, Kativik Ilisarniliriniq (Kativik School Board), and researchers and former teacher.
18	Danielle Alphonse	PhD Candidate VIU, and ECD Expert: BC Regional Innovation Chair for Aboriginal Early Childhood Development
19	Anonymous	Manager, BC Aboriginal Child Care Society (BCACCS) (former ECE worker).
20	Sheldon Googoo	Assessment Lead, Mi'kmaw Kina'matnewey (MK)

APPENDIX E: CONSENT FORM

THE YUKON FIRST NATION EDUCATION DIRECTORATE (YFNED)'S ENVIRONMENTAL SCAN OF INDIGENOUS EDUCATIONAL AND ALLIED HEALTH ASSESSMENT

Declaration of Informed Consent and Permission to Use Information

I (name) _____, on this day (complete date) _____, consent to participate in a key informant interview regarding the YFNED's Environmental Scan of Indigenous Educational and Allied Health Assessment.

I understand that this study is being conducted by the Yukon First Nation Education Directorate (YFNED), with the support of Firelight Research Inc. The purpose of this interview is to identify alternative, Indigenous-led, or Indigenous-tailored educational assessments and allied health interventions, with a focus on early years (ECD). Additionally, this interview seeks to identify trends and best practices, and opportunities for partnership for YFNED in the Yukon First Nation context.

Participants will have the opportunity to review the notes from their interview in order to make additions or clarifications to collected information.

By signing below, I indicate my understanding that:

a) I consent to have my words and responses recorded via audio recorder and notes.
b) I am free to NOT respond to questions that may be asked, and I am free to leave the session at any time.
c) I will have the opportunity to review the summary of information collected following this interview in order to make additions or clarifications to the information I provided.
d) I grant YFNED the right to use any intellectual property that I choose to share as a participant in the Study, for purposes specific to the Study and not beyond that. YFNED will ask for my consent for any additional use beyond those purposes.

For more information, please contact Katherine Alexander, Director of Policy and Analytics, YFNED at (867) 667- 6962 or katherine.alexander@yfned.ca

I would like my quotes included in reports: **yes**   **no**

I am willing to have my name included in reports**:   yes   no**

Signature of participant _____

APPENDIX F: INTERVIEW GUIDE

INTERVIEW GUIDE FOR THE YUKON FIRST NATION EDUCATION DIRECTORATE (YFNED)'S ENVIRONMENTAL SCAN OF INDIGENOUS EDUCATIONAL AND ALLIED HEALTH ASSESSMENT

Background on YFNED:

The Yukon First Nation Education Directorate (YFNED) was launched in response to the need for First Nations leadership and involvement in education. YFNED is focused on capacity-building, systems and resource development, second-level educational program and service enhancement, and learner supports. YFNED advances First Nation decision-making and aspirations for greater control over education by providing technical support, research and advice for Framework Agreement processes, and advocating for First Nation student success.

This Project (the Environmental Scan of Indigenous Educational and Allied Health Assessments) is being conducted on behalf of YFNED, spurred by opportunities provided by funding from Jordan's Principle. Specifically, this work will support YFNED's mobile therapeutic unit and ongoing efforts to find alternatives to standard biomedical assessment models that are recognized to be culturally problematic in many contexts. For this reason, YFNED is seeking to be a leader in alternative assessment and interventions for First Nation learners.

1. Pre-Interview

Before formally beginning the interview, ensure the following has been completed:

1. Introductions
   - Introduce yourself and the research team, who you work for, who you were hired by, and who you report to.
2. Give the participant an overview of the project and goals of the research. Read the following:
   - The purpose of this research is to support YFNED in their ongoing work and research towards identifying:
     - **a)** Alternative, Indigenous-led, or Indigenous-tailored educational assessment and screening tools, with a focus on early years (ECD);
     - **b)** Alternative, Indigenous-led, or Indigenous-tailored Allied Health (AH) assessments, screening, or broadly interventions, with a focus on Speech-Language Pathology, Occupational Therapy, and Psychoeducational assessment in the context of early childhood education;
     - **c)** Trends and best practices in the development and use of the above-mentioned educational assessment and AH interventions; and
     - **d)** Individuals and institutions that may be willing to partner with the YFNED to customize and tailor culturally appropriate educational assessments, and AH interventions, for use in the Yukon First Nation context.

- o From this, we will be preparing a report for YFNED that provides an environmental scan and status assessment with respect to the above listed focus areas.

3. Explain the outline of the interview process.

-
4. Provide an opportunity for the participant to ask questions.

   - o Providing accurate answers to participants' questions is an important aspect of free, prior and informed consent.

5. Review the consent form.

   - o Read the consent form aloud to the participant if requested.

   - o Ask the participant if they have any questions.

   - o Once the participant's questions have been answered, review the consent form before beginning the interview. For obtaining verbal consent, ensure that the audio recorders are on, read through the consent form, and have the participant provide their verbal consent for the recording.

   - o If the participant does not provide recorded or written consent, **do not continue with the interview.**

2. Introduction

Read the text below with AUDIO RECORDERS ON at the start of each interview.

Today is [date]. We are interviewing [participant name] for the YFNED Educational and Allied Health Assessment Project. Thank you for your time today.

My name is [name] and my co-researcher is [name]. [Participant name] has provided verbal consent, and I have explained the purpose of the study and interview plan.

