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HIBERNIA COLLEGE

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Education Papers

Volume 6

Contents

Foreword

The School of Education is delighted to publish Volume Six of the Hibernia College Education Papers. On our Professional Master of Education programmes, students complete a 10,000-word dissertation as part of their Research module. With the support of the Research team, student teachers integrate theories, knowledge, and skills that are critically informed by their school placement practice aligning with *Céim: Standards for Initial Teacher Education*. This approach demonstrates a commitment to preparing student teachers to apply theoretical knowledge in their teaching practice. Every year, students choose from a diverse range of topics within four pillars: (1) Teaching, Learning, and Assessment (TLA); (2) Digital Literacy and Learning Technologies; (3) Inclusive Education; (4) Global Citizenship, Sustainability, and Wellbeing.

In this sixth volume, we celebrate our graduates' diverse research interests, which not only reflect the academic richness of our PMEP and PMEPP programmes but also showcase Hibernia's collective commitment to contribute valuable insights to the field of education. Each dissertation topic addresses relevant aspects of teaching and learning, showing a holistic approach to educational research that comprises restorative practices; inclusive education and pedagogy in Science, Technology, Engineering, and Mathematics (STEM) education; Content and Language Integrated Learning (CLIL); the implementation of the Junior Cycle Wellbeing guidelines; remote learning; Aistear; sustainable food system education; visual literacy; second language acquisition for students with dyslexia; and academic motivation and engagement.

Celebrating this milestone is a testament to the dedication and hard work of our graduate teachers, as well as the academic and familial communities supporting them. Now part of a professional community of reflective and research-informed practitioners, we encourage each contributor to continue with critically engaging in evidence-based practice in ways that will, no doubt, contribute to the advancement of knowledge and innovation in Irish education.

Dr Mary Kelly
Academic Dean

Dr Linda Butler Neff
Assistant Professor in
Education (Primary)

Dr Frank Kehoe
Assistant Professor in
Education (Post-Primary)

'A Whole-School Approach':
An Integrative Literature Review Exploring Restorative Practices Experienced in the Classroom

Therese Barrett

Biography

Therese Barrett is a graduate with a Bachelor of Commerce Degree from Cork University College. She has worked in rehabilitation medical sales for 17 years, concentrating on paediatric sales and customer support. The role entailed working closely with persons with disabilities, caregivers, and occupational therapists building relationships to garner trust, sharing knowledge and providing ongoing training to update clients on best practices. Therese's interest in education ignited with the birth of her children. Here fascinated to understand how children grasp and learn in their first years of life prompted her to undertake a Diploma in Montessori Studies with Portobello College. The insights learned proved valuable, providing her with worthy and stimulating resources to help children develop cognitively and physically. This continued desire led her to undertake the Professional Master of Education (PME) in Primary Education at Hibernia College.

Having graduated in August 2022, Therese continues to provide children with ample opportunities that encourage them not only to engage in the classroom but to establish a culture of inquiry-based learning. Presently, she is teaching a Fourth Class in a primary school in Cork.

'A Whole-School Approach':
An Integrative Literature Review Exploring
Restorative Practices Experienced in the Classroom

Research supervisor: Dr Fiona Concannon

Abstract

This Integrative Literature Review (ILR) aimed to determine the nature of restorative approaches as practised in an educational primary school setting. The practice fundamentally seeks to build relationships through social engagement and resolve disputes within communities through relational practices of affect statements, affect questions, circles and informal conferences. Restorative practice (RP) is increasingly becoming embedded in school polices as an alternative approach to managing behaviour in the classroom. The concept encourages individuals to assume responsibility for any harm caused within a community and focuses on a restorative lens of resolve and repair as opposed to a retributive one of assigning blame and punishment. The foundation of RP is firmly rooted in the restorative justice movement and adapted to support justice, social and educational settings. This study critically explored the ways in which mainstream primary teachers and school administrators can successfully implement RP while also negotiating with potential obstacles in adopting it. The study interprets how a school ethos and proactive teachers that include restorative initiatives daily can create a relational environment that connects people together, prevent conflict arising, and restrict barriers to its implementation. However, the challenge of investigating RP is one whereby its implementation success rate cannot be easily measured.

Keywords: Restorative practice, restorative justice, circles, social responsibility, relational theory, behaviour intervention, reconciliation, respectful relationships, repairing relationships

Introduction

Restorative practices derive from restorative justice and is based on a model modified from Zehr (1990), where justice maintains a 'restorative lens' — a vision that crime is a violation of people and relationships and regards repairing the harm done to people and relationships as

more effective than just assigning blame and punishing offenders (Wright,1999; McCold and Wachtel, 2003). Restorative practices then advocates a sharing of values that include integrity, respect, fairness, trust and tolerance. Such principles work towards forming relationships that create a culture of inclusion and belonging. Hopkins (2004, p.168) asserts that 'without a whole school, developmental approach', RP cannot successfully flourish. Contrary to a 'transmissive model' of teaching practices that Paulo Freire (1972) names as, 'the banking' concept, where the student voice is repressed to only receiving informational deposits, a restorative teacher is one who supports relationships in the classroom and provides students with opportunities to interact with each other as much as possible. Fundamentally, the restorative teacher recognises social and emotional difficulties amongst children and models a set of necessary skills to actively support them to develop and maintain positive relationships in spaces that welcome student voice in a non-judgemental environment. Through this lens, the school becomes a listening one, open 'to both sides of the story' and works to repair harm and nurture fairness and respect (McCluskey et al., 2008). Wachtel (2016) and Nathanson (1992) further postulate that restorative practices are like circles and conferences that offer safe spaces for the expression of affect, allowing one to use affective statements to illuminate how they are feeling, whether it is something negative that needs restoring or something positive that forges bonds with other people.

Constructivist Learning Approach

Restorative work is a constructivist learning-based approach that engages with conflict and wrongdoing, which distinguishes between 'managing behaviour' and 'managing relationships' (Hansberry, 2016, p.26). Teacher understandings reveal that RP is either used as an alternative to existing punitive structures for behaviour management or as an opportunity to socially engage and form relational bonds between teacher and the child. The social discipline window is an effective restorative tool wherein a whole school can set high boundaries in their approach towards social behavioural expectations. It can offer high restorative supports to help manage behaviour by encouraging collaboration and cooperation that models a behavioural norm whereby one accepts responsibility for their actions and emotions these actions can cause to themselves and others. Hopkins (Pointer et al., 2020) ascertains that a teacher who encourages students to co-construct knowledge in the classroom fosters the growth of relationships, which is a key component of RP. Hence, a restorative mindset inevitably impacts on pedagogy with a strong

emphasis on fair procedure. The three guiding principles of RP adopted for the education context are engagement (involving children in decision-making), explanation (justifying decisions following fair procedures), and expectation clarity (widespread comprehension of behavioural norms and consequences for breaches) (Gregory et al., 2016). RP initiatives within the educational context have the capacity to contribute to raising overall morale by building relationships and repairing harm, creating a culture of inclusion and belonging, and tackling bullying behaviours — making schools socially cohesive environs (Hopkins, 2004; McCluskey et al., 2008). Arising from the researcher's extensive literature review, the following research question emerged:

In what ways can teachers implement restorative practice in a primary school setting and learn about the experienced challenges in implementing it?

Methodology

This Integrative Literature Review (ILR) followed an interpretivist paradigm that does not solely anticipate a scientific means to capture reality but, through the eyes of other researchers, seeks to interpret and comprehend a lived experience. Therefore, the research methodology used is qualitative in nature as the researcher interprets data collected in the form of words rather than a quantification and, in doing so, allows for contexts to emerge that are non-scientific in manner. Cohen et al. (2011) suggests that qualitative methods allow the researcher to gather actual insights and opinions on the inherent concerns of a topic of interest. The ILR is a research approach that seeks to integrate, review, and critique a subject to create fresh frameworks and perspectives (Torraco, 2005) that can produce more knowledge to apply to practice. The main goal was to synthesise carefully selected material that meets particular inclusion criteria (Torraco, 2005; Russell, 2005) to study for thematic analysis and create new research information. Therefore, the main objective was to review the literature through a precisely defined lens — in this instance, the posed research questions — thus, permitting the formation of concise findings and the critical evaluation of pertinent parts of the body of current research.

Cooper (1998) documents a robust strategy for the integrative review process transpiring in five stages: (1) problem formulation or research question, (2) literature review on existing documented research (while

limited in the Irish context, plenty was available in the international context), (3) evaluation, (4) data analysis and (5) interpretation and presentation of results.

The second stage in the process involves a systematic literature search conducted to gather recent (within the previous ten years), reputable, accurate and pertinent material utilising a set of inclusion and exclusion criteria. The evaluation of the literature captured in the search findings regarding its suitability towards answering the research question posed is crucial to the quality of the integrated review. Toronto (2020) cites that there is currently no standardised set of acceptable procedures for conducting integrative reviews. To address this issue, the researcher endeavoured to be thorough when conducting the ILR. The following description provides an outline of the ILR approach used in this study:

1. Stage one: Problem formulation

In this initial stage, the researcher must establish and pose a clear research question. It is necessary to define the variables and explain how they relate to one another in the question formulation.

2. Stages two and three: Literature search and Evaluation

In order to obtain relevant literature, the researcher navigated and chose a number of search terms. These search terms were chosen because they relate to the body of work under research. Four databases were searched to inform the literature review: Academic Search Complete, Education Source, ERIC (each is part of EBSCOhost) and Taylor & Francis. The search terms were applied using Boolean logic and searched using both abstract and title filters where the terms either appeared in the abstract or title of the articles in the library. These were designed to ensure that the most relevant material was selected.

The Boolean logic applied to search strings comprised:

- 'restorative practice' OR 'restorative justice' OR 'restorative discipline' OR 'circles' AND 'learning social responsibility OR 'behaviour intervention' OR 'reconciliation' AND 'primary schools' OR 'national schools' OR 'grammar school' OR 'grade school' OR 'KS1 or KS2'

- 'restorative practice OR 'restorative justice' OR 'restorative discipline' OR 'circles' AND 'relational theory' OR 'respectful relationships' OR 'repairing relationships' AND 'primary schools' OR 'national schools' OR

'grammar school' OR 'grade School' OR 'KS1 OR KS2'

An initial screening provided 476 peer-reviewed papers for consideration. By examining the titles, abstracts and introductions, the overall number of documents were reduced as outlined in Table 1.

Database/Source	Records screened	Abstracts read	Articles read/ evaluated	Included
Education Source	42	10	5	2
Academic Search Complete	41	9	5	4
ERIC	33	12	4	2
Taylor and Francis	360	21	12	4
Total	476	52	26	12

All subsequent reading concentrated on a set of evaluation criteria to include suitability, research origins and context, explanation of data collection methods, a sufficient sample size and a discussion of the research's limits and robustness. The final twelve research papers selected for data analysis and synthesis are between the years 2010 and 2021.

3. Stages four and five: Data analysis and Presentation

The researcher selected twelve papers that were subsequently thematically analysed. This technique sought to investigate and critically understand patterns in qualitative data. The research analysis followed a six-phase guidance framework adapted by Braun and Clarke (2006) so as to become familiar with the data, generate initial ideas and assign codes to organise the data into a meaningful manner. Through this process, there is a sharp focus on significant patterns in the data in the context of the research question to then establish emerging themes. The researcher then prioritiseds the most relevant information and synthesises a new report based on such themes.

