Research Repository UCD

Title	An Exploration of the Conceptualisation and Assessment of Attainment for Pupils with Moderate to Profound Intellectual Disability
Authors(s)	Cronin, Katie
Publication date	2022
Publication information	Cronin, Katie. "An Exploration of the Conceptualisation and Assessment of Attainment for Pupils with Moderate to Profound Intellectual Disability." University College Dublin. School of Education, 2022.
Publisher	University College Dublin. School of Education
Item record/more information	http://hdl.handle.net/10197/13244

An Exploration of the Conceptualisation and Assessment of Attainment for Pupils with Moderate to Profound Intellectual Disability

Katie Cronin

A Thesis Submitted to

the School of Education, University College Dublin

In Partial Fulfilment of the Requirements

For the Degree of Doctor of Educational Psychology

Research Supervisor: Dr. Joyce Senior

Head of School: Associate Professor William Kinsella

29th May, 2022

Acknowledgements

I would like to say a sincere thank you to my research supervisor, Dr Joyce Senior, for all the kindness, support and wisdom you have shared with me throughout my doctoral training. I would also like to express my gratitude to the wider Children's School Lives research team, including Dr Seaneen Sloan and Associate Professor Jennifer Symonds as well as my research advisor Dr Laura McAvinue.

Thank you to my placement supervisors for your mentorship and guidance over the past three years. Thank you also to all the children and parents I have met throughout my placements, for allowing me to share in your journeys.

To Killian and Adam, thank you for being a constant source of inspiration, happiness, and joy. To the Great Eight, thank you sincerely for your support, guidance, and humour. To my parents, Margaret, and JP, thank you for your patience, advice and care throughout this journey. To Davy, my siblings, Jack and Meg, and extended family and friends, thank you for your support. To the principal, parents, and staff members from the participating school, thank you for making this study possible and taking the time to share your experiences with me.

Dedication

I dedicate this thesis to my parents and Nana. Thank you for always believing in me and for your constant support and encouragement. You have set the best of examples for me, and I hope to emulate the kindness and care you have always modelled for me in my role as an educational psychologist.

Abstract

Educational attainment can be considered one of the overarching goals of the education system. For pupils with moderate to profound intellectual disabilities (MPID), there is a dearth of research on the conceptualisation and assessment of attainment. This doctoral research aimed to address the limited research available in this area. The first paper of this thesis, a systematic literature review, provides an overview of the theoretical frameworks and measures used to assess attainment for pupils with MPID in the research literature. The second paper, a qualitative empirical study, explores how attainment is conceptualised and assessed by seven school staff and two parents, in a special school setting in Ireland. The facilitators and barriers to assessment were also explored. Inductive reflexive thematic analysis (TA) highlighted participants' understanding of attainment as a holistic concept as well as the importance of time and relationship in the assessment process, and the systemic challenges in accessing therapeutic supports and creating a consistent whole-school approach to assessment. Implications for the role of educational psychologists in supporting pupils with MPID are outlined.

Keywords

Attainment; assessment; intellectual disability; moderate; severe; profound.

Table of Contents

List of Tables and Figures

Chapter 1: Introduction

'I think in a special school, it may take longer, it may look different, and it may take a little

bit more.'

Educational attainment can be considered one of the overarching goals of the

education system and is typically defined as the highest grade achieved within the most

advanced level of education (OECD, 2009). In the absence of a formal grading system,

attainment is defined as a measure of progress of an individual's ability to apply a

skill/knowledge to a given task (Kraiger et al., 1993). Measures of attainment are imperative

in identifying pupil strengths, needs and progress to inform future learning goals and identify

appropriate interventions (Hayward, 2014). For pupils with moderate to profound intellectual

disabilities (MPID), research relating to the conceptualisation and assessment of attainment is

not well documented within the literature. This is a significant limitation when considering

the importance of attainment data in evaluating teaching and learning and devising

educational goals. An inadequate understanding of attainment for pupils with MPID could

have negative implications for teaching, learning and research in this area.

Definition of Intellectual Disability

When defining intellectual disability (ID) it should be noted that the language used is

based on a medical model of disability. The neurodiversity movement is challenging

researchers to reframe this medical model by instead valuing difference in neurobiological

development (Robertson, 2009). While terminology such as deficit, disorder and impairment

are not in keeping with the beliefs and positionality of the researcher, they have been

included in this doctoral thesis to remain consistent with diagnostic criteria and practices

referenced.

Within the Diagnostic and Statistical Manual of Mental Disorders – 5th Edition

(DSM-5), ID is defined as a neurodevelopmental disorder, which is onset during the early

development period and involves deficits in both intellectual and adaptive functioning (American Psychiatric Association, 2013). ID can be associated with a range of aetiologies, including neonatal disorders, genetic syndromes and unknown causes. A diagnosis of ID is determined by the level of intellectual impairment and support required in adaptive skills, with severity defined using the categories of 'mild', 'moderate', 'severe' and 'profound'. ID is also referred to as Disorders of Intellectual Development (DID) using the ICD-11 (WHO, 2019). Within this thesis ID is conceptualised using the DSM-5 criteria as this is the one most utilised in the Irish context.

It is estimated that the prevalence of ID is 1% (Maulik et al., 2011), with a total of 13,792 individuals with MPID registered with the National Intellectual Disability Database in 2020 (Casey et al., 2020). It is estimated that 85% of those with an ID have a mild ID, 10% have a moderate ID and less than 5% have a severe or profound ID (Saad & Eladl, 2019). Within this population there is a high rate of comorbid conditions including Autism, epilepsy, genetic syndromes, ADHD and motor impairments (Buckley et al., 2020). Pupils in this population may present with a wide variation in cognitive, academic, social, and emotional functioning as it encompasses a vast heterogenous group.

Provision of Education for Pupils with Intellectual Disabilities in Ireland

In Ireland, pupils with additional needs are served by a continuum of provision, which ranges from mainstream, to special class to special school enrolment (NCCA, 2011). Within the Irish context, special schools cater for pupils with significant educational needs. As there are a limited number of special schools, they often cater for a large geographical catchment area, resulting in pupils travelling long distances to attend these specialised settings. Special schools are designated as primary schools and this designation applies to the pupils aged from 5 to 18 years old. In recent years developments have been made to create a distinction between primary and post-primary in relation to special schools, with the introduction of the

National Council for Curriculum and Assessment (NCCA) Learning Programmes at Levels 1

and 2, for post-primary pupils with significant learning difficulties (NCCA, 2019). Given this

distinction in curricula and assessment methods, the current doctoral research will focus on

the conceptualisation and assessment of attainment for pupils with MPID aged between 7 and

12 years old attending a special school. Pupils aged 5 to 6 years were excluded from the

current study due to the likely impact the Covid-19 school closures had on their educational

and assessment experience.

Conceptualisation of Attainment

While the overarching definition of attainment relates to progress in learning, there is

no universally accepted conceptualisation of attainment. Attainment can be conceptualised as

an 'input-process-outcome' model of effectiveness (Kyriazopoulou & Weber, 2009). Within

this model, educational inputs would refer to financial resources, school infrastructure and

educational resources. Process refers to the action of teaching and outputs refer to outcomes

such as pupil engagement and attainment.

Attainment can also be conceptualised based on theories of learning. For example,

where a behaviourist theory of learning is applied, attainment can be defined as an observable

behavioural change in response to intervention either through the reduction or increase of a

target behaviour (James, 2006). Where cognitivist theories of learning are applied, attainment

can be viewed as hierarchical, with learning at a lower level considered prerequisite to

learning at a higher level (Gagné, 1970). Constructivism defines learning and attainment as a

process where the learner actively creates knowledge through interaction with prior

knowledge and experience (Arends, 1998). Finally, experientialists consider attainment as a

learner's ability to experience a new skill and apply this skill in practical scenarios (Kolb &

Kolb, 2009). Differences in conceptualisation may influence the learning goals and measures

used to assess attainment. When considering pupils with MPID, there is limited research into

the conceptualisation of attainment. This can lead to inconsistency in what is considered the goal of education for pupils with complex needs (Vlaskamp, 2005).

Use of Attainment Data

Attainment data for primary school students is commonly collected at international, national and school level. At international level, attainment data is used as a means of comparing differing educational systems. This can, in turn, inform policies, practice and research (OECD, 2009). International bodies, such as the Programme for International Student Assessment (PISA) record data through standardised test booklets and primarily focus on attainment of literacy and numeracy for pupils within the mainstream population (NCSE, 2012). The exclusion of pupils with MPID highlights the perceived value placed on attainment for this population.

At a national level, the assessment requirements for primary schools are outlined in the NCCA (2009) document 'Assessment in the Primary School Curriculum: Guidelines for School' and includes guidelines such as creating an assessment policy. This document stipulates the requirement in mainstream schools to administer standardised literacy and numeracy assessments at the end of first class/beginning of second class and at the end of fourth class/beginning of fifth class. There is no such requirement for special schools/classes, again highlighting the lack of value placed on the attainment of pupils with MPID.

At classroom level, the Irish Primary School Curriculum highlights the importance of attainment data in enriching children's learning across all curriculum areas (Department of Education, 1999). Within the 'Guidelines for Teachers of Students with General Learning Disabilities' (NCCA, 2007), assessment of attainment is described as important to provide a summary of achievement and progress and when planning for future learning. This document outlines measures such as teacher observation, teacher-designed tests, portfolios, self-assessment and standardised testing as measures of assessing attainment for pupils with

MPID. It should be noted that it does not list or identify measures of assessing attainment designed specifically for pupils with MPID.

Measure of Attainment

Although there is no universal conceptualisation of attainment, a psychometric approach to assessment has traditionally been adopted (McIntyre & Brown, 1978). This approach includes generating comparable and evaluative data in relation to attainment and relies primarily on the use of standardised assessment measures. For pupils with MPID, there has been a lack of research into measures of attainment, with researchers predominantly focusing on assessment for categorisation of intellectual disability. This has generally relied on standardised assessment measures, with the limitations of these measures being well documented when working with pupils with MPID. Difficulties such as a lack of reliability, validity and population specific norms are commonly reported (Yin Foo et al., 2013) as well as floor effects, where standardised tests lack the sensitivity to measure individual differences (Hessl et al., 2009).

When considering attainment at classroom level, measures such as The Routes for Learning (RfL) (WAG, 2006) assessment tool are highlighted within the literature. This tool was developed for pupils with severe to profound ID and can be used with pupils under the age of 12. Rfl focuses on mapping the potential communication and cognitive development of pupils by following a developmental model. Other summative measures include the Engagement model and pre-key stage standards, which are utilised within the UK education system, to measure progress for pupils whose attainment levels could not be recorded through national curriculum scales (STA, 2021).

Within the Irish educational system, the Curriculum Access Tool for Students with General Learning Disability (CAT-GLD) is a framework to assist teachers in assessing attainment and planning learning goals, based on the curriculum (NCSE, n.d.). This tool was

developed for pupils with a mild to profound ID and measures attainment using a skills hierarchy. While this tool includes a skills checklist related to curricular objectives, they are only available in relation to Mathematics, Social, Personal and Health Education and Physical Education.

Philosophical Underpinnings

Ontology

Ontology refers to the nature of reality. There are two overarching concepts when defining reality; realism, where reality can be defined as existing independently of human conceptions or idealism, where reality is considered subjective, context-specific and created through human conceptions (Burrell & Morgan, 1979, p.1). A collective idealism ontology was adopted for the current doctoral thesis, where the social world is viewed as consisting of multiple representations constructed and shared by people within a particular context (Ritchie, 2014, p.11). Within this study, attainment is viewed as a societal constructed phenomenon as the meaning of what constitutes learning and how it is measured, is influenced by personal, cultural, political and societal values. This ontological perspective informed the epistemological perspective adopted and interpretation of data in this study.

Conceptual Framework of Attainment

Given the complex nature of attainment for pupils with MPID, Bronfenbrenner's Process-Person-Context-Time (PPCT) Bioecological Model was adopted as a conceptual framework for this thesis. This bioecological model is based on the concept of systems and subsystems, focusing on the interactions that occur within a system (Tudge et al., 2009). Bronfenbrenner proposes that these interactions can be defined under four overarching concepts: Process, Person, Context and Time. Process refers to the proximal process involved in the interactions between the person and the people, objects or symbols in their immediate environment (Bronfenbrenner & Morris, 2006). When considering attainment, Process refers

to the interactions between the assessor and pupil, the assessment measures and communication of attainment data. Person refers to the individual (the assessor) and their characteristics, beliefs and experiences. Bronfenbrenner defines these characteristics as demand, resource and force characteristics (Bronfenbrenner & Ceci, 1994).

Within this model, context comprises four interrelated systems. The microsystem refers to the person's immediate environment, such as a classroom. The mesosystem refers to an environment where more than one microsystem is involved, such as a school. The exosystem refers to contexts which may indirectly affect the microsystem, such as the interaction between home, school and support services. Finally, the macrosystem refers to the influence of the cultural, political or national context on a microsystem, such as national policy or cultural values (Bronfenbrenner, 1993). Time is divided into three levels. Micro-time refers to what is occurring during a specific activity, such as an assessment. Meso-time refers to the consistency of activities in an environment, such as the frequency of assessment. Finally, macro-time refers to the impact of time on a global setting, for example, the impact of Covid-19 pandemic.

Personal Values and Beliefs

As stated above, an idealism ontology was utilised in the conceptualisation of this study. This ontological perspective acknowledges the subjective nature of reality and the influence of personal experiences and beliefs. My own personal values and beliefs were a core part of the conceptualisation of this study, specifically in relation to the education and the voice of those with MPID. When considering education, I believe that every person, regardless of additional need or background, is entitled to and deserves access to a high-quality education. I also believe it is the responsibility of those working with children to ensure they receive a high-quality education and to seek out means of best supporting all children. I consider a high-quality education to be one that acknowledges the developing

child as a whole and can identify and celebrate their strengths and support them in areas of need. I am passionate about the rights of children with MPID whose voices and needs may at times be overlooked.

Having worked with children with MPID, I have always been inspired by the patience and grace with which they live in a world that was not designed with their needs in mind. I feel their perspective should be respected and sought as I believe that because a person may not speak does not mean that they do not have a voice, it can often just take a different way of listening. In the current study I was unable to include the direct voice of pupils with MPID due to ethical constraints and difficulties in obtaining informed assent. However, I hope that by seeking information from their parents and teachers and SNAs who work closely with them that the findings are representative of their perspective. It should also be acknowledged that, although this area of research has personal significance for me as a researcher, this thesis has been written in a formal register to conform with my perceived beliefs regarding academic expectations.

Research Focus

Attainment can be considered an important output of the education system. Despite its importance there is a significant gap in the research relating to the conceptualisation and assessment of attainment for those with MPID. A better understanding of attainment is required in order to ensure the needs of pupils with MPID are met in education settings. It is imperative that school staff, parents and supporting professionals working with pupils with MPID are informed by the evidence-base when selecting and administering assessments of attainment with this population.

The research presented in this doctoral thesis aims to address the gaps highlighted above. This thesis consists of two papers. The systematic literature review (SLR) identifies the conceptual frameworks and measures used to assess attainment of pupils with MPID. The

empirical journal article (EJA) explores how attainment is conceptualised by parents and school staff in a special school for pupils with MPID in Ireland. Measures of attainment as well as facilitators and barriers to assessment are also explored. It is hoped that insights gained from this doctoral research will provide guidance to educational psychologists and related fields when supporting pupils with MPID.

Significance of the Research

The findings of this doctoral research have important implications for practice, research and policy related to teaching, learning and assessment. The findings of the SLR suggest that there is limited research describing the theoretical conceptualisation of attainment for pupils with MPID. They also suggest that unstandardised measures of assessment are used more frequently within the research literature, with a lack of appropriate standardised measures highlighted. In terms of conceptualisation of attainment, both the SLR and EJA identified the importance of considering attainment as a holistic and multi-faceted concept, involving many domains including adaptive, social and communication skills. Participant responses highlighted the importance of relationship in assessment. They also emphasised the concept of attainment as progression of skills and occurring over a long-time frame. The findings also highlighted a lack of parental involvement and understanding in relation to the assessment of attainment for pupils with MPID. The EJA highlighted a reliance on unstandardised assessment measures and a desire for more collaborative assessment practices. Furthermore, participants referred to broader systemic barriers including a lack of consistency in approach at school level as well as difficulty accessing multi-disciplinary support. In particular, the lack of input from psychology was highlighted.

As attainment data for pupils with MPID aged 5 to 12 years is not collected at national level and there is a limited availability of adapted resources and supports, it is anticipated that the findings from this research will inform the decision making of

professionals and policymakers who are involved in developing assessment and curricular policies. Considering the lack of research in the area of attainment for pupils with MPID and lack of representation of pupils' views regarding their attainment, future research should focus on developing appropriate methodologies for the inclusion of the pupils' voice. Further research emerging from this doctoral research includes investigating the effectiveness of assessment measures with pupils with MPID and developing appropriate, adapted assessment measures.

Background to the Systematic Literature Review

This SLR aimed to identify, synthesise and critically appraise the literature on the theoretical conceptualisation and assessment of attainment for pupils with MPID within the research literature. Studies relating to the effectiveness and use of attainment measures in practice were sought however a significant lack of research was noted. Therefore, this SLR aimed to synthesise the measures of attainment used with pupils with MPID in the research literature. A systematic search of relevant electronic databases and grey literature sources was conducted from studies published between 1990 and May 2022. Twelve empirical studies met inclusion criteria and were analysed using narrative synthesis. The findings from this review highlighted a lack of theoretical conceptualisations of attainment reported within the literature as well as a lack of appropriate assessment measures, with a reliance on self-devised and unstandardised measures. The review also highlighted a holistic concept of attainment, with multiple domains identified including literacy, numeracy, science, communication, behavioural goals, adaptive and social skills.

Rationale

Assessing attainment for those with MPID has been acknowledged as particularly challenging due to a high rate of comorbid sensory, motor, communication and health impairments (Ware & Donnelly, 2004). Despite its importance and complexity, theoretical

conceptualisations and measures of assessing attainment for pupils with MPID are not well documented within research literature. Developing our understanding of attainment and measures of assessing attainment is critical to identify the most appropriate supports for this population. It is hoped that the findings from this review will help to inform the decisions of professionals and policymakers who plan and deliver curricula as well as all professionals engaged in assessments of pupils with MPID.

Research Journey

When beginning my research journey, my topic of interest had been to investigate the effectiveness of attainment assessments when working with pupils with MPID and compile a review of the most effective assessment measures. While carrying out early scoping searches, it became apparent that research in this area was very limited within the literature. As a result, the review questions were reformulated to examine what was meant by attainment and the types of assessment measures used within the research literature. I developed a systematic review protocol and completed a database search These databases were searched simultaneously using SCOPUS and ProQuest on the on the 26th of August 2021 and re-ran this search in May 2022. The compiled protocol included factors such as the eligibility criteria, search strategy, study selection, data management, data extraction, data analysis, and research timeline. The review protocol ensured that systematic and clear steps were followed throughout the research journey. This allowed for the identification, synthesis and critical appraisal of the theoretical frameworks and measures used to assess attainment for pupils with MPID, within research literature.

Background to the Empirical Journal Article

This empirical journal article (EJA) comprises a qualitative study which explored parental and school conceptualisations of attainment and the measures used to assess attainment in a special school context. The selected school was part of the Children's School

Lives (CSL) study. CSL is a longitudinal cohort study of primary schooling in Ireland, which is being conducted by the School of Education, University College Dublin in affiliation with the National Council for Curriculum and Assessment. The CSL study aims to gather data on children's lives in school in order to inform curricular reform and educational policy and practice over the coming years. Within this study, semi-structured interviews were conducted with seven school staff members and two parents. The results were analysed using a six-step, inductive, reflexive thematic analysis framework which identified four main themes: conceptualisation of attainment, individualistic and flexible approach to assessment, collaborative practice and barriers to the assessment of attainment.

Rationale

For pupils with MPID, research has predominantly focused on assessment for categorisation of ID or evaluations of specific interventions (Shogren et al, 2018). The lack of research relating to the conceptualisation of attainment for pupils with MPID is a significant limitation as without an understanding of the concept of attainment and measures of attainment, research may be narrow, limiting the advancement of teaching, learning and assessment for this population. The current study aimed to explore the concept of attainment and the use of assessment measures from the perspective of parents and school staff (i.e., teachers and special needs assistants). This contribution to the knowledge base has important implications for policy and practice in relation to teaching, learning and assessment.

Research Journey

My interest in attainment for pupils with MPID first developed while working as a teacher in a special school for pupils with MPID. As a trainee educational psychologist and through my professional placements, particularly in Children's Disability Services, I began to question how attainment was conceptualised by parents, schools and supporting services. While conducting some early scoping searches of the research literature to address this

question, it became clear that although attainment was a term used frequently within the literature, there was very limited research into the conceptualisation of attainment for pupils with MPID and little guidance on appropriate assessment measures. It was initially intended that school staff, parents and psychologists would participate in the study. However due to unexpected challenges in gaining ethical approval, psychologists could not be included. I had considered including pupils in this study but following consultations with a disability researcher and UCD HREC ethical advisor this was not deemed possible as it was stated that having a MPID as well as additional comorbid diagnoses could potentially compromise a pupil's ability to provide fully informed assent and to engage in the research. It was intended that semi-structured interviews would be conducted face-to-face but due to restrictions in place for the Covid-19 pandemic public health guidelines, interviews had to be conducted remotely.

Reflections

Kolb's reflective cycle (Kolb, 1984) was used to guide my personal and professional learning from undertaking this doctoral research. Overall, I found this research process to be extremely valuable and I feel my competency and confidence as a researcher and practitioner has developed as a result of engaging in the research process.

When reflecting on my research journey, it is likely that my personal biography influenced the research and decision-making process when choosing the research focus, study design, data collection, and meanings derived from the data, in particular my experience working as a special class teacher for pupils with MPID. My professional experiences working with pupils with MPID enabled me to approach this research with the curiosity of an outsider's perspective as well as having an awareness of the complexity and contextual factors when working with this population.

A key piece of learning for me throughout the research process was the balance between structure and flexibility required when engaging in research. When completing my SLR, I found having a clear and structured research protocol was beneficial in ensuring the review was systematic and contained. On completing my EJA, a clear and structured methodology was important to guide my recruitment process and analysis. Conversely, a high degree of flexibility was necessary when overcoming unforeseen challenges, such as reformulating the SLR questions and conducting semi-structured interviews. I feel this process has allowed me to develop my confidence as a researcher and I have become more comfortable being flexible within my approach to research.

Another key area of learning was the value in supervision. I found that consulting with my supervisor allowed me to view aspects of my research from a more holistic, reflexive perspective which allowed me to critically reflect on the work I had completed. As I had previous experience working as a teacher in a special school setting, supervision was also a useful way for me to reflect on the influence of personal biases, assumptions, or experiences throughout the research process.

Dissemination of the Findings

A summary of the findings of the empirical research will be provided to the wider Children's School Lives (CSL) team which in turn will be shared with the National Council for Curriculum and Assessment (NCCA), this will focus on considerations for curricular developments and implications for assessment support.

Both the SLR and EJA papers will be submitted for publication. Potential target journals include the *Journal of Applied Research on Intellectual Disabilities (JARID)* which is an international, peer-reviewed journal which draws together findings derived from original applied research in intellectual disabilities. The journal is an important forum for the dissemination of ideas to promote valued lifestyles for people with intellectual

disabilities. Another target journal is the *Journal of Intellectual Disability Research* which is devoted exclusively to the scientific study of intellectual disability and publishes papers reporting original observations in this field.

The findings from the empirical study will be disseminated using a summary infographic to the principal and participants from the case study school and will focus on implications for assessment practices and policies within the school. A summary paper will be submitted to the NEPS Research Committee as the findings of this study have implications for educational psychologists supporting pupils in schools. In my career as an educational psychologist, I intend to use the knowledge I have gained during my research journey in my own professional practice when working with schools and parents of pupils with MPID, to clarify their conceptualisations of attainment, incorporate collaborative and dynamic approaches to assessment and when consulting with schools regarding their policies and practices towards pupil attainment.

Summary

This chapter provides an overview of the rationale for the current research in relation to the conceptualisation and assessment of attainment for pupils with MPID. It includes an overview of the two research components, the systematic literature review (SLR) and empirical journal article (EJA), referring to the background, rationale, research journey and reflections of the research process involved in both studies. Chapter two of this thesis relates to the SLR and provides an overview of the lack of theoretical frameworks and measures used to assess attainment for pupils with MPID. Chapter three outlines the methodology used throughout the EJA. Chapter four relates to the EJA and explores parental and school conceptualisation of attainment and measures of assessment used in a special school for pupils with MPID in Ireland. The final chapter describes the implication of the findings of both research papers for the practice of educational psychologists.

References

American Psychiatric Association, & American Psychiatric Association. DSM-5 Task Force. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed.). American Psychiatric Publishing. https://doi.org/https://doi.org/10.1176/appi.books.9780890425596

Arends, R. I. (1998). *Resource handbook. Learning to teach* (4th ed.). McGraw-Hill.

Bronfenbrenner, U. & Morris, P. A. (2006). The bioecological model of human development. In W. Damon (Series Ed.) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Theoretical models of human development* (pp. 793–828). Wiley.

Bronfenbrenner, U. (1993). The ecology of cognitive development: Research models and fugitive findings. In R. Wozniak & K. Fischer (Eds.), *Development in context: Acting and thinking in specific environments* (pp. 3– 44). Erlbaum.

Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review, 101*(4), 568-586. https://doi.org/10.1037/0033-295X.101.4.568

Buckley, N., Glasson, E. J., Chen, W., Epstein, A., Leonard, H., Skoss, R., Jacoby, P., Blackmore, A. M., Srinivasjois, R., Bourke, J., Sanders, R. J., & Downs, J. (2020). Prevalence estimates of mental health problems in children and adolescents with intellectual disability: A systematic review and meta-analysis. *Australian and New Zealand Journal of Psychiatry, 54*(10), 970- 984. https://doi.org/10.1177/0004867420924101

Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life*. Heinemann Educational.

Casey, C., O'Sullivan, M., Flanagan, N. & Flanagan, S. (2020). *Annual report of the national ability support systems.* Health Research Board. https://www.hrb.ie/fileadmin/2._Plugin_related_files/Publications/2021_publications/NASS/NASS_2020_annual_report.pdf

Department of Education and Science (DES) (1999). *Primary curriculum: An introduction.* https://www.curriculumonline.ie/getmedia/c4a88a62-7818-4bb2-bb18-4c4ad37bc255/PSEC_Introduction-to-Primary-Curriculum_Eng.pdf

Gagné, R. M. (1970). *The conditions of learning* (2nd ed.). Holt, Rinehart & Winston.

Hayward, L. (2014). Assessment for learning and the journey towards inclusion. In Lani Florian (Ed.), *The SAGE handbook of special education: Two volume set* (Second ed., pp. 523-536). SAGE. https://doi.org/10.4135/9781446282236.n33

Hessl, D., Nguyen, D. V., Green, C., Chavez, A., Tassone, F., Hagerman, R. J., Senturk, D., Schneider, A., Lightbody, A., Reiss, A. L., & Hall, S. (2009). A solution to limitations of cognitive testing in children with intellectual disabilities: The case of fragile X syndrome. *Journal of Neurodevelopmental Disorders, 1*(1), 33-45. https://doi.org/10.1007/s11689-008-9001-8

James, M. (2006). Assessment, teaching and theories of learning. *Assessment and Learning*, *47*, 60-73.