3. Background and Experience

10. What is your current position (including position title, affiliations, etc.)?

-
11. Briefly, what is your experience and background in Indigenous educational assessment and/or Indigenous Allied Health intervention and services in the context of education?

   → Which locations and communities have you worked in?

   → What institutions, organizations, or Indigenous groups have you worked with?

   → What age groups have you worked with?

4. Assessments, Screening, and Tools

12. Are you aware of any educational assessment or screening tools that have been created, adapted, or tailored for use with Indigenous populations?

    → If yes, can you provide details (e.g., how they were developed, how they are different from conventional assessment, what are strengths and weaknesses, etc.)?

    o Are any of these initiatives led by Indigenous communities themselves?

    o Who else is involved in the development of these alternative assessments (if not Indigenous communities themselves)?

    → If no, what do you see as the best ways to do so?

    o What individuals, organizations, institutions, or groups do you see as potentially promising partners?

13. Have assessments and interventions in Allied Health been created, adapted, or tailored for use with Indigenous populations?

    → If yes, can you provide details (e.g., how they were developed, how they are different from conventional assessment, what are strengths and weaknesses, etc.)?

    o Are any of these initiatives led by Indigenous communities themselves?

    o Who else is involved in the development of these alternative initiatives (if not Indigenous communities themselves)?

    → If no, what do you see as the best ways to do so?

    o What individuals, organizations, institutions, or groups do you see as potentially promising partners?

5. Trends and Best Practices

14. Are there concrete examples or particular 'bright spots' or 'best practices' of alternative assessments or interventions for Indigenous children we can learn from? (Preferably in Canada, or globally.)

    → If so, are any of these bands, nations, or councils independently delivering a service, intervention, or assessment?

    o If these are not independently delivered, what is the nature of the organizational partnership(s)?

15. What can the YFNED learn from the above trends to create, adapt, or customize their own assessment tools for use in the Yukon?

6. Opportunities and Closure

16. Keeping in mind YFNED's desire to create assessments and interventions for Yukon First Nations children, do you know of any institutions that could train community members to better deliver the services we have been discussing?

    → For example, are there any training or accreditation programs for "therapists' helpers" you are aware of?

    →Are there any broader community capacity training opportunities you are aware of?

17. Do you have further recommendations for who to speak to about this research?

18. Do you have any literature suggestions, or grey and unpublished literature you are able to share?

19. Would you consider partnering with an organization like the YFNED to create, customize, and/or tailor assessments and interventions for Yukon First Nations children?

20. Do you have any questions about the research, or final comments you would like to share?

7. Conclusion

Thank you for taking the time to speak with us today and share your knowledge.

Read with audio recorders on after every session.

Today is [date]. We have just finished interviewing [participant name] for the YFNED Educational and Allied Health Assessment Project

My name is [name]. Notes are recorded in/on [notebook/computer]. This interview has taken approximately [#] hours [#] minutes.

APPENDIX G: EDUCATION AND THERAPY ASSISTANTS TRAINING PROGRAMS

Course/Program	Institution	Location	Duration
Therapist Assistant Diploma	Okanagan College	Kelowna	2 years
Rehabilitation Therapy Assistant	CDI	Burnaby, Richmond, or Surrey	2 years
Rehabilitation Assistant Diploma	Capilano U	Vancouver	2 years
Occupational/Physical Therapist Assistant (Rehab Assistant)	Vancouver Community College	Vancouver	2 years
Health Care Assistant (Certificate)	Yukon University	Whitehorse	1 year
Interdisciplinary therapy assistant	Norquest	Edmonton/online	12 months
Certificate in Indigenous Health Practice & Certificate of Indigenous Health Studies	First Nations University	Regina/online	unclear
Speech-Language Pathologist Assistant	Medicine Hat College	Medicine Hat	2 years
Community Health Representative	Aurora College	Yellowknife	6 months

Course/Program	Institution	Location	Duration
Health Care Assistant	Northern Lights College	Dawson Creek	31 weeks
Education Assistant Certificate	Northern Lights College	Online	12 months (Certificate) or 2 years (Diploma) (FT or PT)
Education Assistant and Community Support	Camosun College	Victoria	10 months (FT or PT)
Rehabilitation Assistant (OTA & PTA) (DL)	College of the North Atlantic	Newfoundland, but online	2 years (FT or PT, online)
Early Childhood and Youth Care training	Uvic First Nations Partnership Program	In-community	2 years
Community Health Worker Program (CHWP)	Yellow Quill University College	Online	1 or 2 years
Indigenous Classroom Assistant Diploma (IDCAP)	Nipissing University	North Bay/in community	2 years, or custom?
Community Health Aide Alaska	Community Health Aide Alaska	Alaska	Dependent on course type, short term
The National Aboriginal and Torres Strait Islander Health Academy	Indigenous Allied Health Australia	Australia, Darwin	throughout Gr. 7-12 & 1 year post Gr.12

Course/Program	Institution	Location	Duration
Training for Early Interventionists	Hanen Centre	Ontario/online	Dependent on course type, short term
Responsible Adult Training	BC Family Child Care Association; other organizations	BC/online	20 hours
Indigenous Early Childhood Educator	Native Education College	Vancouver	11 months
Partnerships Project	Aboriginal Infant Development Programs (AIDP) BC	In-community	Each module is 13-18 hours
Handle With Care Facilitator Training	Handle With Care	In-community	dependent on course type, short term
The BC Aboriginal Child Care Society offers a number of workshop-based trainings for ECEs that may be of interest.			