Findings and Discussion

After a thorough examination of the twelve articles utilising the theme analysis technique developed by Braun and Clarke (2006), four over-arching themes emerged. In respect to the research question, the findings

revealed four predominant themes:

Teacher Attitude and Understandings

As there is no mandated programme to follow, there exists a challenge to explicitly address how one comes to embrace and live within a restorative justice paradigm, which is a problem that is sometimes overlooked in the profession (Vaandering, 2019). Existing literature demonstrates that teachers' understandings are more aligned with RP as an alternative to existing punitive structures for behaviour management. Studies (Vaandering 2014, 2019; Kervick et al., 2020; Hollweck et al., 2019 and Gray, 2021) indicate mixed findings as adopted by teachers to the paradigm. If RP is confined to behaviour and classroom management instead of achieving its declared goal of creating relational, integrated and interdependent school environments, it unintentionally perpetuates compliance and control agendas. Therefore, if teachers misinterpret RP, opportunities to build upon relationships through active pedagogy may be lost. However, Hollweck et al. (2019, p.251) believe teachers can be forgiven for not embracing or embedding the full potential of RP or Restorative Justice (RJ) due to the absence of teacher training, citing that 'it is rare to find RJ infused into the Canadian teacher education programs'. Nevertheless, findings show that inculcating restorative practices results in a discernible mental transformation amongst teachers. Their opinions about using RP for relational pedagogy, that which fosters and builds relationships via high-quality learning activities and candid conversations whereby all participants have the chance to speak and listen, were changed by RP. Following a qualitative evaluation survey, teacher reflections cited that after experiencing induction in relational practices, 'a great atmosphere of trust and understanding was forged' (Hollweck et al., 2019, p.256).

Social Control or Social Engagement: What Is the Goal of RP?

Reimer (2019) describes two viewpoints from a comparative study conducted in two schools on the ways in which RP is employed wherein objectives of social control are desired and complied with, and rules are followed to reinforce certain behaviours as a, 'way to help improve pupil behaviour' (Reimer 2019, p.68). If RP is utilised for social engagement, the transformative signs of RP are in evidence, with most pupils reporting a high level of confidence in the ability of adults to interact and collaborate with them. McCold and Wachtel's (2003) social discipline window is considered an effective way to embed good social behaviours and explain the limitation of using RP for social control.
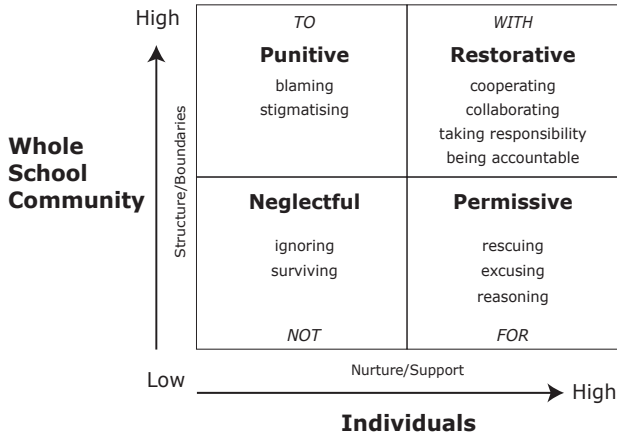
Figure 1: 'Building social capital' (Source: adapted from Wachtel, 1999)

In the educational context, the vertical axis represents structures and boundaries in place to maintain cohesive order in the classrooms. The horizontal line represents support and nurture practices implemented in the school; each axis displays low to high support. Practice that is low on structures and supports is categorised as neglectful; no relationships exist. Figure 1 illustrates that in settings where control is high, and support is low, punitive measures are done **to** people by blaming. Practice that is high on structures and high on nurturing supports is perceived as firm and fair, doing **with** someone, and it is classified as restorative where relationships are forged through social engagement of cooperation, collaboration, and taking responsibility for one's actions. After engaging in the training, teachers revealed their understandings of RP and Reimer (2019) hoped that students would take ownership of their actions by understanding how their choices influenced those around them and strive to become the best versions of themselves.

Implementation Processes of RP

Implementation of RP approaches lies on a continuum between proactive (used for quality social engagement) and reactive (used for social control to instil positive behaviours). The success of either approach will largely depend on teacher attitude and experience and the whole-school mindset to live collectively to improve people's lives (Bevington, 2015; Ingraham et al., 2016; Reimer, 2019). Affective statements, affective questions, informal conferences, circles, formal conferences, and the use of the social discipline window are six restorative strategies that Gray (2021) outlines to embed a restorative mindset.

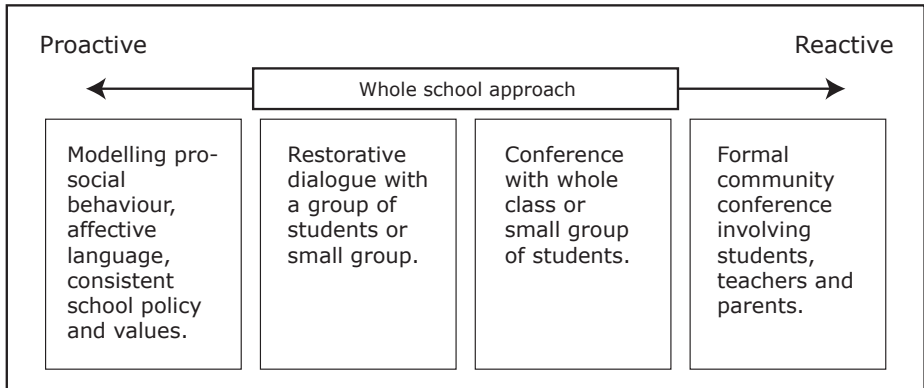| Proactive			Reactive
	Whole school approach		
Modelling pro-social behaviour, affective language, consistent school policy and values.	Restorative dialogue with a group of students or small group.	Conference with whole class or small group of students.	Formal community conference involving students, teachers and parents.

Figure 2: 'The Restorative approach continuum' (Source: Kehoe et al., 2018).

Moir and MacLeod (2018) conducted their research by adopting a non-probability sampling approach and selected teachers from fifty North Ayrshire Council primary schools in Scotland. After engaging in a twelve-day training course spread over time, on implementing RP, educators had to rethink how they dealt with conflict and reflect on how better to create relationships with their pupils. 85% of participants enacted the proactive social engagement approach modelling prosocial behaviour through affective language during their daily teaching practice. Gray (2021) found that participants engaging in 'I'-based statements demonstrated how one was affected by another's actions. This concurs with Gregory et al., 2014 have better relationships in school when teachers consistently engaged in restorative language. This was particularly relevant in the work of Gregory et al. in pointing out the use of RP strategies in the form of circles to include a uniform inclusive approach for everyone to exchange ideas and opinions.

Teacher and Pupil Experience

According to Vaandering (2014), the teacher's life experience has a considerable impact on how RP is understood and developed because RP is predicated on personal values and beliefs. The teachers maintained in Bevington's (2015) findings that handling emotions is a real and difficult issue and that disputes do occur; it is the way you handle them with a non-judging attitude that improves the restorative outcome. Vaandering's (2014) work observed a willingness for teachers to retreat back to traditional ways (Figure 1, Punitive box) of doing things **to** children due to an ease in management control rather than engaging in dialogue **with**

children (Figure 1 Restorative box). Bevington (2015) and Kehoe (2018) both contend that using the appropriate language calmly and one that inquiries into the impact of your actions on other people is effective. When you ask a child,

> 'What do you need to do to make things right?', you are giving them the responsibility to mend the harm among themselves. Kehoe et al., 2018, p.193) develops this point further in stating, 'Students need to be considered as participants in the process and not objects that need to be controlled'.

The objective of this ILR sought to explore how teachers can implement restorative practices in a primary school and what challenges they face. Despite the ongoing case studies and developing comparison studies, research on the RP whole-school reform method is still in its nascent stage. It is evident from two of the chosen studies — Kervick (2020) and Reimer (2019) — that there is no single definition of what RP looks like in an educational context nor is there formal training in preservice teaching colleges to address this way of thinking.

Research question 1: *How can teachers implement restorative practice in a primary school setting?*

The findings demonstrated that from teacher perspectives', RP emerged as a way of being that needs implementation both cognitively and emotionally and not just happen during circle time. A framework of engagement with an appropriate curricular content needs to be followed, one that offers explanations of decisions by providing a rationale and specifying clear social expectations within the classroom and whole school context. Researchers in this field are keen to study participant reflections on current teaching approaches and how they impact fostering a positive school environment. Participants took part in relating processes, a cornerstone of RP, which include circle discussions, an energising activity to form trust, a one-to-one conversation using restorative questions with open-mindedness and displaying active non- judgemental listening skills. The implementation of RP can come in many forms from the use of restorative questions asking 'what happened before why it happened?', restorative language in the form of affect statements and questions, circles, meetings (both individually and within groups) and, finally, conferences.

The social discipline window shows how educators who adopt an RP approach to resolve social disputes can collaboratively identify pupil

understandings and perceptions of a problem and its impact on another person. The understandings that educators draw on when enacting RJ have a significant impact on the student experience (Reimer, 2019, p.68). By giving pupils voice to explain their reasoning for harm caused, one has the potential to unearth unmet social and emotional needs and encourage pupils to empathise with others' feelings. Affective statements work best for the senior pupils of the school as they can express feelings to promote connection and build relationships. This 'allows students to think for themselves about the actions and reflect on how they affect other people' (Gray, 2021, p.62). Essentially, the goal is to foster a culture that addresses and combats bullying to support a culture of inclusion and belonging.

Research question 2: *What challenges does the teaching profession face in implementing RP?*

The issue that is occasionally overlooked is explicitly addressing how one comes to embrace and live within a restorative justice paradigm because there is no set programme to subscribe to (Vaandering, 2019). Hollweck et al. (2019, p.251) clearly advocates for the preservice teacher citing 'it is rare to find RJ infused into the Canadian teacher education programs'. One study recorded no teachers had engaged in relational pedagogy prior to their participation in RP, even acknowledging 'learning is rooted in relationships' (Hollweck, 2019, p.248). To begin, educators had to prepare mentally to change their attitude towards how they dealt with conflict and how they would create a relationship with their pupils. Secondly, they had to overcome apathy to change and, lastly, implement and embed the change (Moir and MacLeod, 2018).

Experiencing open discussion in circle format can present another set of challenges. As with another study conducted by Gray (2021), discussion themes within the teacher induction circles veered off into more challenging and personal territory like values, insecurities, pressures or constraints, hopes for the future and areas of uncertainty or conflict related to their professional roles and responsibilities. Therein lies the necessity of a trained facilitator to navigate a successful positive outcome from the circle discussion. Applying this to the classroom, the teacher needs skill to afford the pupils the opportunity to share opinions but take ownership and responsibility for any harm their participation might cause to others and give due respect to pupils who may not wish to contribute. Collins (2013) observed in her research in Irish primary schools, contrary to the goal of RP to foster healthy relationships, children were strongly

advised by their teacher to participate in circle time even when they displayed reluctance. Leach and Lewis (2015) uncovered findings where children felt increased anxiety levels when asked to share personal feelings and emotions for fear of reprisals in the playground.