Kolb, A. Y., & Kolb, D. A. (2009). The learning way: Meta-cognitive aspects of experiential learning. *Simulation & Gaming, 40*(3), 297- 327. https://doi.org/10.1177/1046878108325713

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.

Kraiger, K., Ford, J. K., & Salas, E. (1993). Application of cognitive, skill-based, and affective theories of learning outcomes to new methods of training evaluation. *Journal of Applied Psychology, 78*(2), 311-328. https://doi.org/10.1037/0021-9010.78.2.311

Kyriazopoulou, M. & Weber, H. (2009). *Development of a set of indicators for inclusive education in Europe*. European Agency for the Development of Special Needs Education. https://www.european-agency.org/sites/default/files/development-of-a-set-of-indicators-for-inclusive-education-in-europe_Indicators-EN-with-cover.pdf

Maulik, P. K., Mascarenhas, M. N., Mathers, C. D., Dua, T., & Saxena, S. (2011). Prevalence of intellectual disability: A meta-analysis of population-based studies. *Research in Developmental Disabilities, 32*(2), 419-436.https://doi.org/10.1016/j.ridd.2010.12.018

McIntyre, D., & Brown, S. (1978). The conceptualisation of attainment. *British Educational Research Journal, 4*(2), 41-50. https://doi.org/10.1080/0141192780040203

National Council for Curriculum and Assessment (NCCA) (2007). *Curriculum guidelines for teachers of pupils with general learning disabilities.* https://ncca.ie/media/2509/sen_introduction.pdf

National Council for Curriculum and Assessment (NCCA) (2009). *Assessment in the primary school curriculum: guidelines for school.* https://www.curriculumonline.ie/getmedia/2b3eaa53-cb4b-4053-9d71-2d28d9d6c734/Assessment-Guidelines.pdf

National Council for Curriculum and Assessment (NCCA) (2011). *The future role of special schools and classes in Ireland.* https://ncse.ie/wp-content/uploads/2014/09/The_Future_Role_of_Special_Schools_and_Classes_in_Ireland_4.pdf

National Council for Curriculum and Assessment (NCCA) (2019). *Policy advice on special schools and classes: An inclusive education for an inclusive society?* https://ncse.ie/wp-content/uploads/2019/11/Progress-Report-Policy-Advice-on-Special-Schools-Classes-website-upload.pdf

National Council for Special Education (NCSE) (2012). *Measuring educational engagement, progress and outcomes for children with special educational needs.* https://ncse.ie/wp-content/uploads/2014/10/Outcomes26_11_12Acc.pdf

National Council for Special Education (NCSE) (n.d.). *Curriculum access tool for students with general learning disability (CAT-GLD).* https://www.sess.ie/cat-categories

OECD. (2009). The usefulness of PISA data for policy makers, researchers and experts on methodology. *PISA data analysis manual: SPSS, second edition* (pp. 19-33). OECD Publishing. https://doi.org/10.1787/9789264056275-2-en

Ritchie, J. (2014). *Qualitative research practice: A guide for social science students and researchers* (2nd ed.). SAGE.

Robertson, S. M. (2009). Neurodiversity, quality of life, and autistic adults: Shifting research and professional focuses onto real-life challenges. *Disability Studies Quarterly, 30*(1) 311-325. https://doi.org/10.18061/dsq.v30i1.1069

Saad, M. A. E., & Eladl, A. M. (2019). Defining and determining intellectual disability (intellectual developmental disorder): insights from DSM-5. *Psycho-Educational Research Reviews*, *15,* 51-54.

Shogren, K. A., Burke, K. M., Anderson, M. H., Antosh, A. A., Wehmeyer, M. L., LaPlante, T., & Shaw, L. A. (2018). Evaluating the differential impact of interventions to promote self-determination and goal attainment for transition-age youth with intellectual disability. *Research and Practice for Persons with Severe Disabilities, 43*(3), 165-180. https://doi.org/10.1177/1540796918779775

Standard Testing Agency (STA) (2021). *The engagement model. Guidance for maintained schools, academies (including free schools) and local authorities*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/903458/Engagement_Model_Guidance_2020.pdf

Tudge, J. R. H., Mokrova, I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of Family Theory & Review, 1*(4), 198-210. https://doi.org/10.1111/j.1756-2589.2009.00026.x

Vlaskamp, C. (2005). *Assessing people with profound intellectual and multiple disabilities. In Assessing adults with intellectual disability: A service providers' guide*. Blackwell Publishing.

WAG (2006). *Routes for learning – Assessment materials for learners with profound learning difficulties and additional disabilities.* https://hwb.gov.wales/curriculum-for-wales/routes-for-learning

Ware, J. & Donnelly, V. (2004). Assessment for learning for pupils with PMLD: The ACCAC insight project. *PMLD Link, 16*(3), 12–17.

World Health Organisation (WHO) (2019). *The ICD-11: Classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. World Health Organisation.

Yin Foo, R., Guppy, M., & Johnston, L. M. (2013). Intelligence assessments for children with cerebral palsy: A systematic review. *Developmental Medicine and Child Neurology, 55*(10), 911-918. https://doi.org/10.1111/dmcn.12157

Chapter 2: Systematic Literature Review

Assessment of Attainment with Pupils with Moderate to Profound Intellectual

Disabilities: A Systematic Review

Abstract

Attainment can be seen as the overarching goal of education, with the assessment of attainment having a key role in planning for teaching, learning and intervention. Despite its significance, the conceptualisation and assessment of attainment for pupils with moderate to profound intellectual disabilities (MPID) is not well documented within research literature. This systematic review aimed to identify, synthesise, and critically appraise the literature on the conceptualisation of attainment as well as measures of attainment used for pupils with MPID. A systematic search of relevant electronic databases and grey literature sources was conducted for studies published between 1990 and May 2022. Twelve empirical studies met the inclusion criteria and were quality rated using the CASP checklists. Due to the heterogeneity of the included studies, a narrative synthesis was conducted. It was noteworthy that a theoretical conceptualisation of attainment was not referred to in any of the studies. The measures of assessment referenced included standardised (e.g., developmental, literacy, numeracy and communication) and unstandardised measures (e.g., practitioner-designed, questionnaires, observations). In general, studies reported that there was a lack of appropriate assessment measures available for this population and that practitioners were often required to devise their own measures. Implications for theory and practice for professionals working with pupils with MPID are discussed.

Introduction

Educational attainment is defined as a measure of progress of an individual's ability to apply a skill/knowledge to a given task (Kraiger et al., 1993). The assessment of attainment is a key component when identifying a child's strengths, needs and progress and when planning future learning goals (Black & Wiliam, 2009). Attainment data can also be used to inform decisions such as ability-based groupings, specialised placements, and access to higher-level education (Hayward, 2014). While it is agreed that the overarching definition of attainment relates to progress in learning, there is no universally accepted conceptualisation of what constitutes attainment in an educational setting. One conceptualisation of attainment is that of an 'input-process-outcome' model of effectiveness (Kyriazopoulou & Weber, 2009). Within this model, educational inputs refer to financial and educational resources, process refers to teaching and outputs refer to outcomes such as pupil participation and attainment. Additionally, attainment can be conceptualised based on the theory of learning being applied. Although there are multiple theories of learning, the four main theoretical perspectives include: behaviourism, cognitivism, constructivism and experientialism (Gonzalez-DeHass & Willems, 2013).

Theoretical Perspectives of Attainment

Behaviourism is based on the work of theorists such as Skinner. It defines learning as observable behavioural changes that occur in response to environmental stimuli (Skinner, 1971). Behaviourist theorists do not view learning as influenced by intelligence or context but rather a stimulus-response interaction (James, 2006). According to this theory, attainment can be defined as an observable behavioural change in response to intervention either through the reduction or increase of a target behaviour.

Conversely, cognitivism theories of learning focus on understanding the mental processes such as memory involved in learning (Ertmer & Newby, 1993). Cognitive theorists

such as Gagné (1970) argue that learning is hierarchical, with the ability to learn at a lower level considered prerequisite to the ability to learn at a higher level. Therefore, attainment can be measured by assessing an individual's ability to complete a series of hierarchical tasks that measure a defined skill. Cognitive constructivist theorists such as Piaget (1936) argue for a staged theory of cognitive development, with learning being influenced by the developmental stage of the learner, with each stage allowing for a more complex and abstract ability to learn (Dasen, 1994). Within this theory, knowledge is attained when an individual can complete progressively more complex tasks than their previous skill level.

Constructivism defines learning as a process where the learner actively creates knowledge through interaction with prior knowledge and personal experience (Arends, 1998). Social constructivist theories of learning such as Vygotsky's Sociocultural Theory (1978) define learning as a collaborative process where learning occurs initially on a social level and then on an individual level. In the context of social constructivism, attainment can be defined as a learner's ability to demonstrate and use their knowledge independently. Therefore, knowledge can be considered attained when a student can actively demonstrate their knowledge in a novel task.

Finally, experientialism relies on the work of theorists such as Kolb (1976). Experiential theorists identify meaningful everyday experiences as the most important factor in increasing learner's understanding as well as influencing their behaviour (Kolb & Kolb, 2009). Kolb (1984) describes this experiential learning in four key stages: experiencing, absorbing and reflecting, conceptualising and testing concepts in other situations. In this case attainment can be defined as a learner's ability to experience a new skill and apply this skill in practical scenarios.

Conceptual Framework of the Systematic Review

Bronfenbrenner's Process-Person-Context-Time (PPCT) Bioecological Model was adopted as a conceptual framework for this systematic review. This bioecological model is based on the concept of systems and interacting subsystems (Hepworth, 2006). Within this model the influence of contextual factors and interactions within a system are defined through four overarching concepts: Process, Person, Context and Time. In the current study the primary focus will be on factors relating to Process and Person. Process refers to the assessment process including the interactions between the assessor and the assessment measures. Person refers to the individual and their beliefs. In the current review, Person refers to the researcher and the theoretical perspective of attainment adopted. As it is beyond the scope of the current study to estimate the impact contextual, and time related factors have had in each empirical article these aspects will not be an explicit focus of the review.

Assessment for Pupils with Moderate to Profound ID

When considering the use of attainment assessments for pupils with moderate to profound intellectual disabilities (MPID), it is firstly important to set the context and challenges of working with this population. Due to the potential complexity of comorbid sensory, motor, communication and health impairments of pupils with MPID, assessment has been acknowledged as particularly challenging (Ware & Donnelly, 2004). Research has traditionally focused on assessment for diagnostic purposes, with significant limitations to the use of diagnostic assessments with pupils with MPID. In a systematic review of intelligence assessments used with children with cerebral palsy and varying levels of intellectual functioning, Yin Foo et al. (2013) concluded that most standardised intelligence assessments lacked the reliability, validity and population specific norms to accurately assess children with ID. Floor effects, where standardised tests lack the sensitivity to measure individual

differences at a lower level of functioning, have also frequently been reported within the literature (Hessl et al., 2009).

Placing a greater emphasis on diagnostic assessments also leads to difficulties when considering the utility of a diagnostic label in an educational context. Although diagnostic labels can be helpful in contextualising difficulties and increasing understanding (Graungaard & Skov, 2007), they offer little direction for intervention. Categorising disability can place greater emphasis on a deficit focus, promoting the concepts of fixed traits and limiting achievement (Hollenweger, 2014). It should be noted that research relating to the assessment of attainment for pupils with MPID is limited, with very little research relating to assessments specifically designed for this population. By developing a greater understanding of assessment of attainment of pupils with MPID, a social model of disability can be promoted where individual traits can be viewed as fluid and progress and regression can be acknowledged (Hollenweger, 2014).

One approach proposed in the literature is that of Dynamic Assessment (DA), which is suggested as a beneficial approach to identify the strengths and needs of pupils with ID (Boers et al., 2013). DA focuses on the learning process by observing and interacting with a child, during cognitive tasks, to assess their strengths, needs and progress (Deutsch & Reynolds, 2000). McLaughlin and Cascella (2008) found participants responded well to the use of DA when assessing and teaching skills to individuals with moderate to severe ID. However, it should be noted that a small sample was used, with only six participants and research has yet to be conducted on a larger scale.

Another approach recommended within the literature is that of Person-Centred-Planning, an assessment and intervention approach that engages the individual, professionals, and families in assessing and planning for an individual with ID (Cohen & Spenciner, 2010). This collaborative approach involves those who interact with the individual on a regular basis

and assessment through skill mapping (Reid et al., 1999). When considering assessment measures, The Routes for Learning (RfL) is designed for use with pupils with severe to profound ID (WAG, 2006). This tool assesses communication and cognition and follows a developmental model by mapping the potential developmental trajectories of pupils with severe to profound ID.

Although the strategies listed above may be useful when working with pupils with MPID, it is not clear whether such measures are used in practice. It should be noted that studies that focused on the use and effectiveness of attainment measures for pupils with MPID were sought out when undertaking this systematic review. However, a significant lack of literature was found. Therefore, this systematic review aimed to collate data from studies that evaluated participants responses to intervention, where measures of attainment were used for data collection. The assessment measures used in the research literature could then be synthesised. Having an awareness of the assessment measures used in research literature is important for professionals working with this population to establish the measures currently in use and to inform practice.

Objectives

Given the dearth of research on the theoretical conceptualisation of attainment for pupils with MPID, as well as the gap in the literature on measures of attainment used with this population, the current review aims to address this gap by providing a synthesis on the use of attainment measures in research literature when working with pupils with MPID. It is hoped that by establishing the types of attainment assessments used with this population the findings will inform professionals and policymakers, especially when evaluating response to intervention and planning future goals. These objectives will be achieved by answering the following four core research questions:

1. **What theoretical conceptualisations are used to define attainment?** As multiple theoretical conceptualisations may be applied, an understanding of how attainment and learning has been defined may inform how it is measured.

2. **What assessment measures are used to measure attainment?** Capturing attainment can be challenging for practitioners when working with pupils with MPID. Therefore, a summary of measures used in research literature may assist practice.

3. **What domains are commonly assessed?** By identifying the common areas in which attainment is measured, the areas currently being prioritised, as well as any areas that are not accounted for can be established.

4. **What are the implications for assessment practice outlined from each study?** By identifying the implications for practice outlined in each study, the advantages and limitations of various assessment measures can be synthesised.

Search Methods

The search methods were informed by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement and guidelines (Moher et al., 2009).

Selection Criteria

Inclusion Criteria. Studies were eligible for inclusion in the review if they met the following criteria:

- Include at least one measure for assessing attainment in learning. As this review focuses on the use of attainment measures in research, studies must refer to the use of at least one measure.

- Involve school-aged pupils (3 to 21 years old).

- Included all school settings.

- Involve pupils with a MPID. Studies that included a range of intellectual ability would be included where the results of those with MPID were reported separately.

- Qualitative, quantitative, or mixed methods study.

- Be written in English. As this review was primarily conducted by one reviewer, the resources required for translating studies written in additional languages would not be feasible.

Exclusion Criteria. Studies were excluded if they met the following criteria:

- Did not include at least one measure for assessing attainment in learning.

- Included pupils who were in pre-school settings or who did not attend school.

- Included participants with a range of intellectual ability where the results of those with MPID were not reported separately.

- Not written in English or studies that were published before 1990.

Search Strategy

A systematic, comprehensive literature search of ten databases was conducted to identify published and unpublished studies in the field(s) of psychology and education on attainment assessment for pupils with MPID. The included databases were selected as they referenced education, psychology or neuroscience in order to get a broad sample of attainment instruments. The selected databases were as follows; SCOPUS, APA PsycArticles®, APA PsycInfo®, Australian Education Index, Dissertations & Theses UCD, ERIC, Education Collection, Science Database, Social Science Database and ProQuest Dissertations & Theses A&I. A search using Google Scholar was also conducted to identify any relevant grey literature. In addition, a manual hand-search was conducted of the reference lists of all the included articles in the review to identify any additional eligible studies. These databases were searched simultaneously using SCOPUS and ProQuest on the 26th of August 2021. This search was re-run on May 15th, 2022, at which point one additional study was identified for inclusion. The search string was tested and refined using scoping searches which resulted in the identification and inclusion of synonyms for intellectual disability, and the exclusion of

terms to limit irrelevant studies. Wildcards were used to extend word endings and spelling variations (e.g., vs.; vs.) were automatically included.

Search String

The search string was designed to be as extensive as possible to identify all eligible studies. Boolean operators were employed to search the previously mentioned databases and sources. AB,TI,IF("intellectual disability" OR "complex needs" OR "mental retardation" OR "learning disability" OR "learning disorder" OR "mental deficiency") AND AB,TI,IF(moderate OR severe OR profound) AND AB,TI,IF(attainment OR progress OR performance) AND AB,TI,IF(assessment OR test OR evaluation OR tool OR instrument) NOT AB,TI,IF("specific learning disability" OR adult OR mild OR borderline OR motor OR offenders).

Screening and Selection Process

The search returned 680 records for screening against the inclusion criteria. All records were extracted and stored in Excel spreadsheet software. Thirty-one duplicate documents were removed. After title and abstract screening of the remaining 649, 622 records were excluded. Of the remaining 27 records, 6 documents could not be retrieved through university library holdings or personal communication with the authors. The remaining 21 documents were retrieved, and their methods and participants sections were reviewed to determine whether the inclusion criteria were met. This resulted in the exclusion of 9 studies; 3 studies did not report the results from the target population separately, 1 study did not refer to an assessment measure, 2 studies were focused on the assessment of learning potential, 1 study focused on fluency, 1 study was a review and 1 study focused on teacher evaluations of in-service training. The remaining 12 studies met all inclusion criteria and were included in the review. The search process is documented in Figure 1.

Figure 1:

PRISMA Diagram of Search Strategy and Results

```
┌─────────────────────────┐      ┌─────────────────────────┐
│  Records identified      │      │  Records identified      │
│  through database        │      │  through other sources   │
│  searching               │      │  (n = 62)                │
│  (n = 618)               │      │                          │
└─────────────────────────┘      └─────────────────────────┘
              \                          /
               \                        /
                ┌─────────────────────────┐
                │  Records after duplicates│
                │  removed                 │
                │  (n = 649)               │
                └─────────────────────────┘
                           │
                           ▼
                ┌─────────────────────────┐      ┌─────────────────────────┐
                │  Records screened        │ ───▶ │  Records excluded        │
                │  (n = 649)               │      │  (n = 622)               │
                └─────────────────────────┘      └─────────────────────────┘
                           │
                           ▼
                ┌─────────────────────────┐      ┌─────────────────────────┐
                │  Full text articles      │ ───▶ │  Full text articles      │
                │  assessed for            │      │  excluded                │
                │  eligibility             │      │  (n = 15)                │
                │  (n = 27)                │      │                          │
                └─────────────────────────┘      └─────────────────────────┘
                           │
                           ▼
                ┌─────────────────────────┐
                │  Studies included in     │
                │  synthesis               │
                │  (n = 12)                │
                └─────────────────────────┘
```

Data Extraction and Synthesis

The content of each study was extracted using a data extraction table designed specifically for this study, to capture participant characteristics (number, age range, gender, level of intellectual disability and comorbid conditions) as well as first author, year of publication, geographical location, aims, and main findings. Information pertaining to the four research questions on (1) theoretical and conceptual frameworks, (2) measures used, (3) domain being assessed and (4) any implications for future assessment practices were also included. The information was carefully synthesised using the approach of Narrative Synthesis (Snilstveit et al., 2012).

Data extraction for each article was performed independently by one reviewer (KC). A second reviewer (JS) cross-checked the extracted data to ensure accuracy and any discrepancies were solved by discussion. Due to the considerable heterogeneity among the included studies, a narrative rather than meta-analytical approach of synthesising findings was deemed appropriate. The narrative synthesis was conducted in accordance with previously published guidance (Popay et al., 2006). This approach mostly relies on the use of words and text to summarise and explain findings (Popay et al., 2006).

Quality Appraisal Method

All included studies were assessed for quality and risk of bias by two independent reviewers (KC and JS) using the Critical Appraisal Skills Programme (CASP) checklists. The CASP criteria list included items on information, validity, and precision in the following areas: study objectives, study populations, exposure measurement, assessment and analysis of the outcome and data presentation (Tak et al., 2017). In the current study, the researcher scored each indicator a 1 where the criteria were met, a 0.5 where the researcher was unsure and a 0 where the criteria was not met. Where no clear information for a scored item was present in the article a 0 was scored. Scores for each indicator were combined to give an overall quality score. This quality score was converted to a percentage by dividing the obtained score by the total achievable score. Once converted, included studies were categorised as scoring high or low according to the CASP criteria. A high score was defined as a score greater than 50% and a low score was defined as a score less than or equal to 50% (Van Der Windt et al., 2000). The results of the critical appraisal were reported in tabular (see Table 1 and Appendix A) and narrative form.

Systematic Review Results

Overview of the Studies

Table 1 summarises the 12 studies according to their study types, participant

characteristics, quality appraisal, measures of assessment and theoretical perspectives. The 12

included studies were published between 1993 and 2020, with three studies published in

1990s, three studies in the 2000s, five studies in the 2010s and one study in 2020, potentially

indicating a resurgence of research on attainment of pupils with MPID in more recent years.

Study samples ranged in size from one (Brock et al., 2017) to 33 participants (Saint-Laurent

et al., 1993). Most studies were conducted in the United States of America (6 studies). Four

studies were conducted in the United Kingdom, one in Italy and one in Canada. Of the

included 12 studies, six studies were conducted in the USA. This disparity may be accounted

for by legislative practices promoting assessment in the USA such as the No Child Left

Behind Act (NCLB, 2001) and Individuals with Disabilities Education Act (IDEA, 2004),

which made attainment assessments mandatory for all pupils, including those with

disabilities.

Demographics

Age Ranges. The median age across the 12 studies was 12 years, with the youngest

participant being 3 and a half years old and the oldest 21 years old.

Category of ID. Of the included studies, five included participants with a moderate

ID (Elliott et al., 2002; Jones et al., 2019; Lane & Critchfield, 1998; Saint-Laurent et al.,

1993; Taber-Doughty, 2004). Six included participants with a severe ID (Ainsworth et al.,

2016; Apanasiono et al., 2020; Brock et al., 2017; Butler, 2016; Lancioni et al., 2010;

McDonnell et.al, 2000) and three included participants with a profound ID (Apanasiono et

al., 2020; Detheridge, 1997; Lancioni et al., 2010).

Comorbid Diagnoses. Six studies did not report any comorbid diagnoses within their participant characteristics (Apanasiono et al., 2020; Butler, 2016; Detheridge, 1997; Elliott et al., 2002; McDonnell et.al, 2000; Saint-Laurent et al., 1993). One study included participants with co-morbid Attention-Deficit Hyperactivity Disorder. (Brock et al., 2017). Three studies included participants with Down Syndrome (Ainsworth et al., 2016; Jones et al., 2019; Lane & Critchfield, 1998). One study included participants with Rett's Syndrome (Ainsworth et al., 2016). Three studies included participants with Autism (Ainsworth et al., 2016; Jones et al., 2019; Taber-Doughty, 2005). One study included participants with encephalopathy and visual impairments (Lancioni et al., 2010).

Table 1:

Details of Included Studies

Study & Year	Setting (Location)	Number of Participants (Age Range)	Gender	Level of ID & Comorbid Condition(s)	Domain Assessed	Theoretical Framework	Attainment Measures	CASP Quality Rating*
Apanasiono et al., 2020	Special School (UK)	9 (7-10 years)	8 males, 1 female	Severe (6) and profound (1); n/a	Science	None mentioned	*Standardised:* None *Unstandardised:* ● Curriculum-based assessment ● Picture-based quiz ● Teacher interviews ● Progress established through test-retest measures	67%
Ainsworth et al., 2016	Special School (USA)	7 (11-16 years)	6 males, 1 female	Severe; Autism, Down syndrome, Rett's syndrome	Literacy	None mentioned	*Standardised:* ● Brigance Early Childhood Inventory *Unstandardised:* ● Self-devised letter-sound correspondence assessment ● Trained observers to ensure inter-rater reliability ● Test-retest measures	78%
Brock et al., 2017	Special class in a mainstream school (USA)	1 (10 years)	1 male	Severe; ADHD	Literacy, communication, behaviour during transitions	None mentioned	*Standardised:* None *Unstandardised:* ● Stimulus without replacement preference assessment ● IEP goals ● Progress monitored by tracking the percentage of successful attempts a day	78%

[1] A **High CASP Score** is considered a score greater than 50%, a Low CASP Score is considered later or less than 50%

Study & Year	Setting (Location)	Number of Participants (Age Range)	Gender	Level of ID & Comorbid Condition(s)	Domain Assessed	Theoretical Framework	Attainment Measures	CASP Quality Rating*
Butler, 2016	Classroom, context not specified (UK)	6 (16-18 years)	1 male, 5 females	Severe; n/a	Communication	None mentioned	*Standardised:* • P-Scale Data *Unstandardised:* • IEP targets • School records • Researcher observations • Staff observations • Parental interviews	61%
Detheridge, 1997	Not specified (UK)	5 (3.5-17 years)	Not specified	Profound; n/a	Communication	None mentioned	*Standardised:* None *Unstandardised:* • Test-retest measures • Response observations • Photographs • Videos • Semi-structured teacher interviews • IT Skills Checklist	78%
Elliott et al., 2002	Special School (UK)	11 (14-15 years)	5 males, 6 females	Moderate; n/a	Social skills	None mentioned	*Standardised:* None *Unstandardised:* • Self-assessment • Personal communication plan filled in by the teacher • Test-retest measures	56%

[1] A **High CASP Score** is considered a score greater than 50%, a Low CASP Score is considered later or less than 50%

Study & Year	Setting (Location)	Number of Participants (Age Range)	Gender	Level of ID & Comorbid Condition(s)	Domain Assessed	Theoretical Framework	Attainment Measures	CASP Quality Rating*
Jones et al., 2019	Mixed contexts. special and mainstream classes (USA)	6 (5-11 years)	5 males, 1 female	Borderline and moderate; Down syndrome; Autism	Literacy	None mentioned	*Standardised:* None *Unstandardised:* • Researcher devised • Proximal curriculum-based measurements – administered weekly, non-timed. • Different assessment formats were trialled to establish effects on engagement progress	78%
Lancioni et al., 2010	Specialised setting, not specified (Italy)	2 (5-9 years)	2 males	Severe to profound; Encephalopathy, Visual impairment, Spastic tetraparesis	Adaptive behavioural responses by hitting/pulling a switch	None mentioned	*Standardised:* None *Unstandardised:* • Stimulation and object manipulation, timed responses. • On-task behaviour and target behaviour recorded over time.	78%
Lane & Critchfield, 1998	Special education programme, class not specified (USA)	2 (12-14 years)	2 females	Moderate; Down syndrome	Literacy	None mentioned	*Standardised:* • Peabody Picture Vocabulary Test *Unstandardised:* • Researcher-devised matching task • Oral naming task • Identification of letters in word • Inter-rater reliability used. • Test-retest measures. Post-test repeated to establish maintenance.	72%

[1] A **High CASP Score** is considered a score greater than 50%, a Low CASP Score is considered later or less than 50%

Study & Year	Setting (Location)	Number of Participants (Age Range)	Gender	Level of ID & Comorbid Condition(s)	Domain Assessed	Theoretical Framework	Attainment Measures	CASP Quality Rating*
McDonnell et.al, 2000	Mainstream classroom (USA)	3 (Unknown)	3 females	Severe; n/a	Literacy, Academic responses	None mentioned	*Standardised:* • The Code for Instructional Structure and Academic Response-Mainstream Version *Unstandardised:* • Weekly spellings test • Observations	78%
Saint-Laurent et al., 1993	Mixed contexts, special and mainstream classes (Canada)	33 (6-12 years)	23 males, 11 females	Moderate; n/a	Literacy, social skills, developmental milestones, adaptive skills, numeracy	None mentioned	*Standardised:* • Harvey Scale of Development • Adaptive Behaviour Scale-School Edition • Peabody Picture Vocabulary Test • The Key Math Diagnostic Arithmetic Test *Unstandardised:* • Academic records • Teaching methods questionnaire • Parental satisfaction questionnaire	78%
Taber-Doughty, 2004	Special class (USA)	3 (17-21 years)	2 males, 1 female	Moderate; Autism	Adaptive skills	None mentioned	*Standardised:* None *Unstandardised:* • Event recording and task duration • Baseline measures established • Interrater reliability • Steps completed and in time taken to complete steps recorded	89%

[1] A **High CASP Score** is considered a score greater than 50%, a Low CASP Score is considered later or less than 50%

Theoretical Perspectives

None of the included studies explicitly referenced theoretical or conceptual frameworks. This is an important finding given the complex nature of defining attainment with pupils with MPID as the theoretical perspective adopted when conceptualising attainment may influence the measures used to assess attainment.