Conclusion

To implement RP in the educational context, Hollweck et al. (2019) maintains you must examine what RP represents — it is a way of being, anchored in forming good relationships. For many newly qualified and experienced teachers, the struggle to integrate the philosophical stance of RP is challenging (Vaandering, 2014) if not examined in line with their own personal values for living and core beliefs of what is fair, honest and right. Collectively, teachers' own philosophical stances will greatly influence restorative principles and will be hopefully supported by strong school leadership to foster a positive school environment. The research reveals that to fully establish the transformative effects of restorative approaches, it can take anything up to three years to embed in a school. Reimer (2019) identified that schools will either adopt RP to better manage student behaviour (reactive) or to develop a cooperative learning community (proactive) where an engaged curriculum provided by a respectful teacher will inevitably reveal positive relational social norms where one feels content and secure within themselves. Informal use of restorative language in the form of affect statements and the social discipline window can fundamentally shift perspective and handle harm in a creative way, fostering empathy and motivating people intrinsically to fully participate.

If there is a fundamental change in mindset from one of blame to one of mending, people can accept responsibility for their actions and look for solutions to repair harm inflicted. Hopkins (2006) believes the skills learned to achieve this mindset can allow children to become caring and just individuals who will avoid serious conflict if they grow up in a restorative milieu.

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Inclusive Education and Pedagogy in Post-Primary STEM Classrooms

David Byrne

Biography

Dave graduated with a BSc (Hons) in Pharmaceutical Science from Waterford Institute of Technology (now SETU) and worked in several positions in the pharmaceutical manufacturing sector from 2017 to 2020. Having graduated with First Class Honours in the Professional Master of Education (PME) in Post-Primary Education from Hibernia College in 2023, Dave is currently working as Chemistry and Science Teacher in Tyndall College Carlow. Dave's enthusiasm and love of STEM are central to his teaching philosophy, and he strives to impart that same passion in his students.

Dave believes strongly in evidence-based teaching methodology and educational practices and hopes to contribute more to these areas of research in the future.

Inclusive Education and Pedagogy in Post-Primary STEM Classrooms

Research supervisor: Patricia McGrath

Abstract

The aims of the research project were two-fold: gather and analyse findings on the general attitudes of post-primary STEM teachers in the Republic of Ireland towards inclusive education and to gather and analyse findings on inclusive pedagogical practices utilised by post-primary STEM teachers in the Republic of Ireland.

The overall findings found that the 54 STEM educators who participated in the study held generally positive views towards inclusive education and expressed good understanding of its nature and challenges. However, it was difficult to ascertain to what degree participants effectively utilised inclusive pedagogy. This was due to the lack of quantifiable data generated from the characteristics examined.

Keywords: STEM; science; inclusive education; inclusive pedagogy; evidence-based pedagogy; differentiation; teaching and learning strategies

Introduction and Background

The interest for this dissertation topic stems from both the researcher's lived experience of post-primary classrooms as a STEM educator and from their understanding of human sociology/psychology. Inclusive education and its learning meta-strategies are central to much of contemporary teacher training (Kurth and Foley, 2014). While the ideals of inclusive education are an overarching aim for education systems to strive towards, the experience of the researcher has found a stark difference in the realities of the classroom versus the theory of generalised classroom inclusion. Existing literature regarding the area of inclusive education proves very little in terms of its actual efficacy in improving learning attainment at a macro level (Haug, 2017).

The provision for SEN and general inclusion within the Irish education is mandated through several key pieces of legislation — the *Education*

Act, 1998, the *Education for Persons with Special Educational Needs Act (EPSEN) 2004* and the *Education (Admission to Schools) Act 2018*. The majority of Western countries have been moving towards a fully inclusive education system for the last numbers of decades with the aim to improve societal equity (Kivirauma, Klemelä and Rinne, 2006).

While many educational policies have been implemented across the global community to better achieve the ideals of inclusive education, the meaningful progress made has been quite minimal in this area. The

benefits of inclusive education relating to learning attainment are limited to relatively small-scale studies and common trends appear consistently with regards to the challenges as to why it is not feasible to effectively implement at a system-wide level (Janssen et al., 2015). The National Council for Special Education (NCSE) (2009) has listed the rise of challenging behaviour in young learners, socioeconomic inequality and the erosion of national literacy and numeracy being some of the barriers that have stymied the development of a truly inclusive education system in Ireland.

On one side of the argument, many researchers seem to hold positive views regarding inclusion and its ability to transform educational outcomes and society. The converse of this is a significant volume of evidence to suggest that these ideals are not manifesting due to factors that do not appear to be diminishing but rather worsening.

The importance of this research topic lies in enacting effective pedagogy and educational policies that best serve learners of all backgrounds. The current approach of generalised inclusion in classrooms has not provided clear evidence to whether it is truly efficacious in providing adequate supports for the learning needs of young people. Examining the realities faced by STEM teachers in schools and developing quantifiable metrics for inclusive learning strategies should be an integral part of all large-scale educational change processes of policy-makers. From the experience of the researcher and interactions with other STEM and non-STEM educators alike, it would seem there is a lack of critical analysis towards how pedagogy is deemed effective or efficient. The *EPSEN Act* is currently being reviewed by the Joint Committee on Disability Matters but its focus lies on the overall inadequacies of inclusive education in Ireland rather than the specifics of effective inclusive teaching (Joint Committee on Disability Matters, 2023). The provision of quality of education for all students is both essential to create a more equitable society and to

increase the pool of potential candidates for specialised areas of research and employment requiring higher levels of learning and cognitive ability.

The research questions that will be attempted to be answered in this project are:

- What general attitudes do post-primary STEM teachers in the Republic of Ireland hold towards inclusive education and the extent of these attitudes?

- What inclusive pedagogical practices are utilised by post-primary STEM teachers in the Republic of Ireland, and are they specific to STEM?

Methodology

A quantitative methodology was taken in the process of data collection for this small-scale study. The researcher chose to utilise a questionnaire as the data-collection instrument for the purposes of this study. Due to practical limitations such as access to participants, the finite nature of the pool of suitable post-primary teachers and the time frame for the project, an online questionnaire that individuals could complete in a relatively short period of time was an ideal approach to gather quantitative empirical data (Wright, 2005). This type of data-collection provides an efficient mechanism to accumulate key information essential to the focus of the overall research questions of the thesis.

Cluster and convenience sampling were conducted for the purposes of data-collection for this small-scale study. The schools selected for as clusters differed in terms of educational settings and demographics. They were as follows:

- A single-sex (male) voluntary secondary school with 1100+ students and approximately 70 teaching staff
- A mixed-sex ETB school with 1000+ students and approximately 70 teaching staff
- A mixed-sex ETB school (DEIS) with 700+ students and approximately 50 teaching staff

The online STEM teacher Google group, Sharing Science, consists of over 1000 post-primary teachers who are actively teaching a variety of STEM subjects.

Quantitative Methods Approach

The questionnaires were distributed digitally via email as a Google Form. Participants were able to give their consent in writing or through the Google Form questionnaire. The data was then analysed and collated.

The intention and design of the questionnaire was to gather information in relation to the participants' demographics, teaching experience, qualified STEM subjects, current inclusive pedagogical practices they implement and their general views of inclusive education within the field of STEM. It was deemed important by the researcher to gather background information of participants to identify any trends that appeared within their views and implementation of inclusive pedagogy within the classroom.

A Likert scale (Likert, 1932) was used in the questionnaire as it allowed the participants to communicate their level of understanding and opinions on key areas within the field of inclusive education with set responses: Strongly disagree, Disagree, Neither Agree nor Disagree, Agree and Strongly Agree. This was an essential aspect of the study as it allowed for accumulation of quantifiable ordinal data.

Open questions were used to gather information from participants regarding the pedagogical practices they implement in the classroom to promote inclusion within STEM and their views on the potential barriers to implementation of such measures.

Data Analysis

Due to the research paradigm selected for this study, the data gathered from the questionnaires was collated and analysed for any emerging trends with regards to background information of participants and their views/practices of inclusive education within STEM. For meaningful analysis to occur, elements of thematic analysis through categorisation were required to be able to better quantify open-ended responses in the survey (Vaughn and Turner, 2016).

The points of agreeability on the Likert scale utilised for the questionnaire were numerically metrified by assigning them values. This was carried out in order to be able to establish a measure of validity and robustness of the data-gathering methodology employed for the study. The table below details the numerical values chosen for each point on the Likert scale:

Table 1: Assigned numerical values of Likert scale points

Point of Agreeability	Assigned Numerical Value
Strongly Disagree	-2
Disagree	-1
Neither Agree nor Disagree	0
Agree	1
Strongly Agree	2

A research proposal for this study was submitted and approved by the Hibernia College Ethics Committee prior to commencing the study and the collection of data. This research study complied with the BERA (2011) and Hibernia College's ethical guidelines.

Findings and Discussion

The data gathered through the study through quantitative research methods have been analysed and compiled here to discern any factors that affect the views and practices of post-primary STEM educators regarding inclusive education and pedagogy. The three main points of analysis of participant data presented in this section are as follows:

- Demographical and background information of participants

- General views and beliefs regarding inclusive STEM education

- Implementation of inclusive pedagogy in the STEM classroom

The participants involved in this study were drawn from three schools within the locality of the researcher and an online STEM post-primary Google group that contains members from the entirety of the Republic of Ireland. With a relatively large population from which a sample could be drawn from, several questions within the questionnaire were designed to establish the demographical and background information relating to participants' teaching experience and when they became a qualified post-primary educator. Figure 1 gives a percentage breakdown of the sample group in terms of the decade in which they qualified as professional post-primary teachers.

Q2. When did you qualify for teaching as a profession, i.e. receive a Higher Diploma in Education (Post-Primary) or Professional Master's in Education (Post-Primary)?
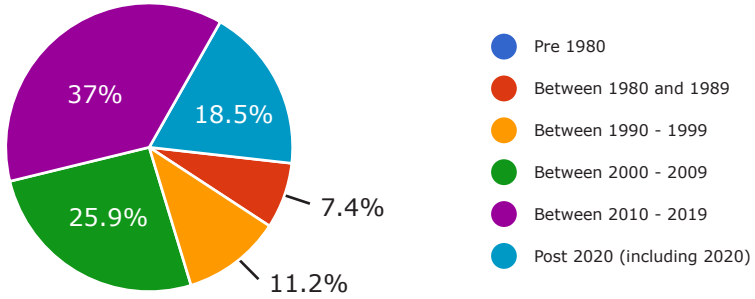
54 responses

Figure 1: Era of professional teaching qualification

The key points that were noted were:

- Approximately 20% of participants qualified post the year 2020.
- Approximately 40% of participants qualified between the years of 2010 and 2019.
- Approximately 25% of participants qualified between the years of 2000 and 2009.
- Less than 20% of participants qualified prior to the year 2000.
- No participants qualified prior to the year 1980.