Assessment Measure Used

The assessment measures used in each study were extracted and categorised into standardised and unstandardised measures. Standardised assessments were those with a prescribed administration manner and had standardised norms available (Cicchetti, 1994). Unstandardised assessments were considered those that were devised by the practitioner or had not been standardised on a general population. A description of each assessment measure can be found in Appendix B.

Standardised Assessment. Five of the included studies utilised a form of standardised assessment to measure attainment (Ainsworth et al., 2016; Butler, 2016; Lane & Critchfield, 1998; McDonnell et.al, 2000; Saint-Laurent et al., 1993). Two studies included the Peabody Picture Vocabulary Test, (Lane & Critchfield, 1998; Saint-Laurent et al., 1993). One study included standardised measures of adaptive skills, Adaptive Behaviour Scale-School Edition (Saint-Laurent et al., 1993). The P-Scale assessment, a curriculum-based assessment, was utilised in one study (Butler, 2016). The Harvey Scale of Development (assessment of developmental milestones) and Key Math Diagnostic Arithmetic Test were utilised in one study (Saint-Laurent et al., 1993). The Code for Instructional Structure and Academic Response-Mainstream Version was utilised in one study (McDonnell et.al, 2000). One study utilised the Brigance Early Childhood Inventory, which assess developmental needs and school readiness (Ainsworth et al., 2016).

Unstandardised Assessment. All included studies utilised a form of unstandardised assessment, measuring attainment in the areas of literacy, communication, science, social skills, adaptive skills and behavioural goals. In these studies, attainment was assessed by administering the same assessment at the beginning and end of a teaching period or intervention. Six studies utilised practitioner-devised or curricular-based assessments (Ainsworth et al., 2016; Apanasiono et al., 2020; Detheridge, 1997; Jones et al., 2019; Lane & Critchfield, 1998; McDonnell et.al, 2000). Four studies used Individual Education Plan goals or teacher devised plans (Brock et al., 2017; Butler, 2016; Elliott et al., 2002; McDonnell et.al, 2000) and two studies used academic records (Butler, 2016; Saint-Laurent et al., 1993). Six studies used staff observations and event recording (Apanasiono et al., 2020; Brock et al., 2017; Butler, 2016; Detheridge, 1997; McDonnell et.al, 2000; Taber-Doughty, 2005) and three studies used interviews or surveys (Butler, 2016; Detheridge, 1997; Saint-Laurent et al., 1993). Two studies used timed responses (Lancioni et al., 2010; Taber-Doughty, 2005). One study used self-evaluation measures (Elliott et al., 2002).

Domains Assessed

Literacy attainment emerged as the most referenced domain, with six studies including a literacy assessment (Ainsworth et al., 2016; Brock et al., 2017; Jones et al., 2019; Lane & Critchfield, 1998; McDonnell et.al, 2000; Saint-Laurent et al., 1993). Communication skills attainment was included in three studies (Brock et al., 2017; Butler, 2016; Detheridge, 1997). One study referenced assessment of developmental milestones (Saint-Laurent et al., 1993). Social skills attainment was assessed in two studies (Elliott et al., 2002; Saint-Laurent et al., 1993). Two studies referred to behavioural assessments and monitoring behavioural outcomes (Brock et al., 2017; Lancioni et al., 2010). Two studies assessed attainment of adaptive skills (Saint-Laurent et al., 1993; Taber-Doughty, 2005).

Numeracy was referenced once within the included studies (Saint-Laurent et al., 1993).

Science was referenced once within the included studies (Apanasiono et al., 2020).

Implications for Assessment Practice

Five of the included studies highlighted implications for assessment practices within their study (Butler, 2016; Detheridge, 1997; Jones et al., 2019; Lancioni et al., 2010; Taber-Doughty, 2005). Table 2 summarises the implications for practice. One study referred to the need for accommodations to be made to assessments when working with pupils with MPID (Jones et al., 2019). Three studies referred to the need for flexibility, control and choice in assessment when working with this population (Jones et al., 2019; Lancioni et al., 2010; Taber-Doughty, 2005). Three studies highlighted the current lack of appropriate attainment assessments available when working with this population (Butler, 2016; Detheridge, 1997; Jones et al., 2019). One study also highlighted the importance of having accurate measures of pupil performance in order to make more reliable and useful decisions relating to instruction and intervention (Jones et al., 2019).

Table 2:

Implications for Practice in Included Studies

Author & Year	Study Title	Implications for Practice
Ainsworth et al., 2016	• Teaching phonics to groups of middle school students with autism, intellectual disabilities and complex communication needs	• None related to assessment.
Apanasiono et al., 2020	• Teaching science to students with developmental disabilities using the early science curriculum.	• None related to assessment.
Brock et al., 2017	• Promoting learning for a student with a severe disability through paraprofessional training.	• None related to assessment.
Butler, 2016	• The effectiveness of the TEACCH approach in supporting the development of communication skills for learners with severe ID	• Suggests there is a lack of communicative and educational competency assessments for learners with severe ID which needs to be addressed by future research.
Detheridge, 1997	• Bridging the communication gap (for pupils with profound and multiple learning difficulties)	• Suggest that Information Technology can provide a means for pupils with severe to profound ID to demonstrate cognition and to engage in social interaction. Highlighted the need for an extensive framework for observation/informal checklists, covering the prerequisite areas for communication. Suggests technology could be utilised to measure certain skills.
Elliott et al., 2002	• Social skills training for adolescents with intellectual disabilities: A cautionary note	• None related to assessment.
Jones et al., 2019	• Alternate assessment formats for progress monitoring students with intellectual disabilities and below average IQ: An exploratory study	• Implications for the use of UDA principles to create accommodations for formative assessments. • Suggests a variety of formats may be necessary to determine which works best for a student and universal design for assessment through accommodation. Reliability and validity can be increased through accommodation. • More reliable instructional decisions as scores more reflective of true ability.

Author & Year	Study Title	Implications for Practice
Lancioni et al., 2010	• Two children with multiple disabilities increase adaptive object manipulation and reduce inappropriate behaviour	• Emphasizes the importance of a child controlling his/her own environment through constructive engagement and taking an active role.
Lane & Critchfield, 1998	• Classification of vowels and consonants by pupils with moderate mental retardation: Development of arbitrary relations via match-to-sample training with compound stimuli.	• None related to assessment.
McDonnell et.al, 2000	• The effects of partner learning during spelling for students with severe disabilities and their peers.	• None related to assessment.
Saint-Laurent et al., 1993	• Efficacy of three programs for elementary school students with moderate mental retardation	• None related to assessment.
Taber-Doughty, 2004	• Considering student choice when selecting instructional strategies: A comparison of three prompting systems.	• Emphasis the need to match educational and training tasks to the individual's learning level to lead to greater progress with less frustration for both the individual and the educational and habilitative training staff. • Suggests qualitative examinations of how an individual learns and responds to hierarchical tasks can be used to identify the highest learning level that might be accomplished by a cognitively impaired individual in a single session. The strategy appears to have considerable utility, face validity, and convergent validity with other independent measurers of cognitive or functional ability.

Quality Appraisal

None of the included studies were judged as being of low methodological quality. The

total quality score of all studies included ranged from 56% to 89%. Quality scores were

calculated by generating an overall quality score based on the CASP criteria and converting this

to a percentage by dividing the obtained score by the total achievable score. Once converted a

high score was defined as a score greater than 50% and a low score was defined as a score less

than or equal to 50% (Van Der Windt et al., 2000). All included studies were evaluated using the

CASP case control checklist as each was consistent with a case study design. All studies had a

clearly defined focus, and each was deemed to have used an appropriate means to address the

research question. None of the twelve studies had a control group. The majority of articles

displayed some evidence of minimising bias in their assessments, referring to inter-rater

reliability and prior training for administrators. Three articles were deemed not to have provided

sufficient evidence of minimising bias, with two articles relying on subjective measures such as

parental reports, teacher reports and self-assessment as the sole means of assessment (Butler,

2016; Elliott et al., 2002).

Most articles outlined specific inclusion criteria to detail how participants were recruited.

Four articles were deemed not to have provided sufficient detail as to the recruitment of

participants (Butler, 2016; Detheridge, 1997; Lane & Critchfield, 1998; Jones et al.,2019). Only

five of the included articles accounted for confounding variables within their data analysis/design

(Detheridge, 1997; Jones et al., 2019; McDonnell et.al, 2000; Saint-Laurent et al., 1993; Taber-

Doughty, 2004). The results of all twelve studies were deemed appropriate for generalising to the

target population. All studies, apart from one (Elliott et al., 2002), referenced their results in the

context of previous research and were consistent with the findings of other studies.

Discussion

  The measures, demographics, and key findings, from 12 published studies using attainment assessment for pupils with MPID were synthesised. The findings of this review demonstrate the complexity of defining attainment with this population as well as the lack of theoretical perspectives of attainment guiding research. This review found that unstandardised assessment was the most used assessment method. The findings of the review are discussed below in relation to the theoretical perspectives adopted, participant demographics, assessment measures used, domains assessed, implications for future practice and limitations of this review.

Theoretical Perspectives

  Of the 12 included studies, none listed the theoretical perspective of learning or attainment that was used to guide practice. This is an important finding given the complex nature of defining attainment with pupils with MPID. It should be noted that none of the listed studies were reviews of the attainment measures themselves, rather the participants responses to intervention, with measures of attainment being used for data collection. Studies that focused on evaluating attainment and attainment measures with this population were sought out when undertaking this systematic review. However, a significant lack of literature was found. Future research should address this gap by investigating the theoretical underpinnings, effectiveness and utility of attainment measures when working with pupils with MPID to inform practice.

Participant Demographics

  The synthesis of the demographics of the participants found that, across studies, research focused on the assessment of pupils with moderate or severe ID, with only three studies focused on those with profound ID. As pupils with higher IQ levels may be more amenable to traditional assessment models this may account for the lack of representation for those with profound ID. A

larger variety of comorbid conditions such as Autism and Down Syndrome were also reported within the studies. These findings reaffirm the complexity that should be considered when assessing pupils with MPID.

Measures Used

The results of this systematic review indicate that unstandardised measures of attainment are used more frequently than standardised measures when working with pupils with MPID. Unstandardised measures included interviews, observations, practitioner designed tasks and individual educational plans. These were used to measure attainment in literacy, communication, behavioural, science, social and adaptive skills. By having unstandardised measures of attainment such as these practitioners could account for some of the complexity and variety of needs represented within the population. The limitation of using unstandardised measures such as these are that scores are not comparable to a similar population.

Although used less frequently, standardised assessments were also used with pupils with MPID. Standardised measures were used to assess literacy, numeracy, adaptive skills, communication, responsivity, and developmental milestones. This review also found evidence of the use of some standardised assessments designed specifically for pupils with MPID such as the P-scales.

Domains Assessed

Across the included studies, literacy emerged as the most assessed domain. Interestingly, five of the six studies that referenced literacy attainment were based in the USA, with the majority focusing on participants with a moderate to severe ID. Studies focused on participants with profound ID, generally assessed behavioural and communication domains. Several other domains were mentioned within the studies including developmental milestones, social skills,

behavioural and adaptive skills. Numeracy and science were only listed once, indicating a lack of research and attention given to these domains. These results indicate that traditional views of attainment assessment, focusing on literacy and numeracy alone are not as applicable when working with pupils with MPID. Viewing attainment in a more holistic manner, and including the domains listed above, may be more beneficial in defining attainment when working with a population with complex needs.

Implications for Practice and Future Research

Throughout the research, the challenges of assessing attainment were heavily emphasised in the implications for practice. One common theme that emerged was the need for accommodation and flexibility when using standardised assessments with pupils with MPID. The unsuitability of standardised assessments without accommodations is supported by studies such as Yin Foo et al. (2013), who reported floor effects and a lack of population specific norms in standardised cognitive assessments when working with individuals with ID. To date, there is not sufficient research regarding the effectiveness of standardised attainment assessments for pupils with MPID. However, the qualitative reports from the included studies in this review would suggest that there are limitations. A secondary theme that emerged in this review was the need for attainment assessments designed specifically for this population, again emphasising the current lack of appropriate measures. As pupils with MPID present with complex needs, practitioners were often required to create their own forms of assessment which accounts for the greater frequency of unstandardised assessments. Although assessments such as Dynamic Assessment and Person-Centred Planning have been outlined as potential assessment measures for working with pupils with MPID in theory, these were not represented in the research literature. Future research, therefore, should focus on establishing the effectiveness of the current

measures of attainment being used with pupils with MPID and exploring additional, alternative assessment approaches for this population.

Limitations

It is important to acknowledge the limitations of the current review. Although the literature review was approached systematically, it is possible that some crucial information has been missed or rejected based on qualitative judgements. As this review used narrative synthesis it relied on subjective judgments to identify and synthesis information and lacks complete transparency (Dixon-Woods et al. 2005). Additionally, as this review is based on a limited number of studies, the implications and findings discussed should be viewed as a tentative hypothesis, with further research required. It should be noted that the included studies were not reviews of the attainment measures themselves but rather participants responses to intervention, with measures of attainment being used for data collection. This should be taken into consideration when reviewing the results of this study. Additional there is a risk of geographical bias within this review as only English language studies were included, and all studies were based in Western countries. This may impact the representativeness of the findings reported in this synthesis as theoretical conceptualisation and measures used to assess attainment may vary in different countries.

Conclusion

Through a systematic search, only a small number of studies assessing attainment in pupils with MPID was found. This contrasts with the utility of accurate attainment data for informing teaching, intervention, and placement decision-making. Unstandardised assessment measures emerged as the most used assessment measures when working with this population. This review also found a lack of reference to theoretical perspectives of attainment within the

included studies. The variety of domains assessed suggests the need for a holistic view of attainment when working with this population. This review also highlights the need for future research in attainment assessment to establish the effectiveness of current assessment measures when working with pupils with MPID. By considering attainment in a holistic sense and having access to appropriate assessment measures, teachers and psychologists could focus on more effective teaching and intervention strategies, leading to better outcomes for those with MPID.

References

Ainsworth, M. K., Evmenova, A. S., Buhrmann, M., & Jerome, M. (2016). Teaching phonics to groups of middle school students with autism, intellectual disabilities and complex communication needs. *Research in Developmental Disabilities, 56*, 165-176. https://doi.org/10.1016/j.ridd.2016.06.001

Apanasionok, M. M., Neil, J., Watkins, R. C., Grindle, C. F., & Hastings, R. P. (2020). Teaching science to students with developmental disabilities using the early science curriculum. *Support for Learning, 35*(4), 493-505. https://doi.org/10.1111/1467-9604.12329

Arends, R. I. (1998). *Resource handbook. Learning to teach* (4th ed.). McGraw-Hill.

Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and Accountability, 21*(1), 5-31. https://doi.org/10.1007/s11092-008-9068-5

Boers, E., Janssen, M. J., Minnaert, Alexander E. M. G., & Ruijssenaars, Wied A. J. J. M. (2013). The application of dynamic assessment in people communicating at a prelinguistic level: A descriptive review of the literature. *International Journal of Disability, Development, and Education, 60*(2), 119-145. https://doi.org/10.1080/1034912X.2013.786564

Brock, M. E., Seaman, R. L., & Downing, C. (2017). Promoting learning for a student with a severe disability through paraprofessional training. *Research and Practice for Persons with Severe Disabilities, 42*(4), 211-224. https://doi.org/10.1177/1540796917729682

Butler, C. (2016). The effectiveness of the TEACCH approach in supporting the development of

    communication skills for learners with severe intellectual disabilities: TEACCH. *Support*

    for Learning, 31(3), 185-201. https://doi.org/10.1111/1467-9604.12128

Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and

    standardized assessment instruments in psychology. *Psychological Assessment, 6*(4),

    284-290. https://doi.org/10.1037/1040-3590.6.4.284

Cohen, L. G. & Spenciner, L. J. (2010). *Assessment of children and youth with special needs* (4th

    ed.). Pearson Publications.

Critical Appraisal Skills Programme UK. (2013). *CASP checklists*. http://www.casp-

    uk.net/#!casp-tools-checklists/c18f8

Dasen, P. (1994). Culture and cognitive development from a Piagetian perspective. In W.J.

    Lonner & R.S. Malpass (Eds.), *Psychology and Culture* (pp. 145–149). Allyn and Bacon.

Detheridge, T. (1997). Bridging the communication gap (for pupils with profound and multiple

    learning difficulties). *British Journal of Special Education, 24*(1), 21-26.

    https://doi.org/10.1111/1467-8527.00006

Deutsch, R., & Reynolds, Y. (2000). The use of dynamic assessment by educational

    psychologists in the UK. *Educational Psychology in Practice, 16*(3), 311-331.

    https://doi.org/10.1080/713666083

Dixon-Woods, M., Agarwal, S., Jones, D., Young, B., & Sutton, A. (2005). Synthesising

    qualitative and quantitative evidence: A review of possible methods. *Journal of Health*

    Services Research & Policy, 10(1), 45-53. https://doi.org/10.1258/1355819052801804

Elliott, C., Pring, T., & Bunning, K. (2002). Social skills training for adolescents with

    intellectual disabilities: A cautionary note. *Journal of Applied Research in Intellectual*

    Disabilities, 15(1), 91-96. https://doi.org/10.1046/j.1360-2322.2001.00091.x

Ertmer, P. A., & Newby, T. J. (2013). Behaviorism, cognitivism, constructivism: Comparing

    critical features from an instructional design perspective. *Performance Improvement*

    Quarterly, 26(2), 43-71. https://doi.org/10.1002/piq.21143

Gagné, R. M. (1970). *The conditions of learning* (2nd ed.). Holt, Rinehart & Winston.

Gonzalez-DeHass, A. R., Willems, P. P., & ProQuest (Firm). (2013). *Theories in educational*

    psychology: Concise guide to meaning and practice. Rowman & Littlefield Education.

Graungaard, A. H., & Skov, L. (2007). Why do we need a diagnosis? A qualitative study of

    parent's experiences, coping and needs, when the newborn child is severely

    disabled. *Child: Care, Health & Development, 33*(3), 296-307.

    https://doi.org/10.1111/j.1365-2214.2006.00666.x

Hayward, L. (2014). Assessment for learning and the journey towards inclusion. In Lani Florian

    (Ed.), *The SAGE handbook of special education: Two volume set* (Second ed., pp. 523-

    536). SAGE. https://doi.org/10.4135/9781446282236.n33

Hepworth, D. H. (2006). *Direct social work practice: Theory and skills* (7th ed.). Thomson Brooks/Cole.

Hessl, D., Nguyen, D. V., Green, C., Chavez, A., Tassone, F., Hagerman, R. J., Senturk, D., Schneider, A., Lightbody, A., Reiss, A. L., & Hall, S. (2009). A solution to limitations of cognitive testing in children with intellectual disabilities: The case of fragile X syndrome. *Journal of Neurodevelopmental Disorders, 1*(1), 33-45. https://doi.org/10.1007/s11689-008-9001-8

Hollenweger, J. (2014). Beyond categories and labels: Knowledge to support assessment for Learning'Disability' – A problem well put? In Lani Florian (Ed.), *The SAGE handbook of special education: Two volume set* (Second ed., pp. 507-522). SAGE. https://doi.org/10.4135/9781446282236.n32

Individuals with Disabilities Education Act of 2004, P.L. 108-446.

James, M. (2006). Assessment, teaching and theories of learning. *Assessment and Learning*, *47*, 60-73.

Jones, F. G., Gifford, D., Yovanoff, P., Al Otaiba, S., Levy, D., & Allor, J. (2019). Alternate assessment formats for progress monitoring students with intellectual disabilities and below average IQ: An exploratory study. *Focus on Autism and Other Developmental Disabilities, 34*(1), 41-51. https://doi.org/10.1177/1088357618762749

Kolb, A. Y., & Kolb, D. A. (2009). The learning way: Meta-cognitive aspects of experiential learning. *Simulation & Gaming, 40*(3), 297-327. https://doi.org/10.1177/1046878108325713

Kolb, D. A. (1976). *The learning style Inventory: Technical manual*. McBer & Company.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.

Kraiger, K., Ford, J. K., & Salas, E. (1993). Application of cognitive, skill-based, and affective theories of learning outcomes to new methods of training evaluation. *Journal of Applied Psychology, 78*(2), 311-328. https://doi.org/10.1037/0021-9010.78.2.311

Kyriazopoulou, M. & Weber, H. (2009). *Development of a set of indicators for inclusive education in Europe*. European Agency for the Development of Special Needs Education. https://www.european-agency.org/sites/default/files/development-of-a-set-of-indicators-for-inclusive-education-in-europe_Indicators-EN-with-cover.pdf

Lancioni, G. E., O'Reilly, M. F., Singh, N. N., Sigafoos, J., Didden, H. C. M., Oliva, D., & Campodonico, F. (2010). Two children with multiple disabilities increase adaptive object manipulation and reduce inappropriate behavior via a technology-assisted program. *Journal of Visual Impairment & Blindness, 104*(11), 714-719. https://doi.org/10.1177/0145482X1010401107

Lane, S. D., & Critchfield, T. S. (1998). Classification of vowels and consonants by individuals with moderate mental retardation: Development of arbitrary relations via match-to-sample training with compound stimuli. *Journal of Applied Behavior Analysis, 31*(1), 21-41. https://doi.org/10.1901/jaba.1998.31-21

McDonnell, J., Thorson, N., Allen, C., & Mathot-Buckner, C. (2000). The effects of partner learning during spelling for students with severe disabilities and their peers. *Journal of Behavioral Education, 10*(2/3), 107-121. https://doi.org/10.1023/A:1016684029389

McLaughlin, K., & Cascella, P. W. (2008). Eliciting a distal gesture via dynamic assessment among students with moderate to severe intellectual disability. *Communication Disorders Quarterly, 29*(2), 75-81. https://doi.org/10.1177/1525740107311821

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., PRISMA Group, & and the PRISMA Group. (2009). Reprint—Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Physical Therapy, 89*(9), 873-880. https://doi.org/10.1093/ptj/89.9.873

No Child Left Behind Act of 2001, P.L. 107-110.

Piaget, J. (1936). *Origins of intelligence in the child.* Routledge & Kegan Paul.

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K., & Duffy, S. (2006). *Guidance on the conduct of narrative synthesis in systematic reviews: A product from the ESRC methods programme* (Vol. 1). Lancaster University. https://doi.org/10.13140/2.1.1018.4643

Reid, D. H., Everson, J. M., & Green, C. W. (1999). a systematic evaluation of preferences identified through person-centered planning for people with profound multiple disabilities. *Journal of Applied Behavior Analysis, 32*(4), 467-477. https://doi.org/10.1901/jaba.1999.32-467

Saint-Laurent, L., Fournier, A., & Lessard, J. (1993). Efficacy of three programs for elementary school students with moderate mental retardation. *Education and Training in Mental Retardation, 28*(4), 333-348.

Skinner, B. F. (1971). *Beyond freedom and dignity*. Knopf.

Snilstveit, B., Oliver, S., & Vojtkova, M. (2012). Narrative approaches to systematic review and synthesis of evidence for international development policy and practice. *Journal of Development Effectiveness, 4*(3), 409-429. https://doi.org/10.1080/19439342.2012.710641

Taber-Doughty, T. (2005). Considering student choice when selecting instructional strategies: A comparison of three prompting systems. *Research in Developmental Disabilities, 26*(5), 411-432. https://doi.org/10.1016/j.ridd.2004.07.006

Tak, I., Engelaar, L., Gouttebarge, V., Barendrecht, M., Van den Heuvel, S., Kerkhoffs, G., Langhout, R., Stubbe, J., & Weir, A. (2017). Is lower hip range of motion a risk factor for groin pain in athletes? A systematic review with clinical applications. *British Journal of Sports Medicine, 51*(22), 1611-1621. https://doi.org/10.1136/bjsports-2016-096619

Van der Windt, Daniëlle A W M, Thomas, E., Pope, D. P., de Winter, A. F., Macfarlane, G. J., Bouter, L. M., & Silman, A. J. (2000). Occupational risk factors for shoulder pain: A systematic review. *Occupational and Environmental Medicine, 57*(7), 433-442. https://doi.org/10.1136/oem.57.7.433

Vygotsky, L. S., & Cole, M. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

WAG (2006). *Routes for learning – Assessment materials for learners with profound learning difficulties and additional disabilities.* https://hwb.gov.wales/curriculum-for-wales/routes-for-learning

Ware, J. & Donnelly, V. (2004). Assessment for learning for pupils with PMLD: The ACCAC insight project. *PMLD Link, 16*(3), 12–17.

Yin Foo, R., Guppy, M., & Johnston, L. M. (2013). Intelligence assessments for children with cerebral palsy: A systematic review. *Developmental Medicine and Child Neurology, 55*(10), 911-918. https://doi.org/10.1111/dmcn.12157

Chapter 3: Empirical Study Methodology

Chapter Overview

Educational attainment can be viewed as the overarching goal of education. In relation to pupils with moderate to profound intellectual disabilities (MPID), there has been a dearth of research and literature exploring the concept of attainment as well as assessment measures used to assess attainment. The current empirical study aimed to explore the conceptualisation of attainment and measures used to assess attainment in relation to pupils with MPID from the perspectives of parents and school staff (i.e., teachers and special needs assistants). Positioned within a qualitative paradigm and informed by an interpretivist epistemology, the current research adopted an exploratory case study research design. Individual semi-structured interviews were conducted, and the data was analysed using inductive, reflexive thematic analysis (TA). This chapter provides an overview of the methodology used in this empirical study as well as descriptions of the timeline, ethical considerations, and limitations.

Research Questions

The current study aimed to identify how attainment was both conceptualised and assessed in relation to pupils with MPID. It also aimed to identify the main facilitators and barriers to attainment assessment in a special school context. The specific research questions in the current study were:

1. How do parents and school staff conceptualise attainment for pupils with MPID?

2. What assessment processes and measures are used when assessing attainment and how is the data used?

3. What are the facilitators and barriers to the assessment of attainment for pupils with MPID?

Epistemological Underpinnings

Informed by a collective idealism ontology, educational attainment is viewed as a societal constructed phenomenon with the meaning of learning being influenced by personal, cultural, political, and societal values. Based on this viewpoint, an interpretivist inquiry was deemed the most appropriate epistemology. Interpretivism asserts that knowledge is produced by understanding and interpreting the meaning of participants' experiences in relation to a social phenomenon (Orlikowski & Baroudi, 1991). The aim of interpretivist research is to interpret meaning rather than inform cause and effect relationships (Neuman, 2011). Interpretivism also stipulates that objective, value-free research is not possible, and the researcher's personal values and beliefs will influence the interpretation of the data.

A constructionist framework was considered for this study as it supports many of the same epistemological perspectives. Constructionists assert that knowledge is not gathered solely through an individual's experiences but also involves the co-creation of knowledge through interactions (Jha, 2012). To embody a constructionist framework, participants' conceptualisations of attainment would be collected, and overarching categories based on these responses created. These categories would be relayed to the participants, thus encouraging further exploration and discussion (Lee, 2012). In the current study, due to time constraints, this was not considered a viable option.

Research Design

Research Paradigm and Study Design

Based on the epistemological position adopted, it was important that the paradigm selected would allow for the researcher to gain an in-depth understanding of participants' subjective perspectives and experiences (Howitt, 2019). A qualitative paradigm was selected as

the most appropriate. This orientation aims to understand phenomena through the meanings people bring to phenomena in their natural settings (Denzin & Lincoln, 2018). Reflexivity and the active role of the researcher are considered central to the research process within qualitative research (Braun & Clarke, 2013). Based on this paradigm, an exploratory case study research design was chosen as it allows for a holistic, in-depth investigative and reflexive approach to research within a real-world context (Yin, 2014).

Within case study designs, a case can be defined as occurring within a specified social or physical setting (Miles et al., 2014). The case in the current study is a special school in Ireland. Although selected as the most appropriate design for the current study, there are limitations to using this approach. There is a risk within case study research that the researcher may frame data based on their personal biases (Patton et al., 1983). The findings of case study research cannot be generalised to wider populations with the same degree of certainty as quantitative analyses. In the current study a small sample was recruited which further impacts the degree to which the findings can be generalised to wider populations (Ochieng, 2009).

Participants and Procedures

The current case study was conducted in a special school which is part of the Children's School Lives (CSL) study. CSL is a longitudinal cohort study of primary schooling in Ireland, which is being conducted by the School of Education, University College Dublin (UCD) in affiliation with the National Council for Curriculum and Assessment (NCCA). The case study special school provides co-educational schooling for pupils between the ages of 5 and 18 years, who have been assessed as having a moderate to profound intellectual disability (MPID). A high proportion of enrolled pupils have additional needs, including physical disabilities, genetic conditions and/or Autism. There are less than 100 pupils attending the school, with

approximately half of the pupils aged 12 years and over. There are three class types in the

school: Autism and MPID, Mixed Moderate, and Severe and Profound classes. The guidelines

for class size and number of special needs assistants (SNAs) vary depending on the profile of

pupils and each class has a class teacher. There are currently no clinicians providing on-site

therapeutic support. The primary curriculum offered by the school is guided by the 'Curriculum

Guidelines for Teachers of Children with General Learning Disabilities' (NCCA, 2007).

Sampling Considerations

Convenience sampling was utilised when selecting a school for this study (Stratton,

2021). The school selected is part of the CSL project and was selected as it is a specialised

setting for pupils with MPID. Within the school community, purposive sampling was used to

recruit both school staff and parents. Specific inclusion and exclusion criteria were used in

selection. Participants considered eligible for this study included school staff and parents who

worked with pupils who had been assessed as having a MPID, were aged between 7 and 12 years

old and had been enrolled in the school for more than one academic year. Those excluded from

the study were parents of pupils less than 7 years of age or above the age of 12. Parents of pupils

less than 7 were excluded due to the likely impact the Covid-19 school closures had on their

experience of assessment to date. Parents of pupils over the age of 12 were excluded as only

primary school pupils were accessible through the CSL project.

When selecting the size of each sample, the size and availability of each participant group

was considered. Twenty-five staff members (six class teachers and 19 SNAs) were identified as

working with pupils who met the inclusion criteria. All class teachers and SNAs were invited to

take part in the research. All teachers who wished to participate were included. As there were

approximately 19 SNAs, it was decided that two SNAs from each of the three class types would

be selected at random should over six SNAs wish to participate. All parents of pupils who met

the inclusion criteria were invited to participate in the research, with a sample of six to be

included. It was decided that two parents from each of the three class types would be selected at

random should over six parents wish to participate. A sample size of between 15 and 30 is

common in thematic research which aims to identify patterns across data (Braun & Clarke, 2013)

and therefore, a sample size of 18 was deemed appropriate.

Recruitment Strategy

On receipt of ethical approval, the school principal was contacted to confirm the school's

participation and to outline the recruitment process. Participants were given an information letter

(Appendices C and D) and consent form (Appendices E and F) by the school administrator,

which outlined the purpose, process, and potential outcomes of participating in the research.

Participants returned signed consent forms to a sealed box in the school office or directly to the

researcher. The researcher contacted the participants to schedule a convenient time for their

individual interviews to take place. An initial recruitment phase was completed in October 2021,

where five teachers, two SNAs and one parent consented to participate. A second recruitment

phase was completed in November 2021. Two additional parents consented to participate in the

study at this time. However only one parent responded to requests made to arrange an interview.

The final sample (n=9) was therefore smaller than had been identified in the planning phase of

the study.

Participants

Seven members of school staff were included in the study, five teachers and two Special

Needs Assistants. The five teachers represented 83% of those invited to participate. The two

SNA participants represented 11% of those invited to participate. All participants were female

and had an average of 19 years 2 months experience working in a special school (SD = 12.4). Six

staff members worked in classes with pupils with moderate to severe ID and one staff member

worked in a class with pupils with severe to profound ID. Two parents (one mother and one

father) of pupils with a moderate to severe ID volunteered to participate. The two parent

participants represented approximately 3% of those invited to participate. Parental participants

ranged in age from 35– 40. Demographic and diagnostic information in relation to these pupils

are outlined in Table 3. Due to the small participant group, more specific demographic details

have been excluded to protect participants' anonymity.

Table 3:

Summary of Participant Information

Participants	Profile of pupils	Number of participants
Teaching staff	Moderate to Severe	4
	Severe to Profound	1
Special Needs Assistants	Moderate to Severe	2
Parents	Moderate to Severe	2

Data Collection Methods

Individual semi-structured interviews were used to collect data. Each participant was

offered an interview through the virtual platform, Zoom, or via telephone call. All participants

selected interviews via telephone call. Interviews ranged in duration from 22 to 62 minutes

(mean time = 40 minutes). Interviews were audio-recorded using a digital voice recorder and

transcribed verbatim to facilitate analysis.

Semi-structured interviews were chosen for this research to allow for a contextualised

insight into participants' experiences regarding attainment. A flexible and fluid approach to

interviewing was adopted, where the interviews were guided by open-ended questions structured

around a set of topics (Glesne, 2016). The wording and order of questions were considered

contextual and responsive to the participants' responses (Braun & Clarke, 2013), allowing the interviewer to engage in active listening and probe areas of interest which emerged during the interviews.

Two interview schedules (for school staff and parents) were devised (see Appendices G and H). The interview schedule for school staff consisted of 10 over-arching questions with 33 additional prompts. Over-arching questions were divided into four categories. These categories related to personal opinions towards attainment, assessment measures and process, classroom practice and whole-school approach to assessment. These included questions such as 'What does the term attainment mean for you?' 'What are the curricular domains most frequently assessed in your classroom?', 'How is assessment data used to inform curricular/teaching decisions?' and 'Does the school use national guidelines to plan and provide support for assessment?' Prompts were used in a reflexive and flexible manner, when the researcher felt additional information was required.

The parental interview schedule consisted of 10 over-arching questions with eight additional prompts. Over-arching questions were divided into categories related to the pupil demographics, personal opinions of attainment and assessment practices and communication with the school. These included questions such as 'What are your child's main strengths?', 'How important do you think assessment is as part of your child's education?' and 'How is your child's progress in school communicated to you?' The use of prompts was flexible and reflexive.

Data Management

Interviews were audio-recorded using an Olympus WS-852 digital voice recorder. As soon as was practicable, and no longer than four weeks following the interviews, the audio data was transferred from the digital voice recorder to an encrypted, password-protected computer.

Audio data stored on the digital voice recorder was deleted. Audio files were transcribed verbatim using Microsoft Word. All potentially identifying information was excluded during transcription, with each participant being assigned an ID number. The de-identified transcripts were stored as encrypted files on a secure password-protected, encrypted laptop. The transcripts were uploaded to MAXQDA, a computer programme designed for computer assisted qualitative and mixed methods analysis. This programme enabled the researcher to develop an in-depth understanding of the data while reflexively engaging in thematic analysis. The electronic data from this analysis was stored on the researcher's encrypted, password-protected computer.

Timeline

Staff members and parents were recruited to participate in the study in October 2021. Interviews were conducted with all participants from November to December 2021. See Table 4 for a summary of the research timeline.

Table 4:

Timeline of research process

	Recruitment of participants	Data collection through semi-structured interviews	Data analysis
Date	18th October – 9th November 2021	11th November – 16th December 2021	4th January – 28th February 2022

Analysis Strategy

Interview transcripts were analysed using the reflexive thematic analysis (TA) framework proposed by Braun and Clarke (2006). TA is the process of identifying, anaylsing, describing and reporting on patterns within qualitative methodologies (Braun & Clarke, 2006). Reflexive TA was chosen as it is situated within a qualitative paradigm and emphasises a flexible,

systematic approach to coding and theme development (Braun et al., 2019). TA also emphasises the active role of the researcher in the analysis process and is consistent with the interpretivist epistemology adopted (Clarke & Braun, 2014). The six-phase analytic process outlined by Braun and Clarke (2013) was followed, involving a recursive and iterative approach to data analysis.

The audio-recorded interviews were transcribed verbatim and uploaded to MAXQDA software. The researcher familiarised herself with the data and recorded preliminary observations as she listened to the audio recordings and read through the transcripts. Based on preliminary observations, codes were generated. Preliminary labels were assigned to segments of the dataset, with data organised into meaning patterns based on the research questions (Terry et al., 2017). For the current study an inductive, reflexive and data-driven approach to coding was used where labels aimed to represent the meanings in the data as closely as possible (Clarke et al., 2015) as this was in-line with the interpretivist epistemology adopted.

Using the coded data, initial themes were constructed guided by the research questions and through the researcher's active engagement with the data. Constructed themes were conceptualised as patterns of meaning anchored by an overarching concept (Braun & Clarke, 2021). Thematic maps were used to visually explore the relationships between themes and subthemes (Braun & Clarke, 2013). Themes were then refined and finalised, with the coded data for each theme compiled and reviewed to ensure that the data related to a central organising concept. These initial themes were then trialled in relation to the full dataset and research questions (Braun et al., 2019).

Themes were subsequently defined and named. Clear definitions were written for the themes, summarising the core idea, and meaning of each theme (Terry et al., 2017). Subthemes were then developed, with each subtheme describing a distinct aspect of a theme, while sharing

the same overarching idea. Finally, data extracts were selected to provide clear and compelling evidence to support analytic claims and illustrate the themes and subthemes (Clarke & Braun, 2014).

Validity

Although Braun and Clarke (2022) posit that validity and reliability are not intrinsic elements of thematic analysis, several steps were taken to ensure credibility and trustworthiness of these findings. A reflexive research journal was kept to record reflections, observations, and supervision notes. Prior to data collection, the interview schedules were piloted by the research supervisor, a parent and teacher from different special schools as well as two educational psychologists. To ensure accuracy in transcription, a second independent researcher reviewed 15% of the audio recordings. Triangulation, which refers to a method of enriching understanding of a phenomenon by viewing it from different perspectives (Flick, 1992), was achieved by gathering data from different groups (i.e., teachers, SNAs and parents).

Burnham's (2018) Social Graces Framework helped the researcher to understand how factors of her identity could potentially influence her practice (e.g., gender, race, age, class, education, teacher identity). Methodological coherence, which is iteratively discussing questions, method, and data to ensure alignment with the thematic analysis approach was also utilised (Morse et al., 2002). Measures of inter-rater reliability were taken throughout the data analysis process. All initial coding was completed by the primary researcher, working in partnership with her supervisor. The reliability of the codes was measured using an inter-rater coding procedure, where the research supervisor was provided with a random sample of blinded references with assigned code names removed. The supervisor assigned each reference an inductive theme, with

no knowledge of their previous assignment. The number of references coded into the same themes by each researcher was taken as the measure of inter-rater coder reliability.

Supervision meetings where the interview transcripts, codes, and themes were discussed, helped the researcher to critically reflect on the dataset and enriched the analysis process. A checklist of criteria for conducting TA, guidelines for evaluating manuscripts, and published criteria to enhance the validity of qualitative research were used to reflect on the quality and rigour of the reflexive TA (Braun et al., 2019).

Limitations

A significant limitation of the current study was that the perspectives of pupils with MPID were not included. Consideration was given to the inclusion of pupils. However, it was deemed that having a MPID as well as additional comorbid diagnoses could potentially compromise a pupil's ability to provide fully informed assent and to engage in the research. Similar ethical and methodological challenges have been reported within the literature when gathering the views of pupils with complex learning and communication needs (Harding, 2017). It is also acknowledged that this is a proxy study and, therefore, the perspectives of the participants recruited from this special school may not be reflective of the overall population.

An additional limitation was that the perspective of psychologists working with pupils with MPID were not included. As the case study school is situated in a county which has undergone Progressing Disabilities, the amalgamation of services for pupils with additional needs, the researcher experienced difficulty receiving ethical approval. Advice regarding the inclusion of psychologists working with the HSE was sought. However no satisfactory answer regarding ethical approval was received within the timeframe of this study. Similarly, ethical approval for psychologists working with Enable Ireland was sought. A stipulation for Enable

Ireland's ethical approval measures was the appointment of a local gatekeeper who could provide access to participants. The county in which the study was being conducted did not have management to act as gatekeeper and therefore this requirement could not be met. Despite these limitations, this research provides a contextualised and rich insight into parental and staff views regarding educational attainment for pupils with MPID and is the first of its kind in Ireland.

Ethical Assurances

Ethical approval for the current study was granted by the Human Research Ethics Committee, University College Dublin (See Appendix I). The current study was conducted in accordance with the ethical guidelines outlined by the Psychological Society of Ireland (2010). Ethical dilemmas which were considered before the data collection process commenced included the possibility of participants becoming upset during the interviews, the potential power imbalance between the researcher and participants, the position of the researcher having previously worked in the school and the disclosure of questionable practice.

In the event of participants becoming upset during the interview, it was decided that the interview would be stopped. Following each interview, participants were emailed a debriefing letter (Appendices J and K), which signposted them to support services should they feel upset after the interview and included the contact details of the researcher and research supervisor. Confidentiality was explained to each participant before their interview. An ID code was assigned to each participant. Only the researcher and research supervisor had access to a document linking these ID codes to the identity of the participants. This document was stored as an encrypted file on a secure password protected device and deleted two weeks following transcription. After each interview, audio data was transferred from the digital voice recorder to an encrypted, password-protected computer. The audio data on the digital voice recorder was

then deleted. To protect participants' anonymity, any potentially identifying information was omitted during transcription. Participants were offered a copy of their interview transcript. Transcripts were not included in the thesis to protect participant identity.

As the principal researcher is a trainee educational psychologist, participants who had previously worked with a psychologist, may have seen the researcher in the role of 'expert' and the participants in the role as 'client'. In order to mitigate this risk, the principal researcher established a rapport with each participant and explained that the research focused on exploring their unique experiences. Consideration was given to the principal researcher's position having previously worked as a teacher in a special school. Although not all participants involved were known to the researcher, the 6 who were may have felt obliged to participate in the study as they had a pre-existing relationship. To mitigate this risk the participants were recruited through the school secretary, who distributed the information and consent sheets to staff and parents. The voluntary nature of participation and right to withdraw were stressed in these documents.

An additional risk posed was the possibility that following a review of the school's assessment practices, it could be concluded that these were not satisfactory. If this had occurred, the principal researcher would have arranged a meeting with the school principal to discuss the findings of the research. They would have provided the school principal with the relevant Department of Education and Skills (DES) policies and encouraged them to contact the Irish Primary Principals' Network (IPPN), National Council for Curriculum and Assessment and NCSE Primary Curriculum Advisor.

Summary

The objectives of this research were to explore the parental and school conceptualisation of attainment and identify measures used to assess attainment of pupils with MPID. This

research was informed by an interpretivist epistemology, positioned within a qualitative paradigm and adopted a case study design. Individual semi-structured interviews were conducted remotely with five teachers, two SNAs, and two parents between November and December 2021. Inductive, reflexive thematic analysis was used to analyse the data. Several steps were taken to ensure that the study was rigorous and robust, including following criteria and guidelines for qualitative research and documenting all stages of the research journey. The findings of this empirical study will be outlined in the following chapter.

References

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. SAGE.

Braun, V., & Clarke, V. (2021). Conceptual and design thinking for thematic analysis. *Qualitative Psychology (Washington, D.C.), 9*(1), 3-26. https://doi.org/10.1037/qup0000196

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE.

Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2019). Thematic Analysis. In P. Liamputtong (Ed.), *Handbook of research methods in health social sciences* (pp. 843-860). Springer Singapore. https://doi.org/10.1007/978-981-10-5251-4_103

Burnham, J. (2018). Relational reflexivity: A tool for socially constructing therapeutic relationships. *The space between: Experience, context, and process in the therapeutic relationship*. Routledge.

Clarke, V., & Braun, V. (2014). Thematic Analysis. In Teo, T. (Ed*.), Encyclopedia of critical psychology* (pp. 1947-1952). Springer New York. https://doi.org/10.1007/978-1-4614-5583-7_3113

Clarke, V., Braun, V., & Hayfield, N. (2015). Thematic Analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (pp. 222-248.). Sage.

Denzin, N. K., & Lincoln, Y. S. (2018). *The SAGE handbook of qualitative research* (5th ed.). Sage.

Flick, U. (1992). Triangulation revisited: Strategy of validation or alternative? *Journal for the Theory of Social Behaviour*, *22*(2), 175-197. https://doi.org/10.1111/j.1468-5914.1992.tb00215.x

Glesne, C. (2016). *Becoming qualitative researchers: An introduction*. ERIC.

Harding, E. (2017). Obtaining the views of children with profound and multiple learning difficulties. In J. Hardy & C. Hobbs (Eds.), *Using qualitative research to hear the voice of children and young people: The work of British educational psychologists* (pp. 105-111). The British Psychological Society.

Howitt, D. (2019). *Introduction to qualitative research methods in psychology: Putting theory into practice* (4th ed.). Pearson.

Jha, A. K. (2012). Epistemological and pedagogical concerns of constructionism: Relating to the educational practices. *Creative Education*, *3*(2), 171 - 178.

Lee, C. G. (2012). Reconsidering constructivism in qualitative research. *Educational Philosophy and Theory, 44*(4), 403-412. https://doi.org/10.1111/j.1469-5812.2010.00720.x

Miles, M. B., Huberman, A. M., & Saldanã, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE.

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods, 1*(2), 13-22. https://doi.org/10.1177/160940690200100202

National Council for Curriculum and Assessment (NCCA) (2007). *Curriculum guidelines for teachers of pupils with general learning disabilities.* https://ncca.ie/media/2509/sen_introduction.pdf

Neuman, W. L. (2011). *Social research methods: Qualitative and quantitative approaches* (7th, International ed.). Pearson.

Ochieng, P. A. (2009). An analysis of the strengths and limitation of qualitative and quantitative research paradigms. *Problems of Education in the 21st Century, 13*, 13-21.

Orlikowski, W. J., & Baroudi, J. J. (1991). Studying information technology in organizations: Research approaches and assumptions. *Information Systems Research, 2*(1), 1-28. https://doi.org/10.1287/isre.2.1.1

Patton, M. Q., Guba, E. G., & Lincoln, Y. S. (1983). Effective evaluation: Improving the usefulness of evaluation results through responsive and naturalistic approaches. *The Journal of Higher Education (Columbus), 54*(3), 339-345. https://doi.org/10.2307/1981810

Stratton, S. J. (2021). Population research: Convenience sampling strategies. *Prehospital and Disaster Medicine, 36*(4), 373-374. https://doi.org/10.1017/S1049023X21000649

Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic Analysis. In W. R. C. Willig

    (Ed.), *The SAGE handbook of qualitative research in psychology* (pp. 17-36). Sage.

    https://doi.org/https://dx.doi.org/10.4135/9781526405555.n2

The Psychological Society of Ireland. (2010). *Code of professional ethics*. PSI.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). SAGE.

Chapter 4: Empirical Journal Article

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Abstract

Educational attainment is regarded as one of the overarching goals of education. However, there is currently no universally accepted conceptualisation of attainment in relation to children with moderate to profound intellectual disabilities. Using Bronfenbrenner's Process-Person-Context-Time (PPCT) Bioecological Model as a broad framework, the current qualitative study aimed to gain an insight into parental and school conceptualisations of attainment as well as the measures used to assess attainment in a special school context. Semi-structured interviews were conducted with seven school staff members and two parents. The results were analysed using a six-step thematic analysis framework which identified key considerations for the conceptualisation of attainment and use of assessment measures in a special school context. These offer valuable recommendations for psychoeducational practice when planning, goal setting and assessing attainment with this population.

Keywords

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Educational attainment plays an important role in evaluating and planning for teaching and learning. Within the literature there is a notable lack of research into both the conceptualisation and assessment of attainment for pupils with moderate to profound intellectual disabilities (MPID). Within the Irish context, pupils with additional needs can access education within a mainstream class, special class or special school setting (NCCA, 2011). Special schools provide education for pupils with significant educational needs and are designated as primary schools, with this designation applying to pupils aged from 5 to 18 years old. In recent years, provision has been made for a post-primary curriculum in special schools, with the introduction of the Learning Programmes at Levels 1 and 2 (NCCA, 2019). Given this distinction, the current study will focus on the conceptualisation and assessment of attainment for pupils with MPID attending a special school, aged between 7 and 12 years old and accessing the primary curriculum. Such contributions to the knowledge base are critical to inform effective teaching, learning and assessment for pupils with MPID.

Definition of Intellectual Disability

Within the DSM-V, intellectual disability (ID) is defined as a neurodevelopmental disorder which involves deficits in both intellectual and adaptive functioning and is evident during the early developmental period (American Psychiatric Association, 2013). A diagnosis of ID is determined by the level of intellectual impairment and support required in adaptive skills, with severity defined using the categories of 'mild', 'moderate', 'severe' and 'profound'. In the ICD-11 (WHO, 2019), ID is referred to as Disorders of Intellectual Development (DID). Within

the current article, ID is conceptualised using the DSM-5 criteria as this is the one most utilised in the Irish context. It is estimated that the prevalence of ID is 1% of the global population (Maulik et al., 2011). Comorbid conditions commonly include ADHD, epilepsy, Autism and motor impairments (Buckley et al., 2020). As this population encompasses a vast heterogenous group, pupils may present with a wide variation in functioning, which adds further complexity to the assessment process (Ware & Donnelly, 2004).

Educational Provision for Pupils with Intellectual Disabilities

As outlined in the Rights of Persons with Disabilities (United Nations, 2006), all children are entitled to education, regardless of disability. While in the Irish context there has been an increase in the number of pupils with ID attending mainstream classes (McConkey et al., 2016), a high proportion of pupils with MPID attend either a special class in a mainstream school or a special school. Specialised curricula are available for teachers of pupils with MPID, aged 5 to 12 years, including 'The Guidelines for Teachers of Students with Moderate General Learning Disabilities' and 'The Guidelines for Teachers of Students with Severe and Profound General Learning Disabilities' (NCCA, 2007). These cover Mathematics, Communication and Language, Geography, History, Science, Music, Physical Education, Drama, Art, and Social, Personal and Health Education. They contain objectives that are grouped into three phases of skills development. Provision has also been made for pupils with significant learning difficulties in the 'Primary Language Curriculum' (NCCA, 2021), which includes language milestones for all primary school pupils. Unlike mainstream curricula, only one curriculum is available for each subject within special school contexts, covering the entirety of a pupil's primary school education in one document.

Conceptualisation of Attainment

Attainment can be conceptualised in terms of an 'input-process-outcome' model of effectiveness (Kyriazopoulou & Weber, 2009). Within this model, educational inputs refer to financial and educational resources, process refers to teaching and outputs refer to outcomes such as pupil attainment. What is considered attainment can also depend on the theory of learning applied. For example, where a behaviourist perspective of learning is applied, attainment can be defined as an observable behavioural change in response to intervention (James, 2006). Conversely, within a constructivist perspective of learning, attainment is defined where a learner actively creates knowledge through interaction with prior knowledge and experience (Arends, 1998). Historically there has been a tendency to focus on a psychometric approach to attainment (McIntyre & Brown, 1978). Differences in conceptualisation play an important role in assessment of attainment as methodologies may differ based on the conceptualisation of the assessor. For pupils with MPID, research has predominantly focused on assessment for diagnosis of ID or evaluating response to a specific intervention (Shogren et al, 2018).

Use of Attainment Data

When considering the role of attainment data, it is important to consider international, national and classroom uses (OECD, 2009). At an international level, attainment data is used as a means of comparison when evaluating educational systems, which can in turn inform policies, practice and research (OECD, 2009). International studies such as PISA (OECD, 2009) do not include attainment data for pupils with MPID, highlighting the perceived value placed on attainment for this population. At a national level, attainment data is influenced by national policy and guidance and has been influenced by legislation such as the Education Act (Government of Ireland, 1998), Education for Persons with Special Educational Needs Act

(2004) and Equality of Status Acts (2000). These acts require schools to regularly evaluate pupil performance, including those with MPID, and periodically report the results to pupils and their parents.

The NCCA (2009) document 'Assessment in the Primary School Curriculum: Guidelines for School' outlines the assessment obligations of primary schools in relation to attainment. Primary schools are required to have an assessment policy and to administer and record standardised literacy and numeracy assessments at the end of first /beginning of second class and at the end of fourth/beginning of fifth class. However, there is no such requirement for special schools and therefore no national standards for pupils aged 5 to 12 years in special education settings are recorded. When considering attainment at classroom level, the Irish Primary School Curriculum emphasises the role of assessment in enabling the teacher to extend and enrich children's learning (Department of Education, 1999). Within the 'Guidelines for Teachers of Students with General Learning Disabilities' (NCCA, 2007), assessment of attainment is described as important in providing a summary of achievement and facilitating planning for future learning.