Q3. How many years have you been actively teaching in a subject field of STEM?
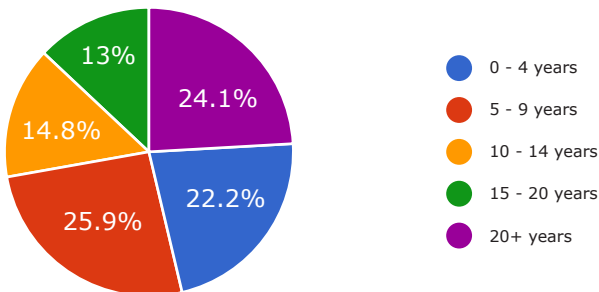
54 responses

Figure 2: Number of years of active teaching of participants in a STEM subject

Establishment of how many years of active teaching in a STEM subject discipline participants had was important, as it was identified in current research literature as being one of many factors that can affect the views and inclusive practices of educators. Figure 2 displays the proportions of the sample size based on the years of active teaching in a STEM subject of the participants. It was observed that approximately:

- 20% of participants had 0-4 years of active STEM teaching experience
- 25% of participants had 5-9 years of active STEM teaching experience
- 15% of participants had 10-14 years of active STEM teaching experience
- 15% of participants had 15-20 years of active STEM teaching experience
- 25% of participants had 20+ years of active STEM teaching experience

The analysis of the data relating to the overall attitudes of participants towards inclusive education are compiled in Table 2. The statistical functions of Microsoft Excel were used to calculate the mean, sample standard deviation, margin of error and percentage margin of error. Initial impressions were that participants held generally positive attitudes towards inclusion but felt post-primary educators were not adequately supported to implement inclusive pedagogy effectively. The margins of error were relatively high, however (for a 95% confidence interval), which suggested the validity of data may be compromised. Overall, the Mode Score was obtained for the entire range of the data sets but not within certain sub-sets due to the inability to calculate modal values for certain questions.

Table 2: Analytics of participant demographic data and attitudes

Question	Q7	Q8	Q9	Q10	Q11	Q12
Mode Score	1	1	-1	1	1	1
Mean Score	1.25	1.22	-0.38	0.78	0.58	0.69
Sample Standard Deviation	0.67	0.74	1.01	1.03	1.05	1.08
Margin of Error	0.18	0.20	0.27	0.27	0.28	0.29
Percentage Margin of Error	17.94	19.67	26.91	27.49	27.97	28.77
Z-score	1.96					

Cawley et al. (2002) established that science-based subjects have significantly high levels of interpersonal contact between educators and their students while learning. It is understandable that the attitudes and beliefs of post-primary teachers have the potential to impact on their students and how they view STEM. There are also strong links in existing literature between the success of implementing inclusive educational practices and teachers' attitudes (Varcoe and Boyle, 2013). Discerning the generalised attitudes and beliefs of post-primary STEM educators based in the Republic of Ireland towards inclusive education seemed a natural starting point for the study.

A strong general understanding of inclusion within the classroom was evident among the study group, based on the data gathered. Close to 97 percent of the study group indicated that they felt they understood what inclusion meant in the classroom. While it was difficult to determine the exact depth of their understanding with this question alone, it would suggest that the respondents were at least relatively informed regarding this area of education. One factor that has been linked to poor implementation of inclusive pedagogy has been lack of teacher knowledge and training in the area (Kennedy, 2010), but the results here do not indicate that this was an issue for this sample group of STEM educators. Overall, the processed data showed that the sample group did not feel teachers were adequately supported to implement effective inclusive pedagogy in their classrooms (Table 2). While the value of -0.38 would suggest that the sentiment is closer to neutral than to Disagree, there were limitations with this assumption due to the nature of Likert scales. The modal value of -1 gives a better indication of the STEM teachers' attitudes to this aspect of inclusion in the classroom.

The majority of the sample group (81 percent) stated that they qualified as professional post-primary teachers post the year 2000. The statistical breakdown of active teaching experience in their respective STEM subject showed that it was an even distribution of teachers among the sample group. Analysing the responses against these demographical categories showed there was a negative correlation between years of service/era of qualification and general understanding/attitudes towards inclusive education. This aligned with previous studies carried out in relation to the implementation of inclusive pedagogy, which found that younger, less experienced educators held more positive views towards inclusion in mainstream classrooms and as a result more effectively utilised inclusive teaching practices (Forlin, 2008; Male, 2011).

The analysis of the data gathered from the study group highlighted some interesting facets to the thought process of STEM educators regarding inclusive pedagogy. The design of the questionnaire for establishing the capacity and extent post-primary STEM teachers employ inclusive pedagogical methods allowed for the collection of descriptive qualitative data. It was noted that several themes appeared repeatedly throughout the responses given for separate questions. When examining methods of differentiation, Assessment for Learning (AfL) and general inclusion, it was evident that participants considered them with a degree of interchangeability. The broad categories of questioning, group work, scaffolding and varied learning styles emerged several times throughout the questions relating to pedagogical practices. These were also the most frequently reported techniques that the members of the sample group found most effective in their teaching.

The lack of distinction between the wider meta-strategies in the responses of the sample group harkens back to the difficulty in clearly defining what inclusive education and practices are (Florian, 2014; McLeskey et al., 2014; Shyman, 2015). While it can be argued that the categories identified belong in any of the meta-strategies of inclusive pedagogy, it gives little indication as to what exactly STEM teachers classify as inclusive teaching methods. When there is commonality in techniques within each meta- strategy, it may be reasonable to conclude STEM educators do not view differentiation, AfL and general inclusion differently to any significant extent. Effective teaching in science-related subjects has been found to revolve around several key principles (Çimer, 2007). These common pillars of STEM teaching are:

- Assessing prior knowledge
- Application of knowledge meaningfully
- Learner engagement
- Student inquiry
- Co-operative learning
- Feedback and continuous assessment

When comparing the categories and themes that emerged from the participant responses, they do largely fall under these principles respectively. A challenge that is inevitable when attempting to define what 'effective' teaching is lies in the myriad of pedagogical philosophies that dominate education across the global community. An educator's

pedagogical practice is heavily influenced by their perspective of teaching and learning (Pratt, 2002). It may be possible that the interchangeability the participants exhibited in relation to differentiation, AFL and general inclusion is linked with the principles of effective STEM teaching. Janssen, Westbroek and Doyle (2015) have suggested that professional educators who execute teaching efficaciously select their pedagogy based on its relative robustness in a classroom setting.

Conclusion

While the sample group was limited in terms of population and the validity of the data was reduced due to calculated margin of errors, the results did correspond to already existing studies conducted relating to the same research area of interest (Young, McNamara and Coughlan, 2017). Attitudes of the post-primary STEM educators towards inclusive education followed the trends identified in research literature, and there were no marked differences between the views of STEM teachers and general educators.

It was observed that participants generally held positive views towards inclusion in the classroom and felt they held a solid understanding of the facets and challenges of inclusive education. There was a slight negative correlation between general attitudes towards inclusive education and years of teaching service, i.e. as a teacher gained more teaching experience, they held more negative attitudes and reduced understanding towards inclusion within the classroom.

The robustness of the methodology employed to gather and analyse data for this study was deemed low by the researcher, based on the calculated margin of errors for relevant responses of the survey. A key issue that was identified from this was that the sample population was too low to establish a high degree of trust in the findings' validity. A minimum number of respondents required to establish a 95 percent confidence interval was found to be 690.

The implications of this small-scale study on future pedagogy of post-primary STEM teachers are likely minimal, but there are some key questions raised from the project that schools, education systems and policy-makers should aim to address in years to come. It is evident that secondary educators believe that the overall mission of inclusive education is a worthy ideal to strive for in teaching, but there is little evidence globally to show that inclusion within classrooms is both happening and having a definitive impact on learning attainment. Specific and clear

metrics need to be established for what is considered to be effective inclusive pedagogy to discern what is required to meaningfully improve educational outcomes for all students in classrooms (Waltz Comaru et al., 2021). It may be possible that an overhaul to the approach and philosophies towards inclusive education is required for it to effectively manifest in classrooms.

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Teacher Perspectives on the Benefits and Challenges Associated With Using Content and Language Integrated Learning (CLIL) to Develop Pupil Oral Language Communication Skills

Aifric Gallagher

Biography

Aifric graduated with a Bachelor of Arts in European Studies from Trinity College Dublin in 2016. She subsequently joined the Irish Defence Forces, where she worked for almost five years in Ireland as an Artillery officer and in Syria with the United Nations Disengagement Observer Force (UNDOF). Passionate about languages and language learning, Aifric was drawn to teaching as an opportunity to use and promote the Irish language as well as to foster creativity and innovation in the classroom. Outside of language learning, as she is proficient in five languages, Aifric enjoys problem-solving and shares her love of crosswords to support lateral thinking with her pupils.

Aifric graduated from Hibernia College with a Professional Master of Education (PME) in Primary Education in December 2023 and has been teaching Sixth Class in a Gaelscoil in Dublin as a Newly Qualified Teacher (NQT).

Teacher Perspectives on the Benefits and Challenges Associated With Using Content and Language Integrated Learning (CLIL) to Develop Pupil Oral Language Communication Skills

Research supervisor: Bernadette Stapleton

Abstract

The 20 Year Strategy for the Irish Language cites the State's specific objective to 'ensure that as many citizens as possible are bilingual in both Irish and English' (Government of Ireland, 2010, p.3). This research project investigated the impact of Content and Language Integrated Learning (CLIL) as an educational approach to support oral language communication skills for primary school children. The study also explored challenges associated with the implementation of this framework. Twenty-three mainstream teachers (n=23) took part in this quantitative study through the completion of paper-based questionnaires. Findings demonstrated a positive correlation between CLIL and oral language skills in Irish, but questions emerged regarding a need for appropriate resources and a clearer framework for effective implementation to take place.

Keywords: Content and Language Integrated Learning (CLIL), first language (L1), second or additional language (L2), primary school curriculum, target language

Introduction and Background

According to Mac Aogáin (1990, cited in Edwards, 2010, p.120), 'School Irish never stopped anybody who had a worthwhile use for the language'. Giving children a context from which to use the Irish language in meaningful and creative ways allows for spaces wherein children have the potential to navigate what Mac Aogáin calls for. The researcher sought to investigate not only the impact of the CLIL approach to support oral language communication skills but also investigate teacher perspectives on the implementation of the framework as experienced in the classroom.

Content and Language Integrated Learning (CLIL)

Coyle, Hood and Marsh (2010, p.1) define Content and Language Integrated Learning (CLIL) as 'a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language'. CLIL is widely used throughout the European Union (EU) in a variety of target languages, in line with the EU's language policy that advocates for multilingualism among EU citizens (Çekrezi, 2011). According to Dalton-Puffer (2007), CLIL 'refers to educational settings where a language other than the students' native language is used as medium of instruction' (p.1). In other words, CLIL classrooms are those in which the content of a specific subject is taught through a second language or a target language (TL), namely, a language that is not typically used outside the classroom (Dalton-Puffer, Nikula and Smit, 2010). This target language (TL) is deemed as 'the vehicle for learning', which allows for specific content to be taught with the aim to enhance linguistic competence in the TL while still delivering subject-specific content at the requisite level (National Council for Curriculum and Assessment (NCCA), 2019).

There exists an ongoing debate regarding the CLIL framework, which circles around the question of what should take precedence — content learning or language learning. In cases where the principal aim of teachers is to teach content, it can be argued that the lesson language goals are not necessarily achieved, echoing Swain's (1998) statement that 'not all content teaching is necessarily good language teaching' (p.68). Mac Gearailt, Mac Ruairc and Murray (2021) contend that often a student's cognitive abilities are much more developed than their linguistic abilities in the TL, which can make communication, delivery of information and assessment challenging in the CLIL context. Walenta (2018) argues that a balance between content teaching and language teaching has not yet been struck, while Van Kampen, Meirink, Admiraal and Berry (2021) warn of the dangers of a so-called 'integrated approach', that exclusively focuses on language teaching itself, decontextualised from differentiation, only content-focused teaching.