Measures of Attainment

When considering attainment for pupils with MPID, limited availability of appropriate measures and inconsistencies in what is considered the goal of education is frequently cited within the literature (Vlaskamp, 2005). Research in this area has predominantly focused on measures used to diagnose ID, with the challenges of standardised, diagnostic testing being well documented. Standardised measures of attainment apply an overly narrow definition of progress, are unable to detect subtle changes in progression and regression of skills and do not allow for alternative and diverse paths of development (Van Walwyk, 2011). Qualitative means of assessment such as Dynamic Assessment (DA) and Person-Centred Planning (PCP) are

referenced within the literature to overcome some of the above-mentioned challenges. DA can be defined as the assessment of thinking, perception, learning, and problem-solving potential through an active teaching process, aimed at modifying cognitive functioning (Tzuriel, 2001). PCP incorporates a collaborative, flexible and responsive approach to assessing progress, strengths, and needs in partnership with the person, their family and those working with them (Robertson et al., 2007). It is notable that teacher-led, classroom-based DA and PCP is not prominent within the literature.

Adapted attainment measures within the UK education system include the Engagement model and pre-key stage standards which were developed as summative measures of progress for pupils whose attainment levels could not be recorded through national curriculum scales (STA, 2021). Within the Irish context, The Curriculum Access Tool for Students with General Learning Disability (CAT-GLD) is a framework to assist teachers in assessing attainment and planning learning goals, based on the curriculum (NCSE, n.d.). This tool includes a skills checklist related to curricular objectives in Mathematics, Social, Personal and Health Education and Physical Education. This tool was developed to accommodate pupils with a mild to profound ID and measures attainment using a skills hierarchy.

A review of educational engagement, progress and outcomes for pupils with SEN in Irish mainstream and special schools was conducted by the NCSE in 2012. The findings highlighted the need for an inclusive assessment framework, accessible and appropriate assessment measures, an inclusive pupil database and the inclusion of attainment data for all at a national level. It also highlighted the need to provide schools with minimum standards of assessment to ensure uniformity of approach and equity of provision. While the review provided a valuable contribution to understanding and reviewing assessment for pupils with SEN, it should be noted

that a broad definition of SEN was incorporated, with many distinct and specific SEN groups being represented as one. Therefore, it did not account for the nuances in progress outcomes for children with varying additional needs (Parsons et al, 2009).

Conceptual Framework of Attainment

Attainment for pupils with MPID is complex and involves many factors such as differences in conceptualisation, national policy, and variations in pupil presentation. In order to account for this complexity, Bronfenbrenner's Process-Person-Context-Time (PPCT) Bioecological Model was adopted as a conceptual framework for the current study and used when devising the interview schedules. This bioecological model is based on the concept of systems and interacting subsystems (Hepworth et al., 2002), with interactions defined through four overarching concepts: Process, Person, Context and Time. In the current study Process refers to the assessment process including the interactions between the assessor and pupil, the assessment measures and sharing of assessment data. Person refers to the school staff/parents of a pupil with MPID and their beliefs regarding attainment. Context is divided into four levels, the microsystem referring to the classroom, the mesosystem to the school, the exosystem referring to the interaction between home, school and additional support services and the macrosystem referring to the influence of national policy and guidance. Time is divided into three levels with micro-time referring to the time taken to complete an assessment, meso-time referring to the consistency and frequency of assessment and macro-time referring to the impact of more universal events such as the Covid-19 pandemic.

The Current Study

The dearth of research relating to the conceptualisation and assessment of attainment for pupils with MPID may impact on the teaching, learning and assessment for this population.

Using Bronfenbrenner's PPCT model to facilitate a holistic view of attainment, the current study aimed to explore the concept of attainment and use of assessment measures from the perspectives of parents and school staff (i.e., teachers and special needs assistants) of pupils with MPID by answering the following research questions:

1. How do parents and school staff conceptualise attainment for pupils with MPID?

2. What assessment processes and measures are used when assessing attainment and how is the data used?

3. What are the facilitators and barriers to the assessment of attainment for pupils with MPID?

Methods

Participants

Positioned within a qualitative paradigm and informed by an interpretivist epistemological perspective, the current study adopted an exploratory case study research design. Convenience sampling was utilised for this study (Stratton, 2021), with the selected school catering for pupils with MPID. This research was conducted in a special school which was part of the Children's School Lives (CSL) study. CSL is a longitudinal cohort study of primary schooling in Ireland, which is being conducted by the School of Education, University College Dublin (UCD) in affiliation with the National Council for Curriculum and Assessment (NCCA). Ethical approval for the current study was granted by the Human Research Ethics Committee, University College Dublin.

The school provides co-educational schooling for approximately 100 pupils between aged 5 to 18 years, who have been assessed as having a MPID. A high proportion of the pupils have Autism, physical disabilities, genetic or chronic conditions. Within the school community,

purposive sampling was used to recruit school staff and parents. Participants considered eligible for this study were parents and staff who worked with pupils who had been assessed as having a MPID, aged between 7 and 12 years and had been enrolled in the school for more than one academic year. Parents of pupils less than 7 years of age were not included due to the potential impact Covid-19 school closures may have had on their experience of assessment.

Seven members of school staff, five teachers and two Special Needs Assistants, volunteered to take part. All participants were female and had an average of 19 years 2 months experience working in a special school (SD = 12.4). Six staff members worked with pupils with moderate to severe ID and one staff member worked with pupils with severe to profound ID. Two parents (one mother and one father) of pupils with a moderate to severe ID volunteered to participate. Parental participants ranged in age from 35– 40. Demographic and diagnostic information in relation to these pupils is outlined in Table 5. Due to the small participant group recruited from the one special school, more specific demographic data has been excluded to protect participants' anonymity.

Table 5:

Summary of Participant Information

Participants	Profile of pupil	Number of participants
Teaching staff	Moderate to Severe	4
	Severe to Profound	1
Special Needs Assistants	Moderate to Severe	2
Parents	Moderate to Severe	2

Procedures

Information and consent forms were sent by the school administrator to all school staff and parents who met the inclusion criteria. Participants returned signed consent forms to a sealed box in the school office or directly to the researcher. The interviews were conducted between 11th November 2021 and 16th December 2021. In accordance with Covid-19 public health restrictions, all interviews were conducted remotely. Participants were given the option of a telephone or video (i.e., Zoom) call, with all participants opting for a telephone call. Interviews ranged in duration from 22 to 62 minutes (mean time = 40 minutes) and were audio-recorded using a digital voice recorder. Interviews were transcribed verbatim for the purpose of analysis, with any potentially identifying information omitted.

Measures

Semi-structured researcher designed interview schedules were used to facilitate a contextualised insight into participants' experiences regarding attainment and assessment practices. Prior to data collection, these schedules were reviewed by the research supervisor, a parent and teacher from different special schools and two educational psychologists working in different services.

School Staff Interview Schedule. of 10 over-arching questions with 33 additional prompts. Over-arching questions were divided into four categories. These categories related to personal opinions towards attainment, assessment measures and process, classroom practice and whole-school approach to assessment. These included questions such as 'What does the term attainment mean for you?' 'What are the curricular domains most frequently assessed in your classroom?', 'How is assessment data used to inform curricular/teaching decisions?' and 'Does the school use national guidelines to plan and provide support for assessment?' Prompts were

used in a reflexive and flexible manner, when the researcher felt additional information was required.

Parents/Guardians Interview Schedule. The semi-structured interview schedule for parents consisted of 10 over-arching questions with eight additional prompts. Over-arching questions were divided into categories related to the pupil demographics, personal opinions of attainment and assessment practices and communication with the school. These included questions such as 'What are your child's main strengths?', 'How important do you think assessment is as part of your child's education?' and 'How is your child's progress in school communicated to you?'. Prompts were used in a reflexive and flexible manner, when the researcher felt additional information was required.

Analysis Strategy

Interview transcripts were analysed using the six-phase analytic Thematic Analysis (TA) framework outlined by Braun and Clarke (2013). TA is the process of identifying, analysing, describing, and reporting on patterns within qualitative methodologies and involves a recursive and iterative approach to data analysis (Braun & Clarke, 2006). Audio recorded data was transcribed verbatim, with transcripts uploaded to MAXQDA. Based on preliminary observations, codes were generated. Preliminary labels were assigned to segments of the dataset, with data organised into patterns of meaning based on the research questions (Terry et al., 2017). An inductive and data-driven approach to coding was used (Clarke et al., 2015). Thematic maps were used to visually explore the relationships between themes and subthemes (Braun & Clarke, 2013). Initial themes and subthemes were refined and reviewed in relation to the full dataset and research questions (Braun et al., 2019). Themes were subsequently defined and named. Clear definitions were written for the themes, summarising the central meaning (Terry et al., 2017).

Subthemes were developed, with each subtheme describing a distinct aspect of a theme. Finally,

data extracts were selected to provide clear and compelling evidence to support analytic claims

and illustrate the themes and subthemes (Clarke & Braun, 2014).

Validity

Although Braun and Clarke (2022) posit that validity and reliability are not intrinsic

elements of thematic analysis, several steps were taken to ensure credibility and trustworthiness.

Triangulation, which refers to understanding a phenomenon by viewing it from different

perspectives (Flick, 1992), was achieved by gathering data from different groups (i.e., teachers,

SNAs, parents). A reflexive research journal was kept throughout the process to record

reflections, observations, and supervision notes. To ensure accuracy in transcription, a second

independent researcher reviewed 15% of the audio recordings. The reliability of the codes was

measured using an inter-rater coding procedure, where the research supervisor was provided with

a random sample of blinded references which had their assigned code names removed. The

supervisor then assigned each reference to an inductive theme, with no knowledge of where they

had been assigned previously. The number of references coded into the same themes was taken

as the measure of inter-rater coder reliability.

Results

Four main themes were identified from the reflexive Thematic Analysis, which were

subsequently divided into subthemes as outlined in Figure 2. A summary of the themes,

subthemes, codes, and frequency analysis identified across the dataset are included in Appendix

L. For the purposes of anonymity, all participants are referred to using a code which identifies

them as a parent (P) or staff member (S) along with their ID number. It should be noted that

fewer parental responses were included in the analysis as they were less familiar with the

assessment practices used to measure attainment. Their comments may be reflective of their lack of understanding and involvement in assessments relating to attainment, which may also be reflected in the low participation rate of parents in this study.

Figure 2:

Thematic Map of Themes and Subthemes

Research Question 1: How do parental and school staff conceptualise attainment for pupils with MPID?

      Theme 1: Conceptualisation of Attainment. When asked how they conceptualise attainment, a broad definition and understanding of attainment was conveyed by all participants.

Multifaceted Nature of Attainment. The subtheme 'multifaceted nature of attainment'

captures the complex and multi-dimensional definitions of attainment used when working with

pupils with MPID. This was articulated by one staff member who stated:

"Academically and then socially and with their life skills then as well…… And just

personality wise….in a special school, it's holistic attainment really.'' (S03)

The range of factors involved in the conceptualisation of attainment was also captured by

another participant:

"There's so many factors, to this type of education, it's not simply just the academic.''

(S09)

Overarching commonalities in participants' conceptualisation of attainment included

progression in domains such as communication, social and adaptive living skills such as toileting

and dressing. Some participants also acknowledged the importance of literacy and numeracy, but

it was not highlighted by all.

Importance of Skills Development. The importance of considering attainment as

development and progression of skills was highlighted by participants. Due to the complexity of

need within the school community, participants highlighted that a child may not become fully

independent at a given skill. As a result, development and progression in skills from engaging in

an activity to initiating a response is considered attainment. For example, one participant stated:

"It's engagement. It's attending to something and then hopefully responding to

something.'' (S04)

Time Frame of Progression. The subtheme 'time frame of progression' highlighted the

emphasis on measuring attainment across a broad time frame in order to record meaningful

change within the data. For example, one participant stated:

"In order for any of the kids really to attain much, you'd want the guts of a year to be able to see the progress.'' (S06)

Participants also emphasised consistency in response as an element of attainment for pupils with complex needs and the need for responses to be monitored over time. For example, one participant stated:

"I am looking for consistency in responses to different stimuli.'' (S04).

The concept of attainment in a special school context was eloquently summarised by one participant who said:

"It's really to try and get students to their best, to reach their best potential…… I think in a special school, it may take longer, it may look different, and it may take a little bit more, it might take more planning and more people involved.'' (S07)

Research Question 2: What assessment processes and measures are used when assessing attainment and how is the data used?

Theme 2: Individualistic and Flexible Approach to Assessment. The theme 'individualistic and flexible approach to assessment' described the individualistic and bespoke assessment practices highlighted in participants' responses within a special school context.

Flexibility in Presentation and Process. The subtheme 'flexibility in presentation and process' reflects the need for a flexible and child-centred approach to assessment. Participants emphasised the need for flexibility in the choice of assessment measures, with school staff highlighting their reliance on non-standardised, teacher-devised assessment measures such as observations, checklists, pupil profiles and work tasks. One participant highlighted this stating:

"It's not a case of I'm going to go to this website, and I got to get 10 checklists, you might look around and see and try and make something that suits your needs and what suits your need for one child might not suit for another.'' (S02)

When reflecting on the use of standardised measures most participants highlighted their unsuitability when working in a special school setting, with one participant stating:

"The standardised tests……. they would be the least effective because they don't really highlight the skills that the kids do have. I find a lot of it is highlighting what they can't do……. I think it's more helpful to highlight what they can do.'' (S03)

Flexibility when recording assessment data was also highlighted, with participants listing checklists, work samples, video and photographic evidence as means of recording assessment data. Flexibility in the mode and timing of assessments was emphasised, with participants reporting that due to the complexity of need, assessment practices may need to be adapted, depending on the pupil's presentation. One participant summarised this by saying:

"So much of our kids, particularly the ones with the high medical needs, so much depends on their wellbeing on any one day. As to the level of response you get, so, you know, it's it's, it's all kind of balanced on a knife edge if they're not well, you're going to get nothing.''(S04)

Importance of Relationship. The importance of having a relationship with pupils was highlighted by participants as a core component of the assessment process. When working with children with complex educational and medical needs participants highlighted the role of relationships in order to be able to interpret their responses. One participant stated:

"What I'd see and what another SNA that's familiar with that child would see, could be two totally different things.'' (S09)

Participants also emphasised the need for a relationship in order to recognise and record progress, stating:

"If you come in and look at my circle time, I'd have to explain to you that I'm expecting this from him and this from him, and that's a really good reaction from him……. then if that child unfortunately went to another class and another teacher, they mightn't see that for a year, because they mightn't know them well enough to see it.'' (S04)

Frequency of Assessment. The subtheme 'frequency of assessment' captured participant insights into the frequency with which assessments are conducted. While participants stated that informal assessments such as teacher observation are conducted on a daily basis, this type of assessment data was rarely recorded. One participant stated:

"Sure, you are assessing constantly, through observations but writing it down now and that sort of thing, not so much.'' (S05)

Participants reported that pupil progress was also recorded on a fortnightly and monthly basis as part of their planning procedures. Formal attainment assessments were reported to be conducted on a yearly basis, where teachers would review work samples or checklists compiled throughout the year and record pupil progress qualitatively in a pupil profile document. This profile describes the pupil's progress across all curricular domains and is kept as a running document throughout their time in school. One participant described the frequency of formal assessment stating:

"I don't think there would be any huge benefit in doing any more frequent formal assessments because I think sometimes it just highlights the slow progress'' (S02)

Multi-dimensional Uses of Data. The subtheme 'multi-dimensional uses of data' represents the multiple uses of attainment data highlighted by participants. The importance of attainment data with regard to tracking pupil progress was reported with one participant stating:

"Even simple stuff like, you know, the ability to take part in a group activity, that might have been developed over the year, but you wouldn't have even realised it until you'd look and you'd see that you wrote last year that they weren't doing it……... It is very, very worthwhile.'' (S04)

Participants also highlighted the use of attainment data for reviewing teaching methodologies, interventions, planning future curricular and individual educational goals.

"You do use your assessments to try and tailor the curriculum to suit where the strengths are.'' (S02)

The role of assessment data in informing class placements was also highlighted by participants stating:

"No, it's very important to be doing assessing, that's what the teacher did last year, and that's why they moved her from the class she was in last year into her new class.'' (P09)

Theme 3: Collaborative Practice. The theme 'collaborative practice' described the difficulties in including the pupil, school staff, parents and multi-disciplinary services within the assessment process.

Lack of Multi-disciplinary Collaboration*.* The subtheme 'lack of multi-disciplinary collaboration' represents the reported lack of multi- disciplinary team (MDT) support and collaboration in relation to assessment and monitoring of progress of pupils with MPID. Participants highlighted difficulties in accessing external professionals as illustrated by the following comments:

"If you can, this probably is going to sound awful, if you can get them yes ………. We don't have a lot of input from other professionals.'' (S04)

"I regularly apply to the MDT for support ……. but we get nothing really like. …..without all supports, it's very difficult to see progress across the board with the students, because there needs to be a whole approach, not just a teacher putting out fires.'' (S01)

The input of speech and language therapists in relation to monitoring attainment was most frequently referred to, with occupational therapists also mentioned as involved in tracking pupil progression. It was notable that psychologists were only mentioned in relation to attainment in terms of behavioural goals. One participant stated:

"I probably would find especially like speech and language therapy very useful because I think sometimes some of the children have auditory processing issues you know particularly like saying the likes of an oral language lesson….'' (S01)

Pupil Input. The subtheme 'pupil input' portrays participants' responses into pupil involvement in attainment assessments such as giving feedback and self-assessment. While participants agreed that traditional views of feedback and self-assessment were conceptually too difficult for most pupils, both could be achieved through adaptations. When commenting on pupil feedback, participants highlighted that some pupils could verbally indicate whether they enjoyed an assessment task. Participants also highlighted that in relation to pupils who were non-speaking, observations regarding pupil engagement and response to assessment activities could serve as a form of feedback. One participant stated:

"You would get feedback by the engagement you have with that task or the interest level, or possibly by a child asking to repeat something, or indicating that they would like to repeat something'' (S02)

When considering self-assessment, participants' responses highlighted pupils' ability to identify work they had done well through praise and recognition of others as a form of self-assessment:

"When you can see that they're proud of something or when they take notice and that you're proud of them or that you're watching them. I suppose that's kind of the degree of self-assessment that they would yeah that they would be engaging in.'' (S03)

Home/school Collaboration. The subtheme 'home/school collaboration' represents participant responses regarding collaboration and communication in relation to the assessment of attainment. School staff stated that parents were contacted daily using a home/school communication diary to relay notes from the school day. Attainment information is also shared on a yearly basis, during parent/teacher meetings and annual Individual Educational Planning meetings. One participant explained this system stating:

"Well, I suppose we have parent-teacher meeting and IEP goal setting meetings once a year and then you have the home/school notebook on a daily basis, and you would all the time be possibly updating them on what you've done.'' (S02)

When reflecting on communication with the school, the parents highlighted their desire to have more regular communication with school staff about their children's progress with one parent stating:

"I'd like to know exactly what they are teaching him in school and what he is doing in school, do you know?' (P08)

In terms of collaboration, all participants highlighted that teaching staff set the individual educational goals for each pupil. While a number of staff highlighted some collaboration with parents in terms of planning and monitoring attainment, this was not reported by all staff:

> *"Sometimes I would always ask my parents, you know, I would say we are going to have an IEP meeting on such a date. If there is anything you would like included or anything area you are concerned about, let me know.''* (S01)

When reflecting on their role in their child's attainment, parents highlighted the desire for a collaborative and uniform approach to educational goals, stating:

> *"Yeah, even like once a month if you get a report this is what happened, what he did, this is what we tried to teach him, this is how he got on and this is what we are going to do next month. You know something like that.'* (P08)

Another participant highlighted the benefits of having a consistent approach for children with complex needs, emphasising the need for collaboration regarding language:

> *"If they sent out, like what they are doing and can I see her doing it at home………just to make sure that we're all on the same page. That's what I find can be frustrating when everyone uses different words. So that is where I'd like to be able to help with, that we are all on the same vocabulary, and we're pushing for the same thing. And we're on the same page.''* (P09)

Research Question 3: What are the facilitators and barriers to the assessment of attainment for pupils with MPID?

Theme 4: Barriers to Assessment of Attainment. A number of barriers were elicited in relation to systemic supports for attainment and assessment methods within a special school context.

Department of Education Supports. The subtheme 'Department of Education support'
highlights the gaps identified in relation to provision of supports from the Department of
Education to special schools. School staff specifically highlighted the lack of available
assessment resources from the Department of Education, National Council for Special Education
and National Council for Curriculum and Assessment. One staff member stated:

> *"In terms of say, literacy development, when you're starting their literacy development*
> *sort of pre, even pre even Montessori sometimes. There's nothing for that, because*
> *nobody else, apart from kids who have the likes of learning disabilities that they have,*
> *need to learn these skills in isolation.''* (S03)

Participants also highlighted the need for appropriate resources and continuous
professional development in relation to understanding, administering, and recording attainment
data. For example, staff members stated:

> *"Within the educational department, there doesn't seem to be as many resources*
> *available to us.''* (S02)

> *"To be honest, I don't think there's really anything geared towards specifically*
> *assessments in special ed.''* (S01)

Complex Role of the Teacher. The subtheme 'complex role of the teacher' highlights the
pressure on school staff and complexity of the role of the teacher. Participants highlighted
demands including coping with a lack of multi-disciplinary support and limits on time when
collating and recording assessment data. For example, one staff member highlighted:

> *"You're an OT, you're a psychologist, you're a physiotherapist, but you're not trained in*
> *any of these things, but you still have to get things in place.''* (S05)

Creativity in terms of creating assessment resources was also highlighted as a barrier, with one participant stating:

> *"I feel like everybody is worn down from trying to do everything across the board in the classroom. That when it comes to assessment and having to draw all of these plans and to do everything again from scratch. It's just another thing, it's almost like another black hole.''* (S01)

Lack of Consistency, Confidence and Awareness of Assessment Practice. The subtheme 'lack of consistency, confidence and awareness of assessment practice' captured the difficulties of implementing attainment assessment practices within a special school context. Participants highlighted a lack of consistency in assessment approaches within their context, with one participant stating:

> *"I think because all the kids are so different. And their needs are so different. It would be difficult to standardize what we do and how we do it across the board …. nobody is singing from the same hymn sheet. We're all doing different things. And then when, as the kids are moving along, there's not a huge amount of consistency assessment wise.''* (S03)

School staff also highlighted a lack of confidence when discussing assessment practices, stating:

> *"I know assessment has been brought up so many times at meetings and stuff like that everybody really just dips their head because nobody really knows you know. Once you hear the word, you're like oh god, you know, where do I start with it all.''* (S01)

Parents also highlighted a lack of awareness of the assessment practices utilised within the school. For example, one participant stated:

> *"I don't really hear much about assessment.''* (P09)

Facilitators to Assessment. It was significant that facilitators in relation to attainment assessment were not mentioned consistently, with no strong themes emerging. Those most frequently mentioned by participants were the importance of peer support, with one participant stating:

> *"I think one of the things that overcomes the challenges is that the people working in the schools… they generally work together well, they pool their resources, if they haven't got them from the outside they'll try and find them.''* (SO4)

Discussion

Attainment plays an important role in policy, practice and research in relation to education. Given the dearth of research relating to the conceptualisation of attainment and use of assessment measures for pupils with MPID, the current qualitative study aimed to explore the views of parents and school staff in relation to how attainment is understood, assessed and supported within an Irish special school context. Underpinned by Bronfenbrenner's PPCT Bioecological Model, this study examined the conceptualisation and assessment of attainment from the perspectives of the Person, Process, Context and Time factors that affect this social phenomenon. Semi-structured interviews were conducted with five teachers, two SNAs and two parents. Through the use of reflexive thematic analysis participants' conceptualisations of attainment as a multi-faceted and holistic concept were highlighted. When reflecting on the assessment process, participants' responses highlighted the flexibility needed in assessment approaches, the importance of relationships and the multi-dimensional use of attainment data. Responses also highlighted systemic barriers to access appropriate supports and a lack of collaborative practice in relation to home, school and support services.

How Attainment is Conceptualised

When reflecting on their understanding of attainment, participants' responses highlighted attainment as a holistic and multi-faceted concept. Understanding both parent and school staff's conceptualisation of attainment is imperative when adopting a bioecological view as these personal beliefs interact jointly with contextual, process and time factors to affect overall understanding. As discussed earlier, domains such as literacy and numeracy feature heavily in the literature relating to attainment, which in turn influences policies and curricular design (NCCA, 2012). The findings of this empirical study suggest the conceptualisation of attainment for pupils with MPID encompasses a range of domains, with participant's responses placing particular emphasis on communication, adaptive and social skills. When considering attainment within the 'input-process-outcome' model of effectiveness (Kyriazopoulou & Weber, 2009), if the output of education reflects attainment of communication, adaptive and social skills, this is not adequately reflected within the curricular inputs. While curricular guidelines in relation to communication are available for pupils with MPID, with some references to social and independence skills within the Social, Personal and Health Education guidelines, there is no explicit Irish curriculum for adaptive skills development or social and emotional wellbeing. This is particularly important within the context of a special school as attainment in these domains is often the result of explicit teaching, rather than implicitly learned skills. Having clearly defined learning goals and a developmental sequence of skills may improve input measures in this area, leading to improved outcomes.

Participants' responses also highlighted attainment as a gradual progression of skills, with a focus on attainment as experiencing and engaging in a learning activity up to applying and generalising knowledge. This is consistent with the 'Guidelines for Teachers of Students with

General Learning Disabilities' (NCCA, 2007) which list indicators of progress ranging from encountering, awareness, attention and response, engagement, participation, involvement to gaining skills and understanding.

Assessment: Presentation, Process and Product

When considering the assessment of attainment, understanding the Process factors involved are key to understanding the overarching concept. This involves the presentation of assessment, in terms of the measures used, the process of the assessment itself and the product, in terms of how the data is collected, used and recorded.

Presentation. A lack of available, appropriate measures and a reliance on unstandardised, teacher-designed methods of assessment were reported. Participants highlighted the ineffectiveness of available standardised assessments, stating they had a deficit focus and were insufficient in capturing subtle attainments in skills. This is consistent with previous findings (Vlaskamp, 2005), highlighting that the availability of bespoke measures remains an area of need. Qualitative assessment measures were reported to be used most often, with teacher observation and portfolios reported most frequently. One qualitative approach to assessment highlighted within the research literature is that of Dynamic Assessment (DA). DA can be defined as the assessment of thinking, perception, learning, and problem-solving potential through an active teaching process, aimed at modifying cognitive functioning (Tzuriel, 2001). Emerging research would suggest DA may be beneficial in creating a structured, yet flexible approach to assessment when working with pupils with additional needs (Lauchlan, 2013). The evidence-base of teacher-led, classroom-based DA is not prominent within the literature but is an area which warrants further research.

Process. When considering the process of assessment, participants highlighted that when working with pupils with MPID, the ability to identify and interpret subtle responses is essential. This may depend on an observer's previous experience with the pupil and highlights the importance of relationship as a core element of assessment as well as the need for assessments to be conducted over time. This could have significant implications for those involved in any assessment with pupils with MPID. The findings suggest that assessments should be conducted over a long timeframe, which would facilitate the development of a relationship or alternatively should include those with a pre-existing relationship and understanding of the pupil.

Interactions between the pupil, parents, school staff and multi-disciplinary services also impact on the assessment process. Participants' responses highlighted that assessment of attainment generally involved school staff working in isolation and reporting findings to parents. Parental responses emphasise the limitations of using this approach, reporting a desire for more collaborative planning in order to ensure consistency and clarity in their child's educational goals. Parental responses as well as the low participation rates in the study may suggest a lack of parental understanding of attainment and how it is assessed in a special school setting. School staff reported a lack of clinical and therapeutic input when devising and tracking goals of pupils, highlighting this as a barrier to assessing attainment. Of particular note was the emphasis participants placed on the involvement of speech and language and occupational therapists when considering attainment, with psychologists only cited in relation to behavioural goals. This may reflect the need for psychologists to effectively communicate their role and expertise in relation to theories of learning, developmental milestones, tracking and monitoring progress, promotion of adaptive living and educational goals and joint goal setting.

One approach highlighted within the literature with regard to collaborative planning and assessment is that of Person-Centred-Planning (PCP). PCP encourages a collaborative process of listening and learning from the pupil, focusing on supporting the person in current and future goals. PCP would facilitate a flexible and responsive approach to assessment where problem-solving is encouraged in partnership with the person, their family and those working with them (Robertson et al., 2007). Emerging evidence suggests that this may be a beneficial approach within classroom practice for pupils with multi-sensory needs, leading to improved pupil outcomes (Taylor, 2007).

Product. When considering the product of assessment, participants highlighted how videos, photographs, work samples and pupil profiles were used to record and present assessment data. This flexible approach to recording pupil attainment is in line with recommendations from the 'Guidelines for Teachers of Students with General Learning Disabilities' (NCCA, 2007). At classroom level, assessment data was reported to be used to devise curricular and individual educational goals. In the context of a special school, attainment measures may also have an important role in monitoring progression or regression in skills. This could be of particular importance given the comorbidity of medical and behavioural needs for some pupils with MPID and when monitoring, for example, the potential side-effect of medication, increased seizure frequency or other medical complications on a pupil's presentation and attainment. Attainment data was also used to inform decisions such as class placement. This is an important finding as, without accurate attainment data, pupils may be placed in an inappropriate classroom environment. Given the lack of reliability and floor effects reported when using diagnostic testing for those with MPID (Yin Foo et al., 2013), reliable and accurate attainment data is imperative in making decisions about class placements.

When considering the contextual factors affecting assessment of attainment, in line with the PPCT model, attainment data is predominantly used at the microsystem level. When considering its use within the exosystem (home, school and support service environments), participants reported the use of attainment data in tracking pupil progress and highlighting pupil strengths and needs. The communication of data from home to school systems was reported to formally occur on a yearly basis, with daily informal communication.

Interestingly, the use of attainment data was not reported at the mesosystem (whole-school level) or the macrosystem (national level). As discussed earlier, there are currently no legislative requirements for special schools to report the attainment of pupils aged 5 to 12 years (NCCA, 2009). This finding would suggest that attainment scores for pupils with MPID are not considered when discussing national accountability and the effectiveness of current educational provision which could result in a lack of consideration for pupils with MPID.

Facilitators and Barriers to the Assessment of Attainment

Facilitators. When considering how to support assessment of attainment, participants highlighted the importance of peer support from fellow staff within the school setting. Boyle et.al (2012) found that peer support from other teachers superseded all other forms of support in enabling teachers to include children with additional needs in mainstream settings. This has important implications for the consultative role of educational psychologists supporting school systems, as by assisting in establishing and facilitating peer support networks for teachers, positive assessment cultures, policy and practices could be promoted.

Difficulties Accessing Resources. Several barriers to assessment practices emerged from this study, including lack of resources and support from disability services and the Department of Education. Specifically, school staff and parents highlighted their difficulties in accessing multi-

disciplinary team support. Recent developments to address these difficulties include the In-School and Early Years Therapy Support Demonstration Project, which was piloted by the NCSE in the 2018/2019 school year (Lynch et al., 2020). This project consisted of a tiered model of therapeutic support to be delivered in selected mainstream and special schools. Positive outcomes were reported in an evaluation of this pilot, including in-school continuum of Psychology, SLT and OT therapy supports, staff training, whole-class initiatives, parent programmes and individualised supports (Lynch et al., 2020).

Additionally Progressing Disability Services (PDS) for Children and Young People is a national programme aimed at making therapeutic services more accessible (HSE, 2020). This national programme was designed to provide more equitable and clear service pathways to children, allowing them to receive needs-based support as near to their home and school as possible (HSE, 2020). PDS adopts a multidisciplinary team approach, where various professionals work collaboratively to identify and meet the needs of the child, rather than a focus on diagnosis, and it aims to reduce wait list times to access services. Decreasing the waitlist times and increasing the accessibility of clinical support through these initiatives would benefit schools and parents in supporting pupils with MPID and allow the opportunity for increased consultation and collaboration in measuring attainment.

A lack of specialised resources and training for school staff was also highlighted by participants. These findings are consistent with a report by the National Council for Special Education (2012), which highlighted the need for training opportunities for staff, access to in-school therapeutic services and the development of accommodated and alternative approaches to the assessment.

Lack of Consistency in Assessment Approach. An additional barrier to assessment practice highlighted in this study was a lack of consistency in assessment approach at school level. Participant responses suggest that given the variation of strengths and needs of pupils, developing a consistent approach can be challenging. A review conducted by the NCSE (2012) highlighted the need for schools to be provided with clear expectations regarding consistent assessment and recording of progress of pupils with SEN and define minimum standards of assessment to ensure uniformity of approach and equity of provision. The findings of the current study would suggest that this has yet to be adequately addressed.

Complex Role of Teacher. The complexity of the role of the teacher as a barrier to assessment was highlighted in this study. Participants cited barriers such as adapting to complex needs without multidisciplinary support, creating curricular and assessment material and limited time as adding complexity to the role of the teacher when supporting pupils with MPID. This is an important finding as teachers in special schools report experiencing burnout more often than those in mainstream education (Jovanovic et al., 2019). A study conducted by Mulyani et al. (2021) found that teaching in a special school context required more emotional resources than mainstream. Additional challenges such as a lack of appropriate curricular and assessment material as well as limited supports may contribute to the high rates of burnout.

Study Limitations

It is important to acknowledge the limitations of the current study, one significant one being that the perspectives of pupils with MPID are not included. While consideration was given to possible adaptations it was deemed that having a MPID as well as additional comorbid diagnoses and/or significant medical and physical needs could potentially compromise a pupil's ability to provide fully informed assent to engage in the research as well as place an undue

burden on them. This is consistent with similar methodological and ethical challenges reported within the research literature when ascertaining the views of pupils with complex learning and communication needs (Harding, 2017). It is also acknowledged that this is a proxy study and, therefore, the perspectives of the participants recruited from one special school may not reflect the actual experiences of pupils with ID attending special schools across the country. An additional limitation to the current study was that the perspective of psychologists working with pupils with MPID were not included. While contact was made with the governing bodies of two organisations responsible for psychologists working with this school population, it was not possible to obtain ethical approval. Despite these limitations, this research provides a rich and contextualised insight into parental and staff views regarding education attainment for pupils with MPID and is the first of its kind in Ireland.

Conclusion

Given the lack of literature in relation to the conceptualisation of attainment and assessment practice when working with pupils with MPID, this qualitative study aimed to explore the concept of attainment and assessment of attainment for pupils attending a special school in Ireland. Semi-structured interviews were conducted with school staff and parents to obtain their conceptualisations of attainment, how attainment was assessed and the facilitators and barriers to assessment. Reflexive thematic analysis highlighted participants' conceptualisation of attainment as a holistic and multi-faceted approach, the importance of adopting a collaborative whole-school approach to attainment assessment, lack of parental understanding of attainment and the systemic challenges families and schools face in accessing support and resources. The findings offer an important contribution to our understanding of how attainment of pupils with MPID is conceptualised and have significant practical implications for

professionals, particularly educational psychologists, who are involved in supporting students

attending special schools. These findings are also significant for other therapeutic professionals

such as speech and language and occupational therapists, given the importance of

multidisciplinary support when supporting pupils with MPID.

References

American Psychiatric Association, & American Psychiatric Association. DSM-5 Task Force.

(2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed.).

American Psychiatric Publishing.

https://doi.org/https://doi.org/10.1176/appi.books.9780890425596

Arends, R. I. (1998). *Resource handbook. Learning to teach* (4th ed.). McGraw-Hill.

Boyle, C., Topping, K., Jindal-Snape, D., & Norwich, B. (2012). The importance of peer-support

for teaching staff when including children with special educational needs. *School*

Psychology International, 33(2), 167-184. https://doi.org/10.1177/0143034311415783

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in*

Psychology, 3(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2013). *Successful qualitative research: a practical guide for beginners*.

Sage.

Braun, V., & Clarke, V. (2022). *Thematic Analysis: A Practical Guide.* Sage.

Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2019). Thematic analysis. In P. Liamputtong

(Eds.), *Handbook of research methods in health social sciences* (pp. 843-860). Springer

Singapore. https://doi.org/10.1007/9789811052514103

Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future

perspective. In Elder, G., Moen, P. & Lüscher, K. (Eds.), *Examining lives in context:*

Perspectives on the ecology of human development (pp. 619-647). American

Psychological Association. https://doi.org/10.1037/10176-018

Buckley, N., Glasson, E. J., Chen, W., Epstein, A., Leonard, H., Skoss, R., Jacoby, P.,

Blackmore, A. M., Srinivasjois, R., Bourke, J., Sanders, R. J., & Downs, J. (2020).

Prevalence estimates of mental health problems in children and adolescents with intellectual disability: A systematic review and meta-analysis. *Australian and New Zealand Journal of Psychiatry, 54*(10), 970-984. https://doi.org/10.1177/0004867420924101

Burnham, J. (2018). *Relational reflexivity: a tool for socially constructing therapeutic relationships. In the space between* (pp. 1-17). Routledge.

Clarke, V., & Braun, V. (2014). Thematic Analysis. In Teo., T. (Ed.), *Encyclopedia of critical psychology* (pp. 1947-1952). Springer New York. https://doi.org/10.1007/9781461455837311

Clarke, V., Braun, V., & Hayfield, N. (2015). Thematic Analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (pp. 222-248.). Sage.

Department of Education and Science (DES) (1999). *Primary Curriculum: An Introduction.* https://www.curriculumonline.ie/getmedia/c4a88a62-7818-4bb2-bb18-4c4ad37bc255/PSEC_Introduction-to-Primary-Curriculum_Eng.pdf

Flick, U. (1992). Triangulation Revisited: Strategy of Validation or Alternative? *Journal for the Theory of Social Behaviour, 22*(2), 175-197. https://doi.org/10.1111/j.1468-5914.1992.tb00215.x

Glesne, C. (2016). *Becoming qualitative researchers: An introduction*. ERIC.

Government of Ireland (1998). *The Education Act 1998*. Stationary Office. https://www.irishstatutebook.ie/eli/1998/act/51/enacted/en/html

Government of Ireland (2000). *The Equal Status Act, 2000*. Stationary Office. https://www.ihrec.ie/app/uploads/2020/10/IHREC-Equal-Status-Rights-Leaflet-WEB.pdf

Government of Ireland (2004). *Education for Persons with Special Educational Needs Act, 2004*. Stationary Office. https://www.irishstatutebook.ie/eli/2004/act/30/enacted/en/html

Harding, E. (2017). Obtaining the views of children with profound and multiple learning difficulties. In J. Hardy & C. Hobbs (Eds.), *Using qualitative research to hear the voice of children and young people: The work of British educational psychologists* (pp. 105-111). The British Psychological Society.

Health Service Executive. (HSE) (2020). *Progressing Towards Outcomes-Focused Family-Centred Practice – An Operational Framework*. https://www.hse.ie/eng/services/list/4/disability/progressing-disability/pds-programme/documents/progressing-towards-outcomes-focused-family-centred-practice.pdf

Hepworth, D., Rooney, R., & Larsen, J. (2002). *Direct social work practice: Theory and skills (6th ed.).* Brooks/Cole.

James, M. (2006). Assessment, teaching and theories of learning. *Assessment and learning, 47*, 60-73.

Jovanovic, V., Karic, J., Mihajlovic, G., Dzamonja-Ignjatovic, T., & Hinic, D. (2019). Work-related burnout syndrome in special education teachers working with children with developmental disorders - possible correlations with some socio-demographic aspects and assertiveness. *European Journal of Special Needs Education, 34*(5), 692-701. https://doi.org/10.1080/08856257.2019.1572092

Kyriazopoulou, M. & Weber, H. (2009). *Development of a set of indicators for inclusive education in Europe.* European Agency for the Development of Special Needs

Education. https://www.european-agency.org/sites/default/files/development-of-a-set-of-indicators-for-inclusive-education-in-europe_Indicators-EN-with-cover.pdf

Lauchlan, F. (2013). *Improving learning through dynamic assessment: A practical classroom resource*. Jessica Kingsley Publishers.

Lynch, H., Ring, E., Boyle, B., Moore, A., O'Toole, C., O'Sullivan, L., Brophy, T., Frizelle, P., Horgan, D., & O'Sullivan, D. (2020). *Evaluation of In-School and Early Years Therapy Support Demonstration Project.* National Council for Special Education. https://ncse.ie/wp-content/uploads/2020/11/Demo-project-evaluation-fInal-for-web-upload.pdf

Maulik, P. K., Mascarenhas, M. N., Mathers, C. D., Dua, T., & Saxena, S. (2011). Prevalence of intellectual disability: A meta-analysis of population-based studies. *Research in Developmental Disabilities, 32*(2), 419-436. https://doi.org/10.1016/j.ridd.2010.12.018

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods, 1*(2), 13-22. https://doi.org/10.1177/160940690200100202

Mulyani, S., Salameh, A. A., Komariah, A., Timoshin, A., Hashim, Nik Alif Amri Nik, Fauziah, R. S. P., Mulyaningsih, M., Ahmad, I., & Ul din, S. M. (2021). Emotional regulation as a remedy for teacher burnout in special schools: Evaluating school climate, teacher's work-life balance and children behavior. *Frontiers in Psychology, 12*, 15-27. https://doi.org/10.3389/fpsyg.2021.655850

National Council for Curriculum and Assessment (NCCA) (2007). *Curriculum Guidelines for Teachers of Pupils with General Learning Disabilities.* https://ncca.ie/media/2509/sen_introduction.pdf

National Council for Curriculum and Assessment (NCCA) (2009). *Assessment in the primary school curriculum: guidelines for school*. https://www.curriculumonline.ie/getmedia/2b3eaa53-cb4b-4053-9d71-2d28d9d6c734/Assessment-Guidelines.pdf

National Council for Special Education (NCSE) (2012). *Measuring Educational Engagement, Progress and Outcomes for Children with Special Educational Needs.* https://ncse.ie/wp-content/uploads/2014/10/Outcomes26_11_12Acc.pdf

National Council for Special Education. (2019). *Policy Advice on Special Schools and Classes: An Inclusive Education for an Inclusive Society*? https://ncse.ie/wp-content/uploads/2019/11/Progress-Report-Policy-Advice-on-Special-Schools-Classes-website-upload.pdf

OECD (2009). *The usefulness of PISA data for policy makers, researchers and experts on methodology. PISA data analysis manual: SPSS, second edition* (pp. 19-33). OECD Publishing. https://doi.org/10.1787/9789264062752en

Parsons, S., Guldberg, K., Macleod, A., Jones, G. & Prunty, A. (2009). *Literature of evidence of best practice provision in the education of persons with autistic spectrum disorders.* https://ncse.ie/wp-content/uploads/2014/10/2_NCSE_Autism.pdf

PISA Governing Board (PSG) (2019). *PISA Special education needs feasibility study*. https://www.oecd.org/pisa/pisaproducts/PISA_SpecialEducationNeeds_FeasibilityStudy.pdf

Robertson, J., Emerson, E., Hatton, C., Elliott, J., McIntosh, B., Swift, P., Krinjen-Kemp, E., Towers, C., Romeo, R., Knapp, M., Sanderson, H., Routledge, M., Oakes, P., & Joyce, T. (2007). Person-centred planning: Factors associated with successful outcomes for people

with intellectual disabilities. *Journal of Intellectual Disability Research, 51*(3), 232-243. https://doi.org/10.1111/j.1365-2788.2006.00864.x

Shogren, K. A., Burke, K. M., Anderson, M. H., Antosh, A. A., Wehmeyer, M. L., LaPlante, T., & Shaw, L. A. (2018). Evaluating the differential impact of interventions to promote self-determination and goal attainment for transition-age youth with intellectual disability. *Research and Practice for Persons with Severe Disabilities, 43*(3), 165-180. https://doi.org/10.1177/1540796918779775

Standard Testing Agency (STA) (2021). *The engagement model. Guidance for maintained schools, academies (including free schools) and local authorities.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/903458/Engagement_Model_Guidance_2020.pdf

Stratton, S. J. (2021). Population research: Convenience sampling strategies. *Prehospital and Disaster Medicine, 36*(4), 373-374. https://doi.org/10.1017/S1049023X21000649

Taylor, K. (2007). The participation of children with multi-sensory impairment in person-centred planning. *British Journal of Special Education, 34*(4), 204-211. https://doi.org/10.1111/j.1467-8578.2007.00480.x

Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic Analysis. In W. R. C. Willig (Ed.), *The SAGE handbook of qualitative research in psychology* (pp. 17-36). Sage. https://doi.org/https://dx.doi.org/10.4135/9781526405555.n2

Tzuriel, D. (2001). Dynamic assessment of learning potential. In Andrews, J., Saklofske, D. & Janzen, H. (Eds.) *Handbook of psychoeducational assessment: Ability, achievement, and behavior in children* (pp. 451-496). Elsevier Inc. https://doi.org/10.1016/B978-012058570-0/50017-3

Van Walwyk, L. (2011). Measuring progress in children with profound and multiple learning difficulties. *The SLD Experience, 60*(1), 9-16.

Vlaskamp, C. (2005). Assessing people with profound intellectual and multiple disabilities. In Hogg., J & Langa, A. (Ed.), *Assessing adults with intellectual disability: A service providers' guide*. Blackwell Publishing.

Ware, J. & Donnelly, V. (2004) Assessment for learning for pupils with PMLD: The ACCAC Insight Project. *PMLD Link, 16*(3), 12–17.

Welsh Assembly Government (WAG) (2006) *Routes for learning: Assessment materials for pupils with complex needs*. https://hwb.gov.wales/curriculum-for-wales/routes-for-learning

World Health Organisation (WHO) (2019). *The ICD-11: Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. World Health Organisation.

Yin Foo, R., Guppy, M., & Johnston, L. M. (2013). Intelligence assessments for children with cerebral palsy: A systematic review. *Developmental Medicine and Child Neurology, 55*(10), 911-918. https://doi.org/10.1111/dmcn.12157

Chapter 5: Implications for Practice

Using Bronfenbrenner's Process-Person-Context-Time (PPCT) Bioecological Model as a conceptual framework, the overall aim of this doctoral thesis was to explore the conceptualisation and assessment of attainment when working with pupils with moderate to profound intellectual disabilities (MPID). A Systematic Literature Review (SLR) identified the measures of attainment used with pupils with MPID within the research literature. The Empirical Journal Article (EJA) explored school staff and parents' conceptualisation of attainment, the facilitators and barriers to assessment as well as the assessment measures used for pupils with MPID and aged 7 to 12 years in one special school in Ireland.

The findings of the SLR suggest that there is limited research which describes the theoretical conceptualisation of attainment for pupils with MPID. These findings also suggest that unstandardised assessment measures are used more frequently within the research literature, with a lack of appropriate standardised measures for this cohort highlighted. Both the SLR and EJA identified the importance of considering attainment as a holistic and multi-faceted concept, involving many domains including adaptive, social and communication skills as well as academic skills. The findings of the EJA highlighted a reliance on unstandardised measures of assessing attainment. When reflecting on the assessment process, participants emphasised the importance of having a relationship with the pupil and allowing a long timeframe for assessment. Parents' responses highlighted a desire for more collaborative practice and communication regarding their child's attainment. Furthermore, parents and staff referred to broader systemic influences including difficulty accessing therapeutic support and difficulty in creating a whole-school, consistent approach to assessment for pupils with MPID.

These findings have important implications for the practice of educational psychologists (EPs) working as school psychologists, as well as those working in primary care and disability services. EPs are regarded as scientist-practitioners who use psychological skills, knowledge and understanding to support the needs of children through consultation, assessment, intervention, research, and training (Fallon et al., 2010). EPs also have the opportunity to influence change at an individual, group and organisational level (Kennedy et al., 2009). This chapter highlights how the findings from the current research contribute to EP knowledge and practice in relation to both the conceptualisation and assessment of attainment for pupils with MPID. These include the role of EPs in assessment, monitoring response to intervention, exploring adapted assessment measures, promoting a holistic concept of attainment, consultation, and providing multidisciplinary support. The implications of these findings for other professionals working with pupils with MPID will also be discussed, including curricular considerations, a national database of attainment and increased availability of specialised assessment measures.

The Role of the Educational Psychologist in Conceptualisation of Attainment

In relation to Bronfenbrenner's Process-Person-Context-Time (PPCT) Bioecological Model, this study has important implications when considering the impact of the 'Person' and their beliefs/attitudes in relation to attainment. It is essential that EPs have a shared understanding with schools and parents in relation to their conceptualisations of attainment, especially when considering recommendations, interventions, or goal setting. Findings from the SLR and EJA highlighted the conceptualisation of attainment for pupils with MPID as a multifaceted and holistic concept. Within the EJA, emphasis was placed on the development of adaptive living, communication and social skills as well as viewing attainment and learning in terms of development and progression in skills. Notably, wellbeing was not mentioned in either

study when considering attainment. Therefore, EPs have an important role in advising special schools in terms of providing holistic learning experiences for pupils as well as enhanced training for school staff on topics including progression in skills, wellbeing and tracking and monitoring of progress.

The Role of the Educational Psychologist in Assessment

The findings of this doctoral research offer important insights for the role of the EP when assessing pupils with MPID. The findings of both the SLR and EJA highlight the limitations of using standardised assessment measures when working with this population. When considering attainment as a whole this is an important finding in terms of Process, as the interaction between the assessor and assessment measures influences our understanding of attainment. Within the SLR, a reliance on unstandardised and practitioner designed assessments were highlighted. Participants' responses within the EJA suggested that standardised assessments emphasised a deficit focus and were insufficient in capturing subtle differences in attainments. It is important that EPs are aware of the limitations of standardised measures when working with this population and acknowledge that the deficit focus of such measures is not consistent with a neuro-affirmative approach to disability (Robertson, 2009).

Both papers highlighted the need for flexibility in assessment approaches and the ability to adapt to the complex needs of the pupil as opposed to using a standardised approach. This has implications for the assessment measures and approaches taken when assessing pupils with MPID for both diagnostic and attainment purposes. By utilising a more flexible and adapted approach to assessment of attainment, a more social model of disability can be promoted

(Hollenweger, 2014), where individual differences can be acknowledged and viewed as fluid, with progression and regression being measured in a meaningful manner.

One approach that may be useful when adopting a more flexible and adaptive approach to assessment is that of Dynamic Assessment (DA). DA can be defined as the assessment of thinking, perception, learning, and problem-solving potential through an active teaching process (Tzuriel, 2001). DA differs from standardised, psychometric testing in four aspects. Within DA the assessor is an active participant, relying on high levels of interaction to estimate and adapt to the needs of the pupil (Feuerstein, 1979). The structure of testing materials differs, with DA relying on tasks of gradually increasing difficulty. DA emphasises the process of assessment rather than the product, with the focus on the child's approach to learning and mediation (Narrol & Bachor, 1975) as well as motivational, attitudinal and situational factors (Tzuriel & Kaniel, 1993). Finally, DA differs in terms of interpretation, with less importance placed on a final score and more importance placed on the learner's process.

In relation to Process and Time factors, the importance of developing a relationship with the pupil, the ability to identify and interpret subtle responses and need for assessments to be conducted over a long time frame were also key findings of this research. These findings are significant in relation to the model of service provision EPs may be working within, with considerable constraints on their time and resources. EPs need to be flexible in their approach to assessment in order to balance service constraints and the needs of pupils with MPID. This may include adopting a more collaborative approach to assessment. An approach that is recommended within the literature is that of Person-Centred Planning (PCP). PCP encourages a collaborative process of listening and learning from the pupil, focused on supporting the person in what is important for them now and in the future. Using PCP, stakeholders are encouraged to

use a flexible and responsive approach to assessing progress, strengths and needs and problem-solving in partnership with the person, their family and those working with them (Robertson et al., 2007). Incorporating a collaborative approach to monitoring and assessing attainment, such as PCP, allows EPs to share and use information from the pupil themselves as well as those with pre-existing relationships with the pupil, who may have a better understanding of the pupil's responses. This may include incorporating technology and utilising videos and photographs to demonstrate and share progress. Having a knowledge of assessment approaches such as these and how they may address some of the challenges highlighted in the current study could be very informative for EPs working with this population.

The Role of the Educational Psychologist as a Scientist-Practitioner

EPs have been described as 'scientist-practitioners' as they integrate psychological theory and practice to affect change (Fallon et al., 2010). When recommending interventions and support strategies as scientist-practitioners, EPs rely on evidence-informed practice (Hagstrom et al., 2007). When considering attainment for pupils with MPID, having accurate and appropriate attainment data is necessary in order to record a pupil's response to intervention and as part of a review process when creating a support plan. Given the limitations of standardised assessment when working with pupils with MPID, having accurate measures of attainment is imperative to inform decisions such as class placement and indeed school placement. It may also be of particular importance when considering the comorbidity of medical and behavioural needs for pupils with MPID. Accurate attainment data plays an important role in tracking progression, regression and when monitoring, for example, the potential impact and side-effects of medication, increased seizure frequency or other medical complications on a pupil's presentation and attainment. Therefore, it is important that EPs are cognisant of the current lack of

appropriate and adapted assessment measures for pupils with MPID and the impact this could have when reviewing the effectiveness of interventions. Historically, EPs have used their psychological knowledge to study learning, cognition, individual differences and measurement (Glover & Ronning, 1987). The findings from this study highlight the need to explore adapted and new measures when assessing attainment for pupils with MPID. EPs have an integral role in test development and supporting schools in using adapted assessment measures and evidence-based practices when working with this population.

The Consultative Role of the Educational Psychologist

An important implication of the findings from the current research is the consultative role of EPs in supporting attainment and assessment approaches. Consultation can be defined as a collaborative, voluntary and non-supervisory approach aimed at assisting the functioning of systems (Wagner, 2000). The role of an EP in consultation focuses on assisting stakeholders (pupils, parents or school staff) to find solutions to home or school-based concerns that promote progress in the most effective manner (Wagner, 2000). Within the Irish context, the National Educational Psychological Service (NEPS) uses a consultative model of service delivery, which aims to encourage change at an individual, class, and school level by empowering staff to intervene effectively to support student needs (Department of Education and Skills & National Educational Psychological Service, 2010).