Subsequently, this research aimed to explore the impact of using the CLIL framework on the oral language communication skills of primary school children, while also highlighting mainstream teacher needs in successfully implementing it in their classrooms. According to Ó Duibhir and Cummins (2012), the Primary School Curriculum (PSC) does not succeed in

adequately integrating across languages. Thus, a more dynamic approach such as CLIL is called for to bridge this gap. The researcher contends that CLIL has significant potential to support oral language communication skills amongst primary school children, despite the challenges present. Arising from an extensive literature review, the following research questions have emerged:

1. What are teacher perspectives on the impact of CLIL on oral language communication skills?

2. What are the challenges facing the successful implementation of CLIL in Irish primary schools?

Methodology

The study adopted a quantitative methodological approach. A paper-based questionnaire was designed that made use of a 5-point Likert scale to align with what Whitaker and Fitzpatrick (2021, p.140) state in that 'The researcher who carries out a survey gets an overall picture of a situation or a snapshot in time'. The data instrument was chosen to gather, analyse and interpret teacher perspectives on the benefits and challenges associated with using a CLIL approach, in developing oral language communication skills. The questionnaire contained a mixture of open and closed questions with an aim to collect data on mainstream teachers' time spent in the teaching profession as well as open questions to provide opportunities to share and expand upon their answers. Questions in this data instrument were derived from the literature review. Questions were short, concise and clearly worded to ensure that meaning was not lost and to provide for a user-friendly experience for all participants. In order to mitigate against potential subjectivity and bias within the questionnaire, the researcher used clinical language, ensuring that the chosen questions were not leading the participant in any way or endeavouring to influence their answers (McNiff and Whitehead, 2009).

The researcher chose a purposive sample for this study, which ensured that those surveyed had an awareness of CLIL as a concept, as well as some experience of its practical implementation in the classroom or within the wider school environment. Participants were qualified primary school teachers who had experience of either teaching using a CLIL approach or teaching in a school where a CLIL approach was implemented. A total of 23 participants (n=23) were included in the sample. This research project was conducted in a suburban primary school in Ireland. The identified school is

an English-medium school in which a CLIL approach has been adopted in a variety of subjects over a number of years.

Ethical standards were closely followed in acknowledging that participants must consent fully to engaging with questionnaires, and cannot be forced into doing so (Cohen, Manion and Morrison, 2011). A full ethics form was approved by the Hibernia College Ethics Committee. The researcher emphasised and insisted upon the 'informed consent' of all participants prior to completion of any questionnaires (ibid., p.377). The researcher prioritised the importance of objectivity throughout the data collection and analyses processes, particularly since questionnaires are described as 'political' and 'not neutral' by McNiff and Whitehead (2009, p.161). The researcher therefore ensured that bias was kept in check and that objectivity was retained at all stages of the process.

Data Analysis

The researcher included Thematic Analysis (TA) as a data analysis method, whereby the researcher identifies common threads within responses and draws conclusions from these commonalities (Braun and Clarke, 2016). This analysis was deemed more suitable, however, to a qualitative approach. Descriptive Statistical Data Analysis (SDA) was used to further represent the data analysis of the Likert 5-point scale. This approach included frequency distributions. The researcher used Microsoft Excel in order to collate, represent and interpret data in the form or graphs and charts.

Findings and Discussion

A total of 23 respondents (n=23) were surveyed as part of this research project, with a return response rate of 77%.

Survey returns indicated that a total of 65% (n=15) of respondents had direct experience of teaching using a CLIL approach, while 35% (n=8) had not taught using a CLIL approach in the past (see Figure 1). Although these 35% had not explicitly used CLIL as a teaching methodology in their own classrooms, they had knowledge of CLIL as a concept as well as teaching experience in a school where the approach had been implemented.
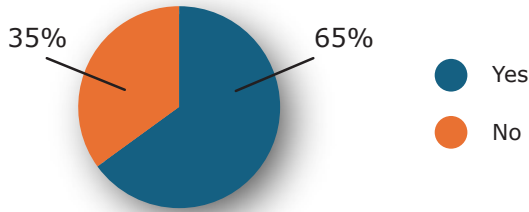
Have you taught using a CLIL approach before?

Figure 1: Breakdown of participants with and without direct experience of teaching using a CLIL approach. Yes = 65% (n=15), No = 35% (n=8)

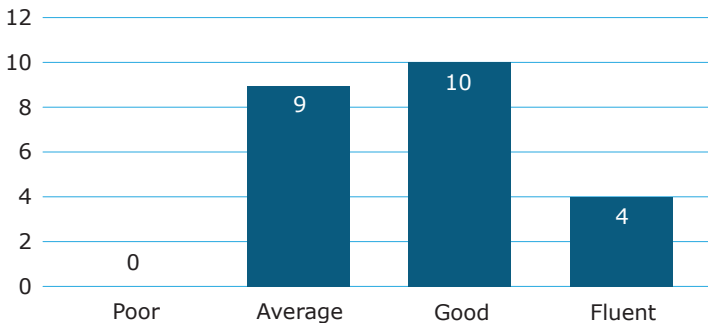## Standard of Irish — All Respondents

Figure 2: Participants' descriptions of their own standard of Irish (all respondents)

When respondents were asked to rate their own standard of Irish, 43% of respondents (n=10) described their standard of Irish as 'good', while 39% (n=9) described their Irish as 'average' (Figure 2). 17% of participants (n=4) described their level of Irish as 'fluent', and 100% of these four respondents had used CLIL in the classroom in the past.

The NCCA (2019, p.1) posits that a CLIL approach empowers spaces for children to situate language in context and to use it for, 'authentic communication'. Ruiz de Zarobe (2013, p. 236) cite CLIL as a 'powerful motivation factor', as it compels students to use the language in context to effectively communicate. Thus, one of the cornerstones of the concept of CLIL is to equip children with improved communication skills in the

target language (TL), and to implement these communication skills in meaningful ways. Findings from this research project concur with the above as regards oral language communication skills in Irish, with 47% of respondents strongly agreeing that CLIL improves oral language communication skills in Irish, and 43% agreeing, as illustrated in Figure 3.
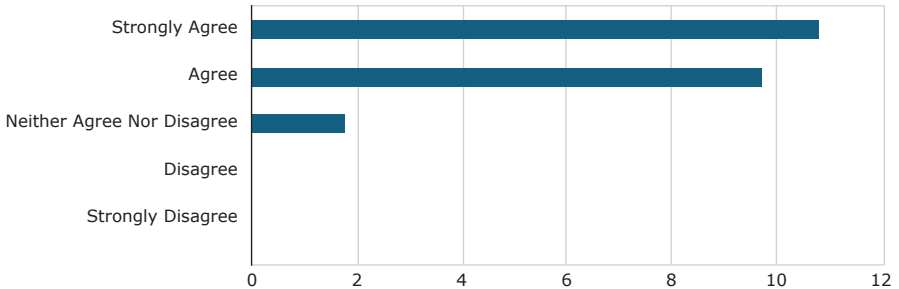
CLIL improves oral language communication in Irish.

Figure 3: Teaching using a CLIL approach improves oral language communication skills in Irish.

The Irish State deems languages as being 'primary vehicles of cultural expression and intangible cultural heritage, essential to the identity of individuals and groups' (Government of Ireland 2010, p.5). Teachers were asked whether they believe CLIL improves children's attitudes towards the Irish language. Per participant's responses, the median response given by 43% of participants (n=10) was 'Agree', while 39% of respondents (n=9) answered 'Strongly Agree', and 4% (n=1) of respondents opted to 'Disagree' on the Likert Scale for this question (Figure 4).

These results show that teachers who have experience teaching in an environment where CLIL is employed correlate the approach with fostering positive attitudes towards the Irish language in primary school children. This positive attitude towards the language noted in CLIL classrooms could relate to the idea that there is an enhanced emphasis on communication over perfection within the CLIL environment, whereby correction of students' errors is deemed implicit as opposed to explicit, due to the dual focus on both content and language within CLIL lessons (Milla and García Mayo, 2013). Lorenzo and Moore (2010) argue that the lack of focus on explicit correction of linguistic and grammatical errors, which is characteristic of CLIL lessons, assists teachers in creating a relaxed and productive learning environment. According to Seoighe (2014), the use of

CLIL in the Irish primary school context improved both children's attitudes and competency in the language, while Dillon (2009) cites the informal use of Irish in CLIL settings as important in helping pupils to appreciate the communicative value of the language. These sentiments tie in with findings from this research project, whereby 91% of respondents either strongly agreed or agreed that CLIL improves attitudes of primary school children towards the Irish language.

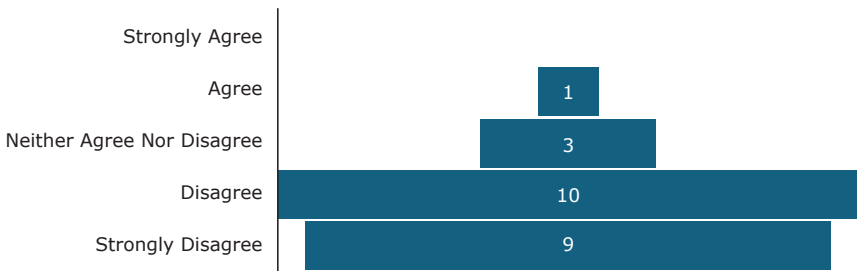CLIL improves attitudes towards Irish in primary school children.

Figure 4: Teaching using a CLIL approach improves attitudes towards the Irish language in primary school children.

When respondents were asked whether appropriate resources are available to them to teach using a CLIL approach (Figure 5), 30% (n=7) responded neutrally with 'Neither Agree nor Disagree', while 21% (n=5) disagreed and 26% (n=6) agreed. This data implies that if resources are available to support teachers in implementing CLIL in their classrooms, teachers are not necessarily aware of these resources or are unable to access them. The lack of availability of fit-for-purpose resources to support teachers in implementing CLIL has been identified as a major challenge to the successful implementation of this initiative.

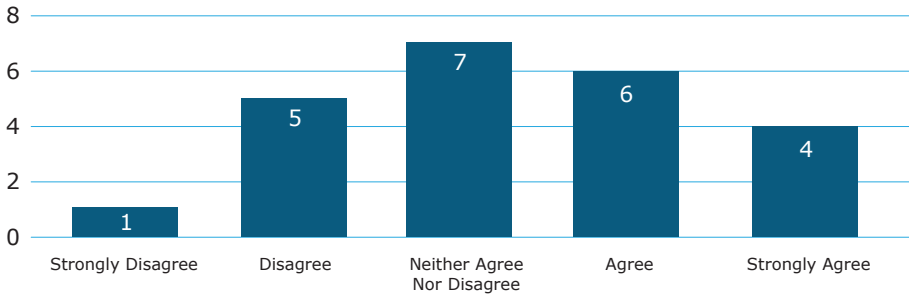Appropriate resources are available to teach using a CLIL approach.

Figure 5: Appropriate resources are available to teach using a CLIL approach.