Implications for the consultative role of the EP identified in the current empirical research include participants' reflections that speech and language and occupational therapists had a more significant role in consultation and assessment of attainment. Psychologists were mentioned by participants only in terms of behavioural attainment goals. This may reflect the

need of EPs to effectively communicate their role and expertise in relation to theories of learning, developmental milestones, monitoring progress, promotion of adaptive living skills, educational goals, and joint goal setting. It also may be reflective of the support given to special schools historically, where the focus of support had been primarily given to individual pupils under the care of disability teams. Since 2021, NEPS have begun supporting special schools, with a focus on more systemic and consultative approaches.

The consultative role of the EP also involves supporting the capacity of schools to communicate and develop collaborative assessment practices. The findings of the current empirical research would suggest that there may be a lack of parental understanding as to how attainment is measured in a special school context. This is reflected in the low parental participation rates in the study as well as participants' responses detailing a lack of involvement in assessments relating to attainment. These findings may reflect a lack of capacity on the behalf of schools in ensuring parental understanding and involvement and highlight the impact of Context factors and interactions at the exosystem level when considering attainment. Collaborative practice and sharing of information between parents and school staff is of particular importance within a special school context given the high comorbidity of communication difficulties for pupils and to ensure consistency in approach. An additional barrier within a special school context is the use of school transportation. As pupils attending special schools are entitled to transportation and may travel long distances to attend a specialised setting, this limits opportunities for informal communication between parents and school staff. Parental responses highlighted a desire for sharing of monthly goals and a short progress report at the end of each month to increase communication and allow for shared understanding of goals.

EPs have an important role in supporting schools at a systemic level to embed proactive, collaborative approaches to goal setting and monitoring pupils.

School staff reflections identified the importance of adopting a whole-school approach to assessment and recommended practices including creating and sharing resources, peer support, a consistent approach and creating a positive school culture in relation to assessment. This again reflects the impact of Context at the mesosystem when informing our understanding of attainment. EPs can play a pivotal role in supporting the creation of a positive school culture and supporting staff members to share practices within the school community.

EPs could facilitate schools in developing and evaluating their assessment policies. As advocated in approaches such as Person-Centred-Planning, the individual should be at the centre of goal setting and monitoring progress (Sanderson, 2000). This approach highlights the importance of the voice of the pupil in creating a plan. A further role of EPs in supporting pupils with MPID may be utilising their skills and expertise to build relationships with pupils to ensure their perspectives are included. While acknowledging that this may be challenging, this could be achieved by using adapted methodologies appropriate to the needs of pupils with complex needs such as visual supports and aided communication (Hill et al., 2016).

When considering assessment practices, NEPS promotes the use of the Continuum of Support, outlining support at three levels: Support for All, Support for Some and Support for Few (Department of Education and Skills & National Educational Psychological Service, 2010). When considering the Continuum of Support through the lens of attainment, it is imperative that schools collect accurate and relevant data on the progress of pupils to identify the appropriate level of support needed and pupils' response to intervention. EPs have an important role in

promoting best-practice assessment measures and advocating on behalf of pupils in the school system.

The Role of the Educational Psychologist on a Multidisciplinary Team

Within the current research, barriers to assessment such as difficulties in accessing therapeutic support, including psychologists, occupational therapists and speech and language therapists in special schools, were highlighted by participants. This highlights difficulties at the Context level, in interactions at the exosystem between school, parents and supporting professionals. As the population attending special schools may present with complex needs, participants referred to the importance of having therapeutic support to adequately support pupils. Multidisciplinary teams may have a unique role in supporting pupils with MPID in terms of attainment, given the holistic conceptualisation of attainment outlined in the findings of this study. As discussed earlier, participants highlighted areas such as adaptive living, social and communication skills when describing attainment in a special school setting. As there is no explicit adaptive living or social skills curriculum available to teachers, multidisciplinary teams, including EPs, may have a role in consulting and advising on appropriate goals in these areas.

Projects to provide more access to multidisciplinary teams have been piloted under the In-School and Early Years Therapy Support Demonstration, which was piloted by the NCSE in the 2018/2019 school year (Lynch et al., 2020). This project consisted of a tiered model of therapeutic support to be delivered in selected mainstream and special schools. Positive outcomes were reported in an evaluation of this pilot, including in-school continuum of SLT and OT therapy supports, staff training, whole-class initiatives, parent programmes and individualised supports (Lynch et al., 2020). Increased access to therapeutic supports through

projects such as this may assist in addressing some of the barriers to assessment raised by participants in the EJA in relation to a lack of therapeutic support.

Additionally, for EPs working in disability services, Progressing Disability Services (PDS) for Children and Young People is a national programme aimed at making therapeutic services more accessible (Health Service Executive, 2020). This national programme was designed to provide more equitable and clear service pathways to children, allowing them to receive needs-based support as near to their home and school as possible (Health Service Executive, 2020). PDS adopts a multidisciplinary team approach, where professionals work collaboratively to identify and meet the needs of the child, rather than focus on diagnosis. PDS aims to promote collaboration and co-ordination between education and health services and therefore, may facilitate EPs to promote collaborative practice when assessing the attainment of pupils in their care.

Implications for Other Professionals

The findings of this thesis also have important implications for the wider community of professionals working with pupils with MPID, representing the influence of national policies and support (macrosystem) on our understanding of attainment. As discussed above, both the findings from the systematic literature review and the empirical research emphasised the importance of considering attainment as a holistic and multidimensional concept, encompassing many domains including adaptive, social and communication skills. If considering attainment as an 'input-process-output' model of effectiveness (Kyriazopoulou & Weber, 2009), the curricular inputs do not reflect the holistic output represented in this conceptualisation of attainment. While curricular guidelines are available in relation to communication and some reference is made to

social and independence skills within the Social, Personal and Health Education guidelines, there is no explicit Irish curriculum for adaptive skills development or social and emotional wellbeing for pupils with MPID. Within a special school context this is of particular importance as attainment in these domains is often the result of explicit teaching and was reflected in both parent and school staff responses. The creation of a life skills or adaptive curriculum, which incorporated the views of school staff and parents as well as including a developmental sequence of skills may address this need.

The findings of the EJA also highlighted barriers such as the complex role of the teacher and lack of Department of Education supports as barriers to the assessment of attainment. School staff responses emphasised the additional complexity to their role as they were responsible for creating curricular and assessment material as well as adapting to the needs of the pupils in their care. While adapted measures such as The CAT-GLD (NCSE, n.d.) have aimed to address this need, they are only available in relation to a small number of domains, namely Mathematics, Physical Education and Social, Personal and Health Education. Developing this tool further may lessen the demands on teachers to create assessment material. The importance of assessment tools which reflect the developmental needs of pupils was also highlighted as imperative in identifying a pupil's attainment, progression, and regression. Within the UK, tools such as the Portage Best Practice Assessment Checklist and Development Profile (National Portage Association, n.d.) are used to track developmental milestones of children from birth to five years and include a breakdown of developmental steps for those in early education settings. An Irish equivalent is not currently available however developing such a tool may again lessen the demands on teachers and provide a supportive framework for monitoring skills attainment.

An additional recommendation highlighted in participant responses was the need for a bank of online resources and assessment materials devised specifically for pupils with MPID. As participants highlighted the benefits of peer support and sharing of materials as a facilitator to the assessment process, an interactive, sharing platform may be beneficial in supporting this need.

It should be noted that when considering the impact of Context in relation to attainment and attainment measures, participants' responses highlighted the importance of attainment data at the micro, meso and exosystem levels. At the macrosystem (national level) there is no requirement for special schools to report attainment data for pupils aged between 5 and 12 years, unlike their mainstream counterparts. This finding suggests that there may be a lack of value placed on the attainment of pupils with MPID. Creating a national database for attainment data of all pupils within the Irish education system and outlining specific guidelines regarding the collection and reporting of data on a national level for special schools may address this need.

Conclusion

The current research provided an overview of the conceptualisation and assessment of attainment for pupils with MPID. It also explored the barriers and facilitators to assessment of attainment in a special school in Ireland. This research has contributed to the evidence and knowledge base on the topic of attainment for pupils with MPID with the findings from both the systematic literature review and the empirical research having significant implications for educational psychology practice and for special classes and schools. The findings indicate there is an integral role for EPs in relation to promoting adaptive, collaborative and flexible assessment approaches as well as consultation regarding the assessment of attainment and supporting those working with pupils with MPID. These findings also have significant

implications for systemic supports for pupils with MPID including curricular revision, a national

attainment database and increasing the availability of specialised assessment measures.

References

Department of Education and Skills, & National Educational Psychological Service. (2010). *Behavioural, emotional and social difficulties: A continuum of support*. https://www.education.ie/en/Schools-Colleges/Services/National-EducationalPsychological-Service-NEPS-/neps_besd_continuum_teacher_guide.pdf

Fallon, K., Woods, K., & Rooney, S. (2010). A discussion of the developing role of educational psychologists within children's services. *Educational Psychology in Practice, 26*(1), 1-23. https://doi.org/10.1080/02667360903522744

Feuerstein, R., Rand, Y., & Hoffman, M. B. (1979). *The dynamic assessment of retarded performers: The learning potential assessment device, theory, instruments, and techniques*. University Park Press.

Glover, J. A., & Ronning, R. R. (1987). *Historical foundations of educational psychology*. Plenum.

Hagstrom, R. P., Fry, M. K., Cramblet, L. D., & Tanner, K. (2007). Educational psychologists as scientist-practitioners: An expansion of the meaning of a scientist-practitioner. *The American Behavioral Scientist (Beverly Hills), 50*(6), 797-807. https://doi.org/10.1177/0002764206296458

Health Service Executive. (2020). *Progressing towards outcomes-focused family-centred practice – An operational framework*. https://www.hse.ie/eng/services/list/4/disability/progressing-

disability/pdsprogramme/documents/progressing-towards-outcomes-focused-family-centredpractice.pdf

Hill, V., Croydon, A., Greathead, S., Kenny, L., Yates, R., & Pellicano, E. (2016). Research methods for children with multiple needs: developing techniques to facilitate all children and young people to have 'a voice'. *Educational and Child Psychology, 33*(3), 26-43.

Hollenweger, J. (2014). Beyond categories and labels: Knowledge to support assessment for Learning 'Disability' – A problem well put? In Lani Florian (Ed.), *The SAGE handbook of special education: Two volume set* (Second ed., pp. 507-522). SAGE. https://doi.org/10.4135/9781446282236.n32

Kennedy, E. K., Cameron, R. J., & Monsen, J. (2009). Effective consultation in educational and child psychology practice: Professional training for both competence and capability. *School Psychology International, 30*(6), 603-625. https://doi.org/10.1177/0143034309107079

Kyriazopoulou, M. & Weber, H. (2009). *Development of a set of indicators for inclusive education in Europe.* European Agency for the Development of Special Needs Education. https://www.european-agency.org/sites/default/files/development-of-a-set-of-indicators-for-inclusive-education-in-europe_Indicators-EN-with-cover.pdf

Lynch, H., Ring, E., Boyle, B., Moore, A., O'Toole, C., O'Sullivan, L., Brophy, T., Frizelle, P., Horgan, D., & O'Sullivan, D. (2020). *Evaluation of in-school and early years therapy support demonstration project.* https://ncse.ie/wp-content/uploads/2020/11/Demo-project-evaluation-fInal-for-web-upload.pdf

Narrol, H., & Bachor, D. G. (1975). An introduction to Feuerstein's approach to assessing and

    developing cognitive potential. *Interchange, 6*(1), 2-16.

    https://doi.org/10.1007/BF02145955

National Council for Special Education (NCSE) (n.d.). *Curriculum access tool for students with*

    general learning disability (CAT-GLD). https://www.sess.ie/cat-categories

National Portage Association (NPA) (n.d.). *Portage Best Practice Assessment Checklist and*

    Development Profile. https://www.portage.org.uk/news/portage-send-best-practice-

    assessment-checklist

Robertson, J., Emerson, E., Hatton, C., Elliott, J., McIntosh, B., Swift, P., Krinjen-Kemp, E.,

    Towers, C., Romeo, R., Knapp, M., Sanderson, H., Routledge, M., Oakes, P., & Joyce, T.

    (2007). Person-centred planning: Factors associated with successful outcomes for people

    with intellectual disabilities. *Journal of Intellectual Disability Research, 51*(3), 232-

    243. https://doi.org/10.1111/j.1365-2788.2006.00864.x

Robertson, S. M. (2009). Neurodiversity, quality of life, and autistic adults: Shifting research and

    professional focuses onto real-life challenges. *Disability Studies Quarterly, 30*(1), 162-

    179. https://doi.org/10.18061/dsq.v30i1.1069

Sanderson, H. (2000). *Person-centred planning: Key features and approaches*. Joseph Rowntree

    Foundation.

Tzuriel, D. & Kaniel, S. (1993). Dynamic assessment of learning potential: Theoretical and

    empirical aspects, and educational and therapeutic implications. *Megamot, 35*(2-3), 271-

    292.

Tzuriel, D. (2001). Dynamic assessment of learning potential. In Andrews, J., Saklofske, D. &
Janzen, H. (Eds.) *Handbook of psychoeducational assessment: Ability, achievement, and
behavior in children* (pp. 451-496). Elsevier Inc. https://doi.org/10.1016/B978-012058570-0/50017-3

Wagner, P. (2000). Consultation: Developing a comprehensive approach to service
delivery. *Educational Psychology in Practice, 16*(1), 9-18.
https://doi.org/10.1080/026673600115229

Appendices

Appendix A: CASP Quality Review Table

CASP Case Study Checklist							
	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6, a	Q.6, b
Authors	Did the study address a clearly focused issue?	Did the authors use an appropriate method to answer their question?	Were the cases recruited in an acceptable way?	Were the controls selected in an acceptable way?	Was the exposure accurately measured to minimise bias?	(a) What confounding factors have the authors accounted for?	(b) Have the authors taken account of the potential confounding factors in the design and/or in their analysis?
Apanasiono et al., 2020	Pilot study of the use of the Early Science (ES) curriculum over a six-week period with nine students with moderate to severe DD in a special education setting in the UK.	Case study design	Cases defined appropriately for inclusion - based on teacher judgements and outlined inclusion criteria	N/A	Prior to intervention, training given to class teacher and TAs. Included the use of scripts, time delay procedure, the example and non-example procedure and the least-to-most prompting procedure.	Time constraints and staff resourcing listed as difficulties	Confounding variables not included in analysis
Ainsworth et al., 2016	Is there a functional relation between the use	Case study design used where measures had been	Students recruited on a specific criterion for inclusion	N/A	Interobserver technique used to ensure validity of	Interference from school trips and scheduling that limited trials,	Confounding variables not included in analysis

	of direct instruction? using a structured curriculum and increased accuracy of letter-sound correspondence by middle school students with severe disabilities and complex communication disorders	standardised for administration to each group	relating to age, performance on assessment, communication level. Students assigned to groups depending on information from teacher, schedule and randomisation where possible		measures. Researchers were trained separately and observed together. Measures used to establish baseline and cold probing seem appropriate	researcher acting as intervener, as students selecting from visual display there is a chance of some false positives	
Brock et al., 2017	Examine the effects of paraprofessional training in evidence-based practices on student outcomes	Case study design	Criteria appropriately outlined	N/A	Non-biased observations utilised	Examine the effects of paraprofessional training in evidence-based practices on student outcomes	Confounding variables not included in analysis
Butler, 2016	Whether a TEACCH-based approach could be effective in helping to develop the communication skills of older learners with	Case study design used where measures had been standardised for administration to each group	Participants had been grouped by the school based on communication needs. Not enough detailed provided as to inclusion and	N/A	Subjective measure including IEP targets, teacher reports, school reports and parental reports were used to measure	None listed	Confounding variables not included in analysis

	Severe Intellectual Disabilities		exclusion criteria.		progress. ADD 0.5		
Detheridge, 1997	Use of IT to enhance communication for those with PMLD	Case study design	No inclusion criteria outlined	N/A	Multiple information sources in establishing the baseline. Corroboration of observations by at least one additional person. Post-observation discussion notes, photographs and videos; use of a semi-structured interview with the teachers at the end of the project.	Professional development of the teachers	More than one school included in the design of the study. Inter-rater reliability measures.
Elliott et al., 2002	To investigate the effectiveness of social skills programmes with adolescents with a moderate ID.	Case study design	Participants selected based on intellectual ability. Participants comprised of one class grouping	N/A	Limitations of using self-assessment as a method was listed due to the bias. This was not controlled for.	Self-assessment and sample size listed.	Confounding variables not included in analysis

Jones et al., 2019	Study is focused on monitoring literacy achievement in pupils with moderate and borderline IQ	Case study design	Details given to profile of participants but did not reference how they were selected	N/A	Measures were tested for reliability, pre- and post-reading test used, assessors making observations were trained in assessment prior to engaging. Interrater reliability and video reliability used	Level of off task behaviour noted. Treatment order highlighted as a possible confounding variable.	Treatment order accounted for through the creation of a reduced Latin Square
Lancioni et al., 2010	To establish the effects of a technology-assisted programme on adaptive object manipulation and inappropriate behaviour	Case study design	Cases defined appropriately as to why both were included	N/A	Object manipulation response and stimulation time was recorded. A control device, video recording and inter-rater reliability was utilised	Not listed	No
Lane & Critchfield, 1998	The effect of arbitrary matching on	Case study design	No inclusion criteria outlined	N/A	Trials conducted in the	None listed	Inter-rater reliability used to analysis results

	constant and vowel recognition				laboratory. Detailed procedure not outlined. Give 0.5		
McDonnell et.al, 2000	Extend the research base of peer mediated instruction as an approach for supporting students with severe ID.	Case study design	Inclusion criteria outlined and appropriate.	N/A	Training given to teachers and partner learners prior to trials. Strategies modelled and practiced prior to intervention.	None listed	Confounding variables not included in analysis
Saint-Laurent et al., 1993	To compare the efficacy of integrating elementary schools' students with moderate ID into mainstream, to community-based and a traditional developmental program	Case study design	Participation criteria lists. Based on age and intellectual ability.	N/A	Standardized measures used for pre- and post-test. Harvey Scale of Development, The Adaptive Behaviour Scale – School Edition, The Peabody Picture Vocabulary Test Revised, The Key Math Diagnostic	Familiarity effects	Counterbalancing to take away from familiarity effects.

					Arithmetic Test, School records, Teacher questionnaire.		
Taber-Doughty, 2005	Looked at the effectiveness and efficiency of three prompting systems and impact of student choice and preference.	Case study design	Inclusion criteria appropriately defined	N/A	Baselines and interventions planned for exposure and rated using inter-rater reliability with a trained observer	Presence of other people affected performance on some of the tasks for some of the pupils.	Provision made for order effects and carryover effects in alternating treatment design.

CASP Case Study Checklist						
	Q.7	Q.8	Q.9	Q.10	Q.11	
Authors	What are the results of this study?	How precise are the results? How precise is the estimate of risk?	Do you believe the results?	Can the results be applied to the local population?	Do the results of this study fit with other available evidence?	Total
Apanasiono et al., 2020	It was feasible to implement the ES curriculum in a special education setting in the UK with some minor adjustments.	Descriptive statistics used to analysis	Yes	Could be generalised to other special schools and have implications for other curricula deliveries	None listed	6
Ainsworth et al., 2016	The results of this study indicate that middle school students with severe	Descriptive statistics used to analysis	Yes	Results could be extended to others with similar	Very limited search pool but study consistent with	7

	disabilities and communication disorders can benefit from direct instruction on letter-sound correspondence using direct instruction			conditions. Provides a means of measuring progress through specifically designed pre- test, post-test.	findings from one other study	
Brock et al., 2017	Paraprofessional training had a positive effect on student outcomes	Descriptive statistics used to analysis	Yes	Yes	Yes	7
Butler, 2016	Modest progress recorded in communication p-scales. Marked difference in communication style recorded in observational measures	Descriptive statistics used to analysis	Yes	Results could be extended to others with similar conditions. Provides a means of measuring progress through specifically designed pre- test, post-test.	Add O.5. None listed	5.5
Detheridge, 1997	IT had positive impacts on students' communication and ability to demonstrate learning	Descriptive statistics used to analysis	Yes	Could be generalised to wider population of pupils with PMID	Yes but limited research available	7
Elliott et al., 2002	The teacher's scores showed that the students had improved significantly; however, the students saw themselves as significantly less skilled after training.	Descriptive statistics used to analysis	Yes	Results could be extended to others with similar conditions. Provides a means of measuring progress through specifically designed pre- test, post-test.	Not mentioned	5

Jones et al., 2019	No particular assessment format emerged as most appropriate, indicating individual differences and preferences for learning. CBA used as monitoring tool	Descriptive statistics used to analysis	Yes	Results could be extended to others with similar conditions. Provides a means of measuring progress through specifically designed pre- test, post-test. Findings could also be relevant for typically developing pupils.	Studies are limited but it fits with what has been described in Universal Design for Learning Studies	7
Lancioni et al., 2010	Intervention increased object manipulation and decreased inappropriate behaviour	Descriptive statistics used to analysis	Yes	Students assigned to groups depending on information from teacher, schedule and randomisation where possible	Consistent with research on microswitches, inappropriate behaviour had not been studied before	7
Lane & Critchfield, 1998	Had a positive effect on outcome, letter naming and identification in words	Descriptive statistics and pre/post-test measures used	Yes	Could be used as an intervention for other learners with moderate intellectual disability	Very limited search pool but study consistent with findings from one other study	6.5
McDonnell et.al, 2000	Was an effective support for students with severe disabilities and least to increased spelling accuracy.	Descriptive statistics used to analysis	Yes	Could be utilised as a learning intervention for others	Yes	7
Saint-Laurent et al., 1993	Found that social interaction scores improved in integration but not cognitive or adaptive functioning scores.	Descriptive statistics used to analysis	Yes	Results could be extended to others with similar conditions. Provides a means of measuring progress	Yes	8

				through specifically designed pre- test, post-test.		
Taber-Doughty, 2005	Student preferences had a positive effect on their success using various promoting measures	Descriptive statistics used to analysis	Yes	Emphasises the importance of student choice and multiple means of representation	Yes	8

Appendix B: Description of Assessments, Systematic Literature Review

Assessment Type	Description
Brigance Early Childhood Inventory	The BRIGANCE® Early Childhood Screens III is an assessment tool designed to determine developmental needs, school readiness and guide instructional planning. Screeners focus on language, motor, self-help, social-emotional and cognitive skills.
The Code for Instructional Structure and Academic Response-Mainstream Version (MS-CISSAR)	MS-CISSAR was a tool developed for use with elementary and middle school age students and facilitates the recording of variables related to thirteen factors within the three overall categories: student behaviours, teacher behaviours, and classroom ecology (Greenwood et al., 1997).
The Harvey Scale of Development	The Harvey Scale of Development is a tool for assessing a child's developmental profile (Harvey, 1984). It covers 5 domains: motor skills, autonomy, graphics, language and knowledge. Each task corresponds with a developmental age of between two months and eight years.
Adaptive Behaviour Scale-School Edition	The Adaptive Behaviour Scale-School Edition (ABS-S:2) was designed to assess the personal/community independence, personal/social performance of school-aged children (Lambert et al., 1993). It is normed on children from 3 years to 21 years of age. This measure has separate norms for individuals with and without intellectual disabilities.
Peabody Picture Vocabulary Test	Peabody Picture Vocabulary Test is a norm-referenced, individually administered measure of receptive vocabulary based on words in Standard American English.

	The test is based on age-based standard scores and can be administered for children between 2 years 6 months to 90 years of age (Dunn & Dunn, 1997).
The Key Math Diagnostic Arithmetic Test	The Key Math Diagnostic Arithmetic Assessment is an individually administered measure of essential mathematical concepts and skills. It measures content, operations, applications, total mathematical ability. This measure can be administered to children aged 4 years 6 months to 22 years old (Price & Rogers, 1981).
P-Scale	The Pre-National Curriculum Performance Scales are a standardised measure for assessing students with intellectual disabilities used in the United Kingdom (Department for Education, 2014). These scales are a set of descriptions for achievement ranging from P1 to P8.
Unstandardised Assessment	
Curricular-based Assessment	Curricular- based assessment refers to assessment that compares a student's performance to a classroom's curricular standards or criteria. This is a measure of student's performance in either basic skills or content knowledge (Jones et al., 1998).
Individual Education Plan	An Individual Education Plan (IEP) is a written document prepared for a named student specifies the learning goals that are to be achieved by the student over a set period of time and the strategies, resources and supports necessary to achieve those goals (NCSE, 2007).
Event Recoding	Event recording is a process for documenting the number of times a behaviour occurs (University of Kansas, 2020).

References

Department for Education (2014). *Performance – P Ssale – attainment targets for pupils with special educational needs*. Department for Education. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/617033/Performance_-_P_Scale_-_attainment_targets_for_pupils_with_special_educational_needs_June_2017.pdf

Dunn, L. M. & Dunn, L. M. (1997). *Peabody picture vocabulary test third edition: Examiner's manual for the PpVT—III Form IIIA and Form IIIB*. American Guidance Service.

Greenwood, C.R., Carta, J.J., Kamps, D., & Delquadri, J. (1997). *EcoBehavioral assessment system software: Practitioner's manual.* University of Kansas.

Harvey, M. (1984)*. L'échelle de développement Harvey [The Harvey scale of development].* Behaviora.

Jones, E. D., Southern, W. T., & Brigham, F. J. (1998). Curriculum-based assessment: Testing what is taught and teaching what is tested. *Intervention in School and Clinic, 33*(4), 239-249. https://doi.org/10.1177/105345129803300407

Lambert, N., Nihira, K., & Leland, H. (1993). *AAMR adaptive behaviour scale-school (2nd ed.).* American Association on Mental Retardation.

National Council for Curriculum and Assessment (NCCA) (2007). *Curriculum guidelines for teachers of pupils with general learning disabilities.* https://ncca.ie/media/2509/sen_introduction.pdf

Price, M. F., & Rogers, B. (1981). The key math diagnostic arithmetic test. *Measurement and Evaluation in Guidance*, *14*(2), 108-111.

University of Kansas. (2020). *Event Recording*. https://specialconnections.ku.edu/?q=assessment/data_based_decision_making/teacher_tools/event_recording

Appendix C: Information Letter for School Staff

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Introduction

My name is Katie Cronin and I am studying for a Doctorate degree of Educational Psychology in the School of Education, University College Dublin (UCD). My doctoral thesis focuses on the concept and assessment of attainment with pupils attending a special school. My research is being conducted under the supervision of Dr Joyce Senior, an Educational Psychologist and Director of the Professional Doctorate in Educational Psychology in UCD. This research is being conducted with the Children's School Lives study, a national longitudinal study of primary schools in Ireland. I am writing to invite you to take part in my research.

What is this research about?

Accurate assessment of children's strengths, needs and progress is very important to enable children and young people to reach their full potential and for teachers to tailor their learning. Schools and educational professionals play a key role in developing and using assessment methods to monitor attainment and inform planning. This study aims to identify how assessment practices are being used, understood and supported in a special school setting. The research will examine assessment practices relating to assessment of attainment, how assessment data is used to inform planning and explore assessment from the perspectives of school staff (teachers and special needs assistants) and parents.

Why is this research being carried out?

The use of accurate assessment measures is considered very important to help inform teaching and planning for students. By accurately assessing a child's strengths, needs and progress, decisions can be made as to appropriate educational goals. Assessment measures can also inform planning for intervention and be used to monitor and show pupils' progress.