When asked to clarify what kind of resources would both encourage and assist them in implementing a CLIL approach, a number of resources were suggested (Figure 6). 65% (n=15) of respondents suggested online or interactive resources, such as the interactive whiteboard, online games, PowerPoint presentations and downloadable posters. Classroom displays and posters were also suggested a number of times (n=12) as a means to incorporate and pre-teach essential vocabulary. Flash cards were suggested by 43% of respondents (n=11) in order to assist both students and teachers with practical and subject-specific vocabulary, while workshops and courses were highlighted by 21% (n=5) as helpful in equipping teachers with the necessary skills to teach using a CLIL approach, per departmental guidelines. Two respondents in this research project also noted a lack of departmental support and guidance as a factor that would potentially inhibit them from successfully implementing a CLIL approach in their classrooms.

Hüttner, Dalton-Puffer and Smit (2013) note that CLIL's implementation in Europe has emerged from two levels — both governmental policy and grassroots movements, giving us an insight into the merging and potentially competing interests of two ends of the educational spectrum. The need for teacher education and training on CLIL implementation is also highlighted in this paper, and this sentiment was echoed in the findings of this research project, with teachers calling for workshops, courses and sample modelled lessons to be provided to them as training material (ibid.).

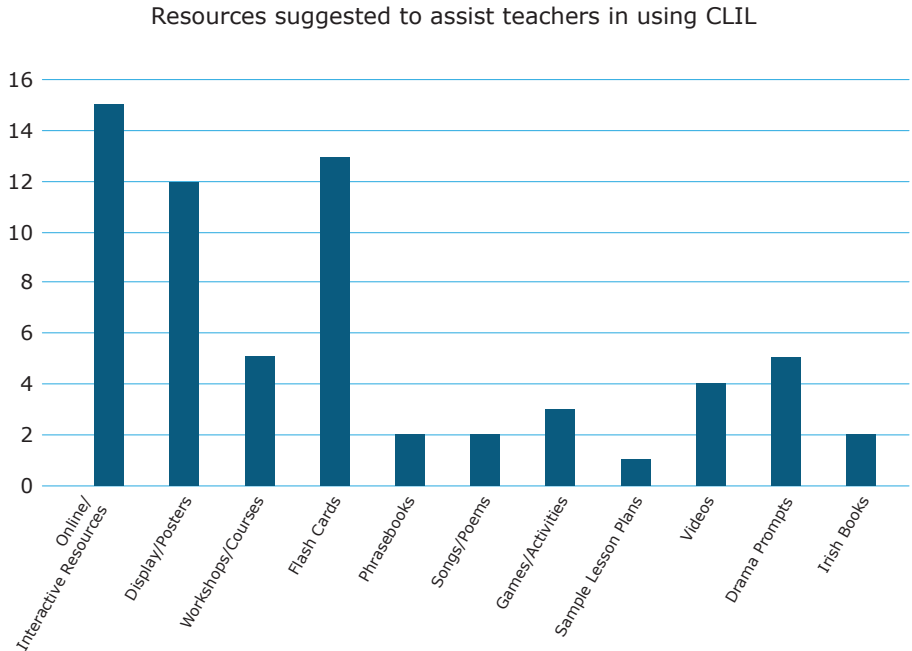Resources suggested to assist teachers in using CLIL

Figure 6: Resources suggested by respondents that would assist them in implementing CLIL

At present, there is no specific teacher qualification required to teach using a CLIL approach (Mac Gearailt, Mac Ruairc and Murray, 2021). Research conducted by Coyle (2007) cites a need for a clear framework of aims and outcomes to allow for CLIL to be implemented in a successful and uniform manner. In summary, clear policy guidelines, support materials, appropriate and accessible resources and training for teachers are needed for CLIL to be successfully implemented in Irish primary schools.

Conclusion

Hall-Kenyon and Smith (2013) assert that the integration of subjects reinforces learning and deepens understanding. Sylvén (2017) argues that CLIL increases motivation in language pupils as it stimulates their interest in both language and content simultaneously. The findings of this research project align with these ideas and indicate that CLIL has a positive impact on children's oral language communication skills in Irish while

simultaneously improving their attitudes towards the language. Findings of this research project outline the need for resources to be made readily available to support teachers when using a CLIL approach. Resources such as visual displays, interactive games, songs and activities as well as flash cards should be readily accessible and tailored to both children and teachers. Workshops, online courses, sample-modelled lessons and interactive resources to support teachers in improving their own confidence with the implementation of this initiative could also be provided to support the implementation of CLIL in the Irish context.

Keogh-Bryan (2019, p.8) argues that learning two languages in primary school provides pupils in Ireland with 'transferrable language skills, language content knowledge, language awareness and metalinguistic awareness'. CLIL as an approach is both integrative and communicative in nature, and with adequate resources, guidelines and governmental support could allow teachers in Ireland to teach Irish in a more dynamic, student-empowering way. Finally, the research demonstrates that a clear framework at a governmental level to guide schools in implementing CLIL is required. Appropriate teacher training, better access to resources as well as clear guidelines for implementation from the Department of Education are deemed necessary for the successful implementation of CLIL in Irish primary schools.

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An Exploration of Post-Primary Teachers' Experiences, Attitudes and Personal Competencies Relating to the Implementation of the Junior Cycle Wellbeing Guidelines

Aisling Hennebry

Biography

Aisling Hennebry graduated with a Bachelor of Medicine, Surgery and Obstetrics from The National University of Ireland, Galway. She worked as a medical doctor in Galway, Perth and Sydney before returning to Ireland to commence the Professional Master of Education (PME) in Post-Primary Education with Hibernia College. Graduating in 2023, Aisling received the overall student prize and the research prize for her cohort.

Aisling is currently enjoying teaching Science, Maths and Biology in Kinsale Community School, Cork. Aisling believes equipping students with the necessary lifelong skills and knowledge to look after their individual wellbeing is an integral part of teaching.

An Exploration of Post-Primary Teachers' Experiences, Attitudes and Personal Competencies Relating to the Implementation of the Junior Cycle Wellbeing Guidelines

Research supervisor: Kevin Martin

Abstract

In recent years, there has been an increased focus upon the social and emotional wellbeing of students within Irish-post primary schools. In 2017, the National Council for Curriculum and Assessment (NCCA) introduced the Junior Cycle Wellbeing Guidelines to promote the physical, mental, emotional and social wellbeing of students as a whole-school endeavour. This study investigates the experiences, perceptions and perceived personal competencies of teachers in their implementation of these guidelines. Utilising a quantitative methodology, it was established that teachers are cognisant of their significant role in supporting student wellbeing. That said, some negative sentiments were revealed regarding some aspects of the Junior Cycle Wellbeing Guidelines. Barriers identified to effective wellbeing education included a lacuna in initial teacher-training and competing demands to deliver core curricula.

Keywords: Social and Emotional Wellbeing, Junior Cycle Wellbeing Guidelines, Mental Health, Teacher Training

Introduction

The motivation for this research stemmed from an acute concern about the rising prevalence of Irish adolescents with mental health difficulties. There was a notable increase in depression and anxiety in the Irish adolescent population between 2012 and 2019 (Dooley et al., 2019). In 2019, 41% of Irish teenagers were classified as having depression and 49% were classified as having anxiety (ibid.). These alarming figures were reported before the Covid-19 pandemic. During the pandemic, children and adolescents experienced significant mental health effects and the the United Nations Sustainable Development Group (UNSDG) identifies this population as a vulnerable group that is at risk of becoming the predominant victims of Covid-19 (O'Sullivan et al., 2021).

The peak onset of mental health problems is during the adolescent period, i.e., students' years in secondary school (Solmi, Radua and Olivola, 2022). It is during this timeframe that students need to be equipped with the necessary lifelong skills and knowledge to look after their individual wellbeing. When implemented effectively, evidence-based social and emotional learning programmes can result in measurable improvements in adolescents' mental health (Greenberg et al., 2017). Such programmes are part of the public health approach to education, which strives to improve the wellbeing of entire populations (ibid.).

The Wellbeing Policy Statement and Framework for Practice 2018–2023 provides an overarching structure for the development of wellbeing programmes in Irish primary and post-primary schools (DES, 2019). The Junior Cycle Wellbeing Guidelines provide a framework for a whole-school approach to the promotion of student wellbeing (NCCA, 2021). It is imperative that such programmes are implemented in an effective manner, both to support students in the aftermath of the pandemic and to build their resilience to be able to respond to future global crises (D'Angelo, 2022).

The guidelines require all post-primary schools to dedicate 400 hours over the three-year Junior Cycle to the promotion of student wellbeing (NCCA, 2021). Civic, Social and Political Education (CSPE), Physical Education (PE), and Social, Personal and Health Education (SPHE) account of 335 hours of the 400 hours (ibid.). Schools have autonomy regarding what they incorporate into the remaining wellbeing hours and are encouraged to include short courses and guidance-related learning suited to student needs and the school context (ibid.). The 400 hours allocated to wellbeing have been facilitated by a reduction in the hours required to complete the new Junior Cycle specifications in other subject areas (ibid.).

The UCD My World Survey 2 (2020), a study on the mental health of young people in Ireland, found that school staff were the most common source of support accessed by adolescents who were struggling with their mental health and that adolescents who felt they had 'One Good Adult' were less likely to suffer from depression or anxiety (ibid., p.55). Research shows, however, that teachers often feel ill-equipped to support students' mental health and that it is necessary to effectively equip teachers with the knowledge and practical skills to enable them to assist the increasing number of students with mental health difficulties (Roeser and Midgley, 1997; Walter et. al., 2006; Rothi et al., 2008).

Whilst teachers may be well-equipped to help create a supportive, caring school climate and engage in positive relations with students, there is a recurring theme in the literature — the need for enhanced initial teacher training in emotional and mental health pedagogy to support student wellbeing.

There is a paucity of research surrounding Irish educators' experiences of delivering the Junior Cycle Wellbeing Programme since 2017. This lacuna informed this researcher's formulation of the following three research questions:

- What are the experiences of Irish educators in implementing the Junior Cycle Wellbeing Guidelines since 2017?
- What are Irish educators' attitudes towards and perceptions of the guidelines?
- What are the perceived personal competencies of Irish educators in implementing this programme?

This research is deemed necessary to improve the quality of wellbeing education in Irish post-primary schools and provides recommendations for future research, policy and practice.

Methodology

A positivist paradigm and quantitative methodology were chosen for this research. One of the primary drivers behind the decision to utilise a quantitative research approach was the necessity to secure a sufficient sample of teachers across a myriad of disciplines, not just those involved in teaching specific wellbeing classes. This was an important factor as the Wellbeing Guidelines emphasise the importance of promoting wellbeing in every classroom reflective of a whole-school approach and highlights that all teachers have a responsibility for student wellbeing.

A self-administered questionnaire was utilised by the researcher for data collection. The questionnaire was created and sent to participants using Google Forms. The survey consisted of four sections, namely (i) Demographics, (ii) Experiences implementing the Junior Cycle Wellbeing Guidelines, (iii) Attitudes towards the Junior Cycle Wellbeing Guidelines and (iv) Personal Competence, Confidence and Training in Implementing Wellbeing Education. The latter three sections comprised a mixture of closed nominal scale questions, closed ordinal scale questions and open questions. An open-ended comment section at the conclusion of each section enabled respondents to express their opinions on specific issues.

Open-ended questions were also utilised to expand upon certain closed-answer questions.

This study utilised a convenience method of sampling. This method was employed in two schools in which the researcher had completed school placements and was known to staff. The questionnaire and accompanying information sheet were emailed to 125 post-primary teachers with greater than one-year teaching experience across the two schools. Teachers with less than one-year experience were not asked to complete the survey as it was deemed that they may not have had adequate experience implementing the Wellbeing Guidelines. There was a response rate of 32%, with 40 teachers have completed the survey. While the respondents were teachers of a range of subjects, 32.5% were teachers of PE/CSPE/SPHE, subjects which count towards overall Junior Cycle Wellbeing hours. It is noteworthy that a high percentage (27.5%) of the sample were Science teachers. The first participating school was a single-sex (female) Catholic school in an urban location with 800 students. The second school was a mixed Catholic school in a coastal town with 1200 students.

Statistical analysis was used to analyse the quantitative data within the survey. Data obtained from the questionnaire was quantified for the identification of trends. Google Forms allowed for straightforward collation and display of data gathered from the questionnaire responses. This data was then exported to Google Sheets (encrypted) for further quantitative analysis using pivot tables to cross-tabulate variables. Thematic analysis was used to analyse the open-ended questions that required the participant to type a response. This qualitative data was thematically coded to identify the reasons underlying teacher perceptions and attitudes towards Junior Cycle Wellbeing. During this process, patterns within the qualitative data began to take shape. These patterns expanded upon the narrative that was obtained from the quantitative analysis of the closed questions.

A research proposal for this research study was approved by the Hibernia College Ethics Committee prior to commencing this study. The methods employed complied with the ethical guidelines of Hibernia College and the British Educational Research Association (BERA, 2018).

Findings and Discussion

Lynch et al. (2007) espouse that teachers must consider the complete development of students and be a caring, supportive adult who students can trust. This is what it truly means to educate, or *educare*, as these authors describe the job of a teacher. The research findings strongly

affirm the widespread acknowledgment of the crucial role teachers play in supporting student wellbeing in Ireland, as all respondents (100%) agreed that they bear a significant responsibility in this regard. The notion that wellbeing should be at the forefront of every classroom is repeated throughout the questionnaire commentary. A large proportion, 70%, of respondents reported regularly incorporating aspects of wellbeing into their own subject areas. Nonetheless, only 55% of respondents keep the six wellbeing indicators in mind when planning lessons. These indicators are based upon the evidenced-based PERMA model of student wellbeing promotion (Seligman, 2003). Therefore, it can be suggested that training could be a major factor in embedding the guidelines and the specific indicators into practice and to support practical, meaningful and routine incorporation of these indicators.

Teaching SPHE/CSPE/PE — 13 (32.5%)
Teaching wellbeing lessons/short courses — 18 (45%)
Teaching tutor classes — 14 (35%)
Incorporating wellbeing into own subject — 28 (70%)
Promoting wellbeing via extracurricular activities — 20 (50%)
None of the above — 2 (5%)
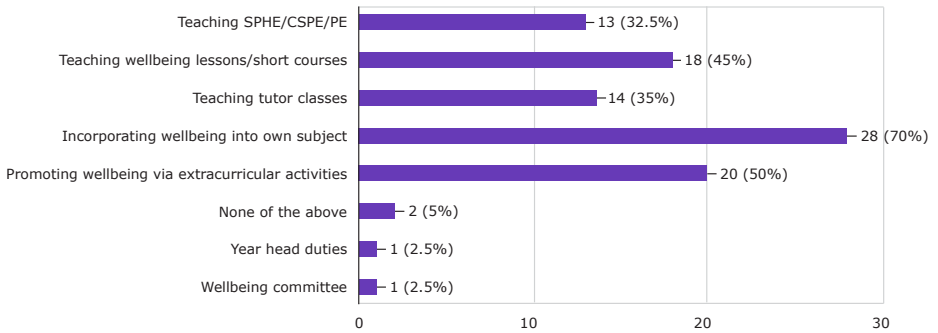Year head duties — 1 (2.5%)
Wellbeing committee — 1 (2.5%)

Figure 1: Ways in Which Teachers are Involved in Junior Cycle Wellbeing

The majority (75%) of teachers stated that promoting student wellbeing was a positive experience for them. Despite this, only 45% of teachers perceived their students to be engaged with the Wellbeing programme. The majority (70%) of questionnaire respondents believed that overall school culture was more important than specific wellbeing curricula. One teacher states that the lack of engagement in the Wellbeing programme is 'a shame, because done well, it could be fantastic'. Post Covid-19, the significance of health and wellbeing has been highlighted for the entire school community (NCCA, 2021). It is imperative that the reasons underlying this lack of student engagement are explored and overcome in order to effectively equip students with the skills to look after their mental health in the aftermath of the pandemic.

The Wellbeing Guidelines state that teachers should have a thorough understanding of adolescent wellbeing, be skilled at incorporating pedagogy that fosters student wellbeing and contribute to the wellbeing curriculum within schools (NCCA, 2021). While 75% of respondents felt confident incorporating wellbeing into their own subjects, only 15% stated they had adequate training in their initial teacher training (ITE) to do so. This finding raises important questions regarding the quality and adequacy of current teacher training in this area. The finding is consistent with the fact that 55% of respondents felt confident teaching specific wellbeing lessons or short courses but only 7.5% believed their ITE prepared them to do so. A lack of teacher training in wellbeing education was the most common reason that teachers identified as a barrier to effective implementation of the Wellbeing Guidelines. This finding broadly supports the work of other studies in this area, such as research carried out in Greek-Cypriot schools; where it was elicited that educators perceived inadequate teacher training as a significant restriction in the delivery of wellbeing education in Ireland; and where inadequate formal training for SPHE teachers has been identified as a significant limiting factor in the effective delivery of SPHE (Apostolidou and Fontana, 2003; Moynihan et al., 2016). Therefore, teacher training has been identified as a major contributory factor to the negative perceived personal competencies of Irish educators in the implementation of the Wellbeing programme.

I had adequate training in my initial teacher education to allow me to effectively incorporate aspects of wellbeing into the teaching of my own subject.
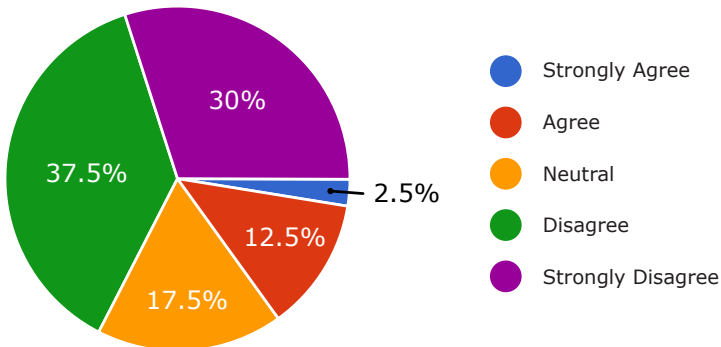
40 responses

Figure 2: Initial Teacher Training — Incorporating Wellbeing into Core Subjects

I had adequate training in my initial teacher education to effectively teach specific wellbeing lessons/short courses/units of learning.
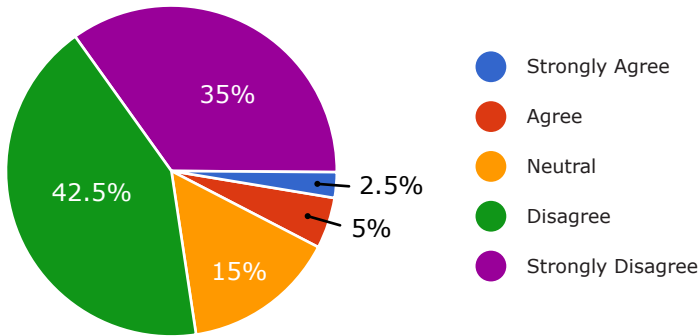
40 responses

Figure 3: Initial Teacher Training — Teaching Specific Wellbeing Lessons

Just over half of questionnaire respondents reported having the opportunity to engage in continuing professional development (CPD) in wellbeing education. One respondent remarked that, 'the onus [is] on teachers to develop wellbeing programmes, and so the standard and input varies enormously as do the learning outcomes'. Less than half of respondents thought that the Wellbeing Guidelines provide a structured and cohesive framework to effectively deliver wellbeing education. These findings suggest that improved teacher training, a more structured framework and quality resources may enable teachers to effectively motivate and engage students in this area.

Traditionally, in Western society, student happiness has not been the central focus of education; rather, academic outcomes and achievement have held greater significance (Noddings, 2003; O'Brien, 2008). The relatively recent paradigm shift that places an increased focus on student wellbeing is supported by the finding that 70% of respondents believed that the wellbeing curriculum and core-subjects' curricula are equally important. That said, 40% of responding teachers believed that less time should be allocated to Junior Cycle Wellbeing as it takes away from hours previously allocated to core subjects. Despite the increased awareness of the importance of wellbeing, it is evident that conflicting opinions exist surrounding the time allocation for the academic core-subject curricula and the wellbeing subject curricula. Educators are concerned that the whole-school approach to wellbeing adds to the pressure they

feel in delivering the core curriculum (Hearne and Galvin, 2015). This is evident within the questionnaire commentary as respondents refer to the increased pressure on teachers as well as increased stress and anxiety for students as they have less time to complete the core subject workload.

Although the teachers within the survey believe wellbeing education to be beneficial for students, there is also recognition that the reduced hours for core subject activities have paradoxically created more stress for both teachers and students. One teacher refers to 'students feeling this through high pace classes and work being undertaken at home, therefore counteracting the wellbeing lessons'. Respondents also referred to the fact that the summative Junior Cycle State Exams do not reflect the Wellbeing Guidelines or take into account the reduced time to complete core curricula. It is evident that additional practical measures have yet to be taken to arrive at a situation where all students truly have the in-school opportunity and support to flourish.

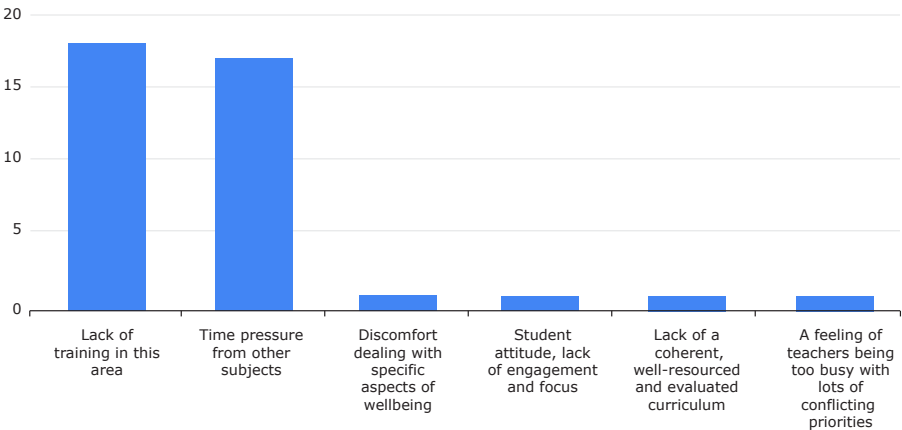Figure 4: Barriers to Effective Implementation of the Wellbeing Guidelines

Under the Junior Cycle Wellbeing Guidelines, schools are autonomous in how they choose to allocate the 65 additional wellbeing hours outside of PE, SPHE and CSPE (NCCA, 2021). The majority (62.5%) of respondents concurred that schools should have this autonomy in order to meet the particular needs of the students. 30% believed the programme should be

consistent across schools to increase standards, accountability and equity for students. UPRIGHT is an evidence-based wellbeing and mental health programme proven to increase the resilience and wellbeing of students aged 12-14 (Las Hayas et al., 2020). This programme, co-created by experts within this field and teachers, parents and students, offers a structured programme with culturally adapted versions of lesson plans and resources to meet the needs of different schools (ibid.). Introducing a structured and evidence-based wellbeing program like UPRIGHT in Ireland would offer teachers the autonomy to deliver lessons independently while maintaining flexibility to adapt them according to their specific students and school context. A more structured program, hypothetically, could lead to greater consistency in learning outcomes across schools, provide clearer guidance on how schools should allocate hours, reduce pressure on non-expert teachers to create wellbeing content and, crucially, enhance equal access for students to quality wellbeing education across different schools. One respondent stated, 'I feel the department have put a lot on school's shoulders in having to fully set out the wellbeing programme for their students.' The data suggests existing tension between teachers and the Department of Education surrounding the time allocation for Junior Cycle subjects and the perceived lacuna in ITE pertaining to wellbeing education.