There has been a significant lack of research that has looked at the types of assessment measures that are used for children attending special schools as well as the manner in which assessment measures inform classroom practice. The findings of this study aim to identify the methods of assessment that are currently in use, the manner in which assessment data is used to inform curricular, intervention and behavioural planning and school staff and parents' perspectives on the use of assessment. It is hoped that these findings will inform policy and assessment practice in special school settings and result in improved outcomes for children attending special schools.

Why have you been invited to take part?

I am contacting school staff of students between the ages of 7-12 years, who have been enrolled in your school for over one year, in order to explore their views on student assessment.

What will happen if you decide to take part in this research study?

If you are interested in taking part in this research, I will arrange to meet you at a time that suits you either by zoom or over the telephone. I will ask you about your views on attainment assessment in your classroom practice, including questions about the supports available to you in terms of assessment, your views of attainment, the assessment tools used and how you use assessment data within the classroom. The interview will not take more than 45 minutes.

How will the information collected be used?

If you consent to take part in this study, I will ask you to participate in an interview with me. The interview will be audio recorded to allow me to de-identify and write your responses out and analyse them. A second individual will review some of the de-identified audio recordings and transcripts to ensure the transcription is accurate. Once the responses are analysed, the results will be written up and submitted to the administrative team for the

Children's School Lives project and UCD for my degree of Doctorate in Educational Psychology. A research article and report will also be sent to the National Council for Curriculum and Assessment. You will also be given a summary of the main findings. The de-identified data will be stored by the Children's School Lives team indefinitely for research purposes. These purposes may include research articles, reports for governmental bodies such as the NCCA and thesis submissions.

How will your privacy be protected?

All information about you, your pupils and the school will be kept strictly confidential. I will not use the school's name, your name or any identifiable information in anything I write about the study. An ID code will be assigned to each participant and only my supervisor and I will know the identity of the participants. All identifying information will be removed and replaced with this ID number. All data gathered will be stored on an encrypted, password-protected laptop in a secure location. Consent forms will be stored as hard copies in a locked filing cabinet in the School of Education in UCD. Audio recordings of the interviews will be stored securely on a password-protected device in encrypted format until they are deleted after being transcribed. Interview transcripts will be stored in an anonymised format by the Children's School Lives team indefinitely for research purposes. Any emails I send or receive from you will be stored on my email domain and destroyed after my thesis has been submitted and assessed, which is expected to be in the summer of 2022.

What are the benefits of taking part in this research study?

It is hoped that the information gathered from this study will inform policy and practice for the use of attainment assessment in special school settings and result in improved outcomes for children attending special schools.

What are the risks of taking part in this research study?

It is possible that you may become upset while talking about your views on and experiences of the assessment with the students in the school. If this happens, you will be offered the

opportunity to take a break, to postpone the interview, to end the interview or to withdraw from the research. In addition, I will provide you with a debriefing sheet and information on services available to support you.

Can I change my mind at any stage and withdraw from the study?

It is up to you to decide if you want to take part in the study. Participation is entirely voluntary. You are free to change your mind and to withdraw your data from the research at any stage without giving a reason, up until two weeks following your interview. After this point, it may not be possible to withdraw as analysis will have already started on your interview.

How will I find out what happens with this project?

A transcription of your interview can be requested at the end of your interview or by contacting me at the email address below and I can send it to you by email or by hard copy. When the study is completed, a summary of the main findings will be provided to all parents via the school principal. It is also hoped that the results will be published in articles in academic journals. You will also be provided with a link to any publications.

If I would like to take part in the study, what do I do now?

If you would like to take part in this study, please sign the attached Consent Form and return it to the sealed box available in the staff room. You can also contact me through the email address below if you would like to discuss any aspects of this research further. Once you have agreed to participate, I will contact you to discuss a suitable date and time for the interview.

Contact details for further information

If you have any further questions, please do not hesitate to contact me, or my research supervisor, using the details below.

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

Researcher: Katie Cronin,

B.Ed.in Education and Psychology, Grad. Cert in Autism Studies, Grad. Dip in Special

Education.

Trainee Educational Psychologist, UCD
Email: katie.cronin@ucdconnect.ie

Supervisor: Dr Joyce Senior,
Director, Doctorate in Educational Psychology, UCD
Email: joyce.senior@ucdconnect.ie
Phone: (+353) 1 716 7980

Thank you for reading the above information.

Yours Sincerely,

Katie Cronin
_____

Katie Cronin

Appendix D: Information Letter for Parents

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Introduction

My name is Katie Cronin, and I am studying for a Doctorate degree of Educational Psychology in the School of Education, University College Dublin (UCD). My doctoral thesis focuses on the use of assessment to measure progress with students attending a special school. My research is being conducted under the supervision of Dr Joyce Senior, an Educational Psychologist and Director of the Professional Doctorate in Educational Psychology in UCD. This research is being conducted with the Children's School Lives study, a national longitudinal study of primary schools in Ireland. I am writing to invite you to take part in my research.

What is this research about?

Accurate assessment of children's strengths, needs and progress is very important to enable children and young people to reach their full potential and for teachers to tailor their learning. Schools and educational professionals play a key role in developing and using assessment methods to monitor attainment and inform planning. This study aims to identify how assessment practices are being used, understood and supported in a special school setting. The research will examine assessment practices relating to assessment of attainment, how assessment data is used to inform planning and explore assessment from the perspectives of school staff (principal and teachers), educational psychologists and parents.

Why is this research being carried out?

The use of accurate assessment measures is considered very important to help inform teaching and planning for students. By accurately assessing a child's strengths, needs and progress, decisions can be made as to appropriate educational goals. Assessment measures can also inform planning for intervention and be used to monitor and show pupils' progress. There has been a significant lack of research that has looked at the types of assessment

measures that are used for children attending special schools as well as the manner in which assessment measures inform classroom practice. The findings of this study aim to identify the methods of assessment that are currently in use, the manner in which assessment data is used to inform curricular, intervention and behavioural planning and school staff and parents' perspectives on the use of assessment. It is hoped that these findings will inform policy and assessment practice in special school settings and result in improved outcomes for children attending special schools.

Why have you been invited to take part?

I am contacting the parents/guardians of students between the ages of 7-12 years, who have been enrolled in your child's school for over one year, in order to explore their views on student assessment.

What will happen if you decide to take part in this research study?

If you are interested in taking part in this research, I will arrange to meet you at a time that suits you either by zoom or over the telephone. I will ask you about your views on the use of attainment assessments with your child, including questions about your experience of school assessments from a parent's perspective, how results of classroom assessment are communicated with you and how your child's progress is monitored. The interview will not take more than 45 minutes.

How will the information collected be used?

If you consent to take part in this study, I will ask you to participate in an interview with me. The interview will be audio recorded to allow me to de-identify and write your responses out and analyse them. A second individual will review some of the de-identified audio recordings and transcripts to ensure the transcription is accurate. Once the responses are analysed, the results will be written up and submitted to the administrative team for the Children's School Lives project and UCD for my degree of Doctorate in Educational Psychology. A research article and report will also be sent to the National Council for

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

Curriculum and Assessment. You will also be given a summary of the main findings. The de-identified data will be stored by the Children's School Lives team indefinitely for research purposes. These purposes may include research articles, reports for governmental bodies such as the NCCA and thesis submissions.

How will your privacy be protected?

All information about you, your child and the school will be kept strictly confidential. I will not use the school's name, your or your child's real names or any identifiable information in anything I write about the study. An ID code will be assigned to each participant and only my supervisor and I will know the identity of the participants. All identifying information will be removed and replaced with this ID number. All data gathered will be stored on an encrypted, password-protected laptop in a secure location. Consent forms will be stored as hard copies in a locked filing cabinet in the School of Education in UCD. Audio recordings of the interviews will be stored securely on a password-protected device in encrypted format until they are deleted after being transcribed. Interview transcripts will be stored in an anonymised format by the Children's School Lives team indefinitely for research purposes. Any emails I send or receive from you will be stored on my email domain and destroyed after my thesis has been submitted and assessed, which is expected to be in the summer of 2022.

What are the benefits of taking part in this research study?

It is hoped that the information gathered from this study will inform policy and practice for the use of attainment assessment in special school settings and result in improved outcomes for children attending special schools.

What are the risks of taking part in this research study?

It is possible that you may become upset while talking about your views on and experiences of the assessment of your child in the school. If this happens, you will be offered the opportunity to take a break, to postpone the interview, to end the interview or to withdraw

from the research. In addition, I will provide you with a debriefing sheet and information on services available to support you.

Can I change my mind at any stage and withdraw from the study?

It is up to you to decide if you want to take part in the study. Participation is entirely voluntary. You are free to change your mind and to withdraw your data from the research at any stage without giving a reason, up until two weeks following your interview. After this point, it may not be possible to withdraw as analysis will have already started on your interview.

How will I find out what happens with this project?

A transcription of your interview can be requested at the end of your interview or by contacting me at the email address below and I can send it to you by email or by hard copy. When the study is completed, a summary of the main findings will be provided to all parents via the school principal. It is also hoped that the results will be published in articles in academic journals. You will also be provided with a link to any publications.

If I would like to take part in the study, what do I do now?

If you would like to take part in this study, please sign the attached Consent Form and return it to the school's secretary or post it directly to me in the enclosed envelope. You can also contact me through the email address below if you would like to discuss any aspects of this research further. Once you have agreed to participate, I will contact you to discuss a suitable date and time for the interview.

Contact details for further information

If you have any further questions, please do not hesitate to contact me, or my research supervisor, using the details below.

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

Researcher: Katie Cronin,

B.Ed in Education and Psychology, Grad. Cert in Autism Studies, Grad. Dip in Special Education.

Trainee Educational Psychologist, UCD

Email: katie.cronin@ucdconnect.ie

Supervisor: Dr Joyce Senior,

Director, Doctorate in Educational Psychology, UCD

Email: joyce.senior@ucdconnect.ie

Phone: (+353) 1 716 7980

Thank you for reading the above information.

Yours Sincerely,

Katie Cron

_____

Katie Cronin

Appendix E: Consent Form for School Staff

	UCD School of Education	Scoil an Oideachais UCD
	Roebuck University College Dublin Belfield, Dublin 4, Ireland T +353 1 716 7965/7968/7967 F +353 1 716 1143	Roebuck An Coláiste Ollscoile, Baile Átha Cliath Belfield, Baile Átha Cliath 4, Éire education@ucd.ie www.ucd.ie/education

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Researcher: Katie Cronin, Trainee Educational Psychologist, School of Education, University College Dublin

Supervisor: Dr Joyce Senior, Director, Doctorate in Educational Psychology, School of Education, University College Dublin.

- I have read and understood the information letter for the above study.
- I have had the opportunity to ask questions about the study and received satisfactory answers to any questions I asked.
- I understand that my participation in this research is entirely voluntary. I am free to withdraw my consent to participate without explanation at any time up until two weeks after my interview.
- I agree for my interview to be audio recorded so it can later be transcribed for analysis.
- I understand that my interview and email data will be stored with an ID number on a password-protected, encrypted computer.
- I understand my consent form will be stored in a locked filing cabinet.
- I understand that, in order to protect my anonymity, identifiable details such as the real names of me, children and the school will not be included in the study.
- I understand that the anonymised data will be stored by the Children's School Lives team indefinitely for research purposes. These purposes may include research articles, reports for governmental bodies such as the NCCA and thesis submissions.
- I understand that any emails I send to or receive from the researcher will be held until after the researcher's thesis submission and assessment which is expected to be held in the summer of 2022.
- I agree that the data collected can be used in a thesis for the degree of Doctorate in Educational Psychology and in publications such as journal articles.
- I agree to take part in this study. I understand that I will receive a summary of the main research findings when the study is completed.

Name of Staff Member (in block capitals): _____

Date: _____

Signature: _____

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

Position (Please tick):

Principal   ☐

Class Teacher   ☐

Special Needs Assistant ☐

Other   ☐ (Please specify: _____)

Email address: _____

Name of Researcher (in block capitals): _____

Date: _____

Signature: _____

Appendix F: Consent Form for Parents

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

**An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils
with Moderate to Profound Intellectual Disability: A Multi-informant Approach**

Researcher: Katie Cronin, Trainee Educational Psychologist, School of Education, University College Dublin

Supervisor: Dr Joyce Senior, Director, Doctorate in Educational Psychology, School of Education, University
College Dublin.

- I have read and understood the information letter for the above study.
- I have had the opportunity to ask questions about the study and received satisfactory
  answers to any questions I asked.
- I understand that my participation in this research is entirely voluntary. I am free to
  withdraw my consent to participate without explanation at any time up until two weeks
  after my interview.
- I agree for my interview to be audio recorded so it can later be transcribed for analysis.
- I understand that my interview and email data will be stored with an ID number on a
  password-protected, encrypted computer.
- I understand my consent form will be stored in a locked filing cabinet.
- I understand that, in order to protect my anonymity, identifiable details such as the real
  names of me, my child and the school will not be included in the study.
- I understand that the anonymised data will be stored by the Children's School Lives
  team indefinitely for research purposes. These purposes may include research articles,
  reports for governmental bodies such as the NCCA and thesis submissions.
- I understand that any emails I send to or receive from the researcher will be held until
  after the researcher's thesis submission and assessment which is expected to be held in
  the summer of 2022.
- I agree that the data collected can be used in a thesis for the degree of Doctorate in
  Educational Psychology and in publications such as journal articles.
- I agree to take part in this study. I understand that I will receive a summary of the main
  research findings when the study is completed.

Name of Parent/Guardian (in block capitals): _____

Date: _____

Signature: _____

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

Relationship to Student (Please tick):

Mother ☐

Father ☐

Legal Guardian ☐

Email address: _____

Name of Researcher (in block capitals): _____

Date: _____

Signature: _____

Appendix G: Semi-Structured Interview Schedule for Staff

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Introduction

My name is Katie Cronin, and I am a Trainee Educational Psychologist at University College Dublin. My research will focus on the progress monitoring assessment practices in a special school context and aims to identify how assessment practices are being used, understood and supported in a special school setting.

Answer any questions participants may have and check that it is okay for the interview to be audio recorded. Go through the consent form and obtain verbal consent again once recording has commenced.

Record the following demographic information:
- ID code:
- Position:
- Class Type:
- Age:
- How many years teaching and how many years in current position or school?
- Do you have any specific qualifications in Special Education Teaching or assessment?

Pupil Factors:
- How are students provided with experiences of success and achievement during their school day?
- How do children get to make choices in school?
- Are students generally able to follow instructions?
- Are students generally able to attend to tasks?
- Are there opportunities for students to give feedback on assessment practices?
- Are there any opportunities for students to engage in self-assessment within the classroom?

Beliefs/attitude to Attainment and Assessment:
- What does the term attainment mean for you?
- How would your definition compare to attainment in a mainstream setting?
- What does the term assessment mean for you?
- How important is assessment in your classroom practice?

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

Assessment Measures/Process:

- What assessment tools/ techniques do you use within your classroom?
- What are the curricular domains (i.e., literacy, numeracy, adaptive skills, behaviour etc.) most frequently assessed in your classroom? What assessment tool/technique is used?
- In your opinion, what are the greatest challenges to assessment for children in this school?
- What supports are in place to overcome these challenges?
- What are the barriers to addressing these challenges?
- What do you find to be the most effective methods of assessment within the classroom?
- What do you find to be the least effective methods of assessment within the classroom?
- How often do you gather assessment data on the children in your class?
- How is this data recorded?
- Do you keep an on-going record of assessment data?
- Do you use any sources of information outside of the classroom in your assessment practice?
- Do you feel there are benefits to regular assessment of children with complex needs?
- Are students' family members ever involved in the assessment process?
- Are psychological reports or recommendations ever involved in the assessment process?

Classroom Practice:

- How is assessment data used to inform curricular decisions and teaching strategies?
- How is it used to inform planning?
- How is it used to inform intervention?
- How is data from psychological reports used to inform practice in school?
- How are the results of assessments or progress monitoring communicated to parents?
- Is assessment data stored or kept in the school?
- Who has access to this data?
- For how long is the data kept?

School Factors
- Does the school use national guidance to plan and provide support for assessment?
- How would you describe the culture, ethos and climate of the school?
- How would you describe the leadership in the school?
- Who is responsible for developing Individual Education Plans (IEPs) in the school?

- How would you describe the approach and attitude of this school towards student assessment?
- How do you think assessment practices can be best promoted in schools?
- Do you think you have received appropriate training in assessment practices for children with complex needs?
- As a member of staff, do you feel like you have a clear understanding of the school's policies to promote assessment?

Closure of Interview

- Is there anything you talked about which you would like to clarify?
- Is there anything you would like to say before we finish the interview?
- Do you have any further questions?

Conclusion

Thank you for taking part in my research. You are free to change to withdraw from the research without giving a reason, up until two weeks following this interview. You may also receive a copy of the transcript of your interview if requested up until two weeks following this interview. When the study is completed, you will be provided with a summary of the main findings by the school secretary. It is also hoped that the results will be published in articles in academic journals. You will also be provided with a link to any publications. It is possible that some people may have become upset while discussing the assessment measures and practices used with students. Should this happen to you, the following are a list of organisations which offer support and advice. Give participant debriefing sheet.

Appendix H: Semi-Structured Interview Schedule for Parents

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Introduction

My name is Katie Cronin, and I am a Trainee Educational Psychologist at University College Dublin. My research will focus on the progress monitoring assessment practices in a special school context and aims to identify how assessment practices are being used, understood and supported in a special school setting.

Answer any questions participants may have and check that it is okay for the interview to be audio recorded. Go through the consent form and obtain verbal consent again once recording has commenced.

Record the following demographic information:
- Parent ID code:
- Ethnic background:
- Primary language spoken at home:
- Diagnosis:
- Where is child currently living: at home or in residential care:
- How long has child been enrolled in this school:
- Child's usual model of communication:

Individual Level, Child Factors
- What are your child's main strengths?
- In your opinion, is your child provided with opportunities to experience achievement and success in school?
- How is your child's ability to follow instructions?
- How is your child's ability to attend to tasks?

Attitudes/beliefs about assessment
- What does the term assessment mean to you?
- What is the purpose of assessment?
- How important do you think assessment is as part of your child's education?
- What role do you think parents have in assessing their child's progress in school?
- What role do you think schools have in assessing children's progress in school?
- How do you think your child's school promotes the use of assessments?
- Do you think school-based assessments are important in your child's school life?

Communication with School

- Are you aware of any of the ways the school may assess your child's progress?

- How is your child's progress in school communicated to you?

- How often is your child's progress communicated to you?

- Does the school involve you in assessment i.e., assessing your child's current skill level or their progress?

- Does the school involve you in planning future goals for your child?

- How are your child's individual educational goals communicated to you

Closure of Interview

- Is there anything you talked about which you would like to clarify?
- Is there anything you would like to say before we finish the interview?
- Do you have any further questions?

Conclusion

Thank you for taking part in my research. You are free to change your mind should you wish to withdraw from the research without giving a reason, up until two weeks following this interview. You may also receive a copy of the transcript of your interview if requested up until three weeks following this interview. When the study is completed, you will be provided with a summary of the main findings by the school secretary. It is also hoped that the results will be published in articles in academic journals. You will also be provided with a link to any publications. It is possible that some people may have become upset while discussing the assessment measures and practices used with students. Should this happen to you, the following are a list of organisations which offer support and advice. Email participant debriefing sheet.

Appendix I: Proof of Ethical Approval

UCD Office of Research Ethics

Roebuck Castle
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 8767

An Oifig Eitic Thaighde UCD

Caisleán Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

hrec@ucd.ie
www.ucd.ie/researchethics

May 4th, 2021

Ms Katie Cronin
c/o Dr Joyce Senior
UCD School of Education
Belfield
Dublin 4

Re: HS-21-41-Cronin-Senior: *An exploration of attainment assessment practices in a special school for pupils with moderate to profound intellectual disability: A multi-informant approach*

Dear Ms Cronin

Thank you for your response to the Human Research Ethics Committee – Humanities (10/06/21). The Decision of the Committee is that **approval is granted** for this application which is subject to the conditions set out below.

Please note that **public liability insurance for this study has been confirmed** in accordance with our guidelines.[i]

Please note that approval is for the work and the time period specified in the above protocol and is subject to the following:

- Please note that for any future changes to, or resumption of, **face-to-face data collection** you must complete a self-assessment using the Human Research Risk Assessment form from SIRC. This may be required as part of any future request to amend;
- Any requestions to amend or extend the original approved study will need approval. Therefore you will need to submit by email the *Request to Amend/Extend Form* (HR4);
- Should the PI/Applicant change, or is no longer involved with this study, then the **ethical approval will cease.** The only exception is where a UCD PI is taking over the study from another UCD PI and this change has been approved by the HREC through the submission of a *Request to Amend/Extend Form (HR4);*
- Any unexpected adverse events that occur during the conduct of your research should be notified to the Committee. Therefore you will need to submit, by email, an *Unexpected Adverse Events Report* (HR5);
- You or your supervisor (if applicable) are required to submit an *End of Study Report Form* (HR6) to the Committee upon the completion of your study;

- This approval is granted on condition that you ensure that, in compliance with the Data Protection Acts 1988 and 2003, all data will be managed in accordance with your application and that you will confirm this in your *End of Study Report* (HR6);
- Please ensure that you have read the UCD Data Protection Policy: Data Protection Policy
- Please note that further **new** submissions from you may not be reviewed if you have one or more submission either pending your response to the committee, or the sign-off process has not been completed;
- You may require copies of submitted documentation relating to this approved application and therefore we advise that you retain copies for your own records;
- Please note that the granting of this ethical approval is premised on the assumption that the research will be carried out within the limits of the law;
- Please also note that approved applications and any subsequent amendments are subject to a Research Ethics Compliance Review.

The Committee wishes you well with your research and look forward to receiving your End of Study Report. All forms are available on the website www.ucd.ie/researchethics please ensure that you submit the latest version of the relevant form. If you have any queries regarding any of these conditions of approval please contact the Office of Research Ethics and please quote your reference in all correspondence.

Yours sincerely,

_____

Dr Joan Tiernan
Chair Human Research Ethics Committee - Humanities

_____

[i] http://www.ucd.ie/researchethics/information_for_researchers/insurance/

Appendix J: Debriefing Letter for School Staff

UCD School of Education　　　　　　　　　**Scoil an Oideachais UCD**

Roebuck　　　　　　　　　　　　　　　　Roebuck
University College Dublin　　　　　　　　An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Dublin 4, Ireland　　　　　　　Belfield, Baile Átha Cliath 4, Éire

T +353 1 716 7965/7968/7967　　　　education@ucd.ie
F +353 1 716 1143　　　　　　　　　www.ucd.ie/education

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Thank you for taking part in this research study. It is possible that some individuals may have become upset while discussing the assessment measures and practices used with students. Should this happen to you, the following are a list of organisations which offer support and advice:

Samaritans
www.samaritans.org/ireland/samaritans-ireland/
116 123

National Council for Special Education
https://ncse.ie/contact-us-2

National Council for Assessment
https://ncca.ie/en
(057) 868 2470

Aware
www.aware.ie/
1800 80 48 48

Employee Assistance and Wellbeing Programme
1800 411 057

Contact details for further information
If you have any further questions, please do not hesitate to contact me, or my research supervisor, using the details below.

Researcher: Katie Cronin,
B.Ed in Education and Psychology, Grad. Cert in Autism Studies, Grad. Dip in Special Education,
Trainee Educational Psychologist, UCD
Email: katie.cronin@ucdconnect.ie

Supervisor: Dr Joyce Senior,
Director, Professional Doctorate in Educational Psychology, UCD
Email: joyce.senior@ucdconnect.ie
Phone: (+353) 1 716 7980

Thank you for reading the above information.

Yours Sincerely,

_____

Katie Cronin

Appendix K: Debriefing Letter for Parents

UCD School of Education

Roebuck
University College Dublin
Belfield, Dublin 4, Ireland

T +353 1 716 7965/7968/7967
F +353 1 716 1143

Scoil an Oideachais UCD

Roebuck
An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

education@ucd.ie
www.ucd.ie/education

An Exploration of the Concept of Attainment and Assessment Practices in a Special School for Pupils with Moderate to Profound Intellectual Disability: A Multi-informant Approach

Thank you for taking part in this research study. It is possible that some individuals may have become upset while discussing the assessment measures and practices used with students. Should this happen to you, the following are a list of organisations which offer support and advice:

Samaritans
www.samaritans.org/ireland/samaritans-ireland/
116 123

Inclusion Ireland: Connect Family Network
https://inclusionireland.ie/connect-family-network/

Aware
www.aware.ie/
1800 80 48 48

Contact details for further information
If you have any further questions, please do not hesitate to contact me, or my research supervisor, using the details below.

Researcher: Katie Cronin,
B.Ed in Education and Psychology, Grad. Cert in Autism Studies, Grad. Dip in Special Education,
Trainee Educational Psychologist, UCD
Email: katie.cronin@ucdconnect.ie

Supervisor: Dr Joyce Senior,
Director, Professional Doctorate in Educational Psychology, UCD
Email: joyce.senior@ucdconnect.ie
Phone: (+353) 1 716 7980

Thank you for reading the above information.

Yours Sincerely,

_____

Katie Cronin

Appendix L: Summary of Themes, Codes, and Frequency Analysis

Theme	Subtheme	Code	Number of references (Number of participants)
Individualistic and flexible approach to assessment	Flexibility in presentation and process	Adapting to Pupil presentation	9 (4)
		Flexible use of measures	27 (7)
	Multi-dimensional uses of data	Planning future educational goals	8 (5)
		Informing methodologies	5 (4)
		Tracking progress	7 (5)
		Evaluating interventions	4 (4)
	Frequency of assessment	Informal assessment	11 (6)
		Formal assessment	11 (6)
	Importance of relationship	Interpreting responses	5 (2)
		Recognising progression	3 (2)
Collaborative Practice	Lack of multi-disciplinary collaboration	Speech and Language Therapy	10 (6)
		Occupational Therapy	4 (3)
		Psychology	3 (2)
		Lack of supports for schools	19 (7)
		Difficulties with service model	5 (5)
		Lack of supports for families	3 (2)
	Pupil input	Feedback on Assessment	9 (6)
		Self-assessment	9 (5)
	Home/school collaboration	Home/school communication	21 (9)
		Home/school collaboration	14 (7)

Theme	Subtheme	Code	Number of references (Number of participants)
Conceptualisation of Attainment	Multi-faceted nature of attainment	Holistic	7 (4)
		Communication	6 (4)
		Adaptive/Independence skills	4 (4)
		Social/behavioural skills	9 (7)
		Academic skills	4 (3)
	Importance of skills development		7 (5)
	Time frame of progression	Progress over time	11 (6)
		Consistency in response	4 (2)
Barriers to Assessment of Attainment	Department of Education supports ort from multi-disciplinary team	Equipment and resources within school	1 (1)
		Staff training/CPD	7 (7)
		Lack of nationally available resources	9 (5)
	Complex role of the teacher	Creating resources and assessments	3 (2)
		Filling the gap: Operating as an MDT team	4 (3)
		Time constraints within the role	3 (3)
	Lack of consistency, confidence, and awareness of assessment practice	Confidence of staff utilising assessment measures	3 (3)
		Lack of consistency in methods used	9 (4)
		Lack of parental awareness of assessment practices	2 (2)