Conclusions

This study highlights that post-primary teachers are cognisant of their pivotal role to deliver quality wellbeing education in Ireland. Nonetheless, some negative educator perceptions of the Wellbeing Guidelines were revealed. Identified negative sentiments relate to a significant perception of poor student engagement with wellbeing education, a dearth of teacher training within this field and the impact of wellbeing education on completion of core-subject curricula. There are conflicting opinions regarding the structure of the guidelines with a majority favouring the flexible approach. There are, however, considerable and valid concerns surrounding the unstructured guideline framework which results in inconsistency delivery of the programme across schools.

The singular resounding finding from this research is the requirement for significant teacher-training development to effectively embed wellbeing education in Irish schools. The current Wellbeing Policy Statement and Framework for Practice encompasses the years 2018–2023(DES 2019). Any intended review of this policy must consider the lacuna in teacher-training identified in this research which is also consistent with

previous studies in Ireland (Byrne, McGuinness, and Carthy, 2022). It is the firm recommendation of this writer that explicit training around wellbeing education is incorporated into all future ITE and is mandated for all currently qualified teachers. Given the divergence in opinion regarding flexibility and programme structure, adoption of a wellbeing programme similar in nature to the pan-European UPRIGHT programme is recommended.

(Byrne, McGuinness and Carthy, 2022) assert that all teachers are wellbeing educators. In order to effectively foster student wellbeing, teachers must be equipped with the prerequisite knowledge and pedagogical skills and work within a cohesive Junior Cycle Framework. This study clearly identifies the unequivocal necessity for a practical, holistic approach to the integration of wellbeing into the Irish post-primary education system.

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How the Introduction of Remote Learning Has Affected Student Numeracy in the Post-Primary Classroom: Teachers' Perspectives

Rosaline Keane Kelly

Biography

Rosaline graduated with a BSc in Astrophysics from University College Cork before going on to obtain a Professional Master of Education (PME) in Post-Primary Education at Hibernia College. Rosaline has a deep passion for science, believing in the value of curiosity and the joy of asking 'why' to unravel the secrets of the world around us.

Currently on an adventure in a new county for her first year qualified, she teaches Physics, Science, and Maths through the lens of curiosity and discussion, encouraging students to look deeper into their studies and come to understand the workings of the world.

How the Introduction of Remote Learning Has Affected Student Numeracy in the Post-Primary Classroom: Teachers' Perspectives

Research supervisor: Stephen Dollard

Abstract

This mixed-methods study investigates teachers' perspectives on the numeracy of their students, the effectiveness of remote learning as a teaching and learning tool, and the impact that remote learning may have had on student numeracy. Data was collected through an online questionnaire and through semi-structured interviews to triangulate the research questions. The findings are presented through graphical representations and themes developed through thematic analysis of the data. The study reveals the various factors that teachers observed to affect numeracy and remote learning, indicates there may be a decline in numeracy, and considers remote learning to be a factor that affected numeracy throughout the COVID-19 pandemic.

Keywords: Numeracy, Remote Learning, COVID-19 Pandemic, Hibernia College, Mixed-Methods Study

Introduction and Background

The focus for this research stemmed from the researcher's first school practice where they noticed that students' numeracy seemed to be worse than the researcher's experiences in secondary school less than a decade previously. This prompted the researcher to talk to other teachers about the numeracy of their students and the anecdotal evidence seemed to point to a possible decline in student numeracy. This encouraged the researcher to obtain data on this topic to investigate whether remote learning influenced student numeracy.

The COVID-19 pandemic and the associated lockdowns, starting March 12th, 2020, resulted in an education system scrambling to adjust to this new reality. Across Ireland, schools had to make the switch to remote learning in order to continue operating. As lockdowns began to ease, schools had to prepare for cases of coronavirus outbreaks among their

staff or students (Department of Education and Skills (DES), 2020). Students' experiences during this period were mixed, with a report from the Central Statistics Office (CSO) finding 65% of parents with a student in second-level education ranking their experiences as fair or less (CSO, 2021). Numeracy is emphasised at every level of Irish education through national policies and strategies (DES, 2011), but there is little research about the impact of remote learning on numeracy during these periods.

'The global disruption to education caused by the COVID-19 pandemic is without parallel, and its effects on learning have been severe' (UNESCO, UNICEF, and World Bank, 2021, p.4). This affected all levels of Irish education, and schools pivoted to remote learning to facilitate learning. Research shows in-person classes are often more beneficial to students (Schult et al., 2022) and the switch to remote learning may have resulted in a 'learning loss' in students' knowledge (Engzell, Frey, and Verhagen, 2021). There are yet to be full studies and evaluations on how this learning loss will manifest in Irish schools. Numeracy itself is difficult to define, encompassing a broad set of skills that students should have to engage in society. The aims for this study are therefore as follows: To investigate what teachers understand numeracy to be and how it applies to their students, to look into the effectiveness of remote learning as a tool, and to evaluate the possible impact that remote learning may have had on student numeracy in the Irish post-primary classroom.

Gaining the perspectives of teachers in numeracy focused subjects through a mixed-methods approach will allowed the researcher to collect data regarding the aims of the study and investigate how numeracy may have been impacted through the use of remote learning. Seeking to investigate this further, three primary research questions were foremost on this researcher's mind:

- How do teachers approach and conceptualise their own numeracy and that of their students in the contemporary classroom?
- Is remote learning an effective tool to teach numeracy to students?
- What effect did remote learning have on student numeracy in the post-primary classroom?

Methodology

The study follows a mixed-methods approach underpinned by a post-positivism paradigm for data collection and analysis. The study sought to align both quantitative and qualitative perspectives to provide a 'more

comprehensive understanding of the phenomenon of interest' (Salkind, 2010, p.1537). Quantitative data was obtained through a questionnaire provided to teachers across two voluntary single-gender schools. Teachers were selected based on their subjects taught with a focus towards numeracy and availability to the researcher. Qualitative data was obtained through interviews, conducted with two teachers working in a mixed DEIS school. This follows a convergence approach in which quantitative and qualitative data are collected and analysed separately, and the results can then be interpreted together to answer the research questions (Creswell et al., 2003).

Mixed-Methods Approach

The survey utilised various open and closed questions across its four primary sections to collect relevant data from participants. Section one focused on sampling criteria about the participants, the second section used various sampling techniques to investigate teacher knowledge of numeracy. The third section considered remote learning and teachers experiences with it. The closing section brought numeracy and remote learning together to seek teachers' experience with the two. The interviews aimed to compliment the limitations of the questionnaire, with discussions designed to mirror the questions and structure of the survey but with room to go deeper into participants' experiences, allowing for the voice of the participant to take centre stage.

Both approaches had limitations. One limitation of the questionnaire could be an assumed knowledge and familiarity with the subject, as participants may have had a different knowledge or understanding than the questionnaire itself provided avenues for (Beiske, 2002). The interviews also had limitations; primarily, the small sample size and the artificiality of the scenario may result in responses where the bias of the researcher can influence the participants or the results (Knott et al., 2020).

Data Analysis

Microsoft Excel was chosen to organise the data, providing a secure file that could be encrypted and accessed by the researcher. This also provided avenues for statistical analysis of quantitative data and graphical representations of the data through charts.

The questionnaire employed a wide range of techniques. Likert type questions, such as question 19, take the form of a scale (Likert, 1932) that provides a series of questions with options to rank agreement.

However, these responses lie on an ordinal measurement scale (Boone and Boone, 2012) as there can be no clear description of the gap between participants' agreement or disagreement. Other questions are dichotomous with follow-up sections for participants to justify their responses, rankings of the order of importance of numeracy, and further questions to rank the impact of various phenomena. A wide range of questions provide a variety of data to consider as per the research paradigm.

Qualitative data comes from interviews that were recorded, transcribed, and analysed through thematic analysis and coding. The approach used in this study follows a theoretical thematic analysis, driven by the study's interest in a specific area providing a specific analysis of the area of interest (Braun and Clarke, 2006). This approach is in line with the post-positivism paradigm, where the researcher cannot be fully separated from their attempts to observe objective reality.

The study was carried out in line with the principles of the ethical guidelines for educational research (BERA, 2018) and Hibernia College's ethical guidelines. No students or persons under the age of eighteen were approached in this study, and teaching staff were only invited to participate in the study with written, voluntary consent.

Findings and Discussion

Twenty questionnaires were completed (N=20) by teachers who met the sampling criteria. Teaching experience varied across the population, with 45% of teachers having more than 15 years of experience and 30% having less than five years. Semi-structured interviews (N=2) consisted of teacher A and teacher B. Teacher A has 10 years of experience teaching Maths and Geography. Teacher B has 9 years of experience teaching Physics, Maths, and Science.

Teachers' perceptions and approaches to numeracy
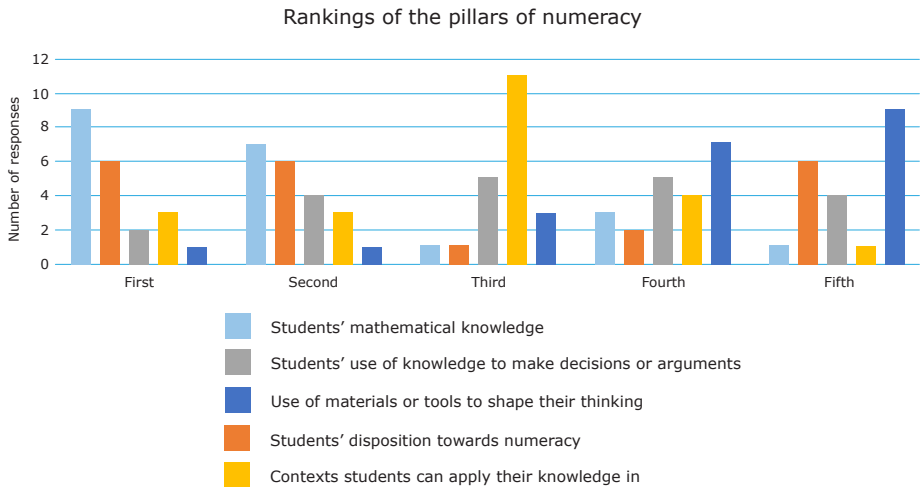
Rankings of the pillars of numeracy

Figure 1: Ranking of the pillars of numeracy (Goos, Geiger, and Dole, 2010; 2012) from most to least importance

Teachers considered students' conceptual understanding and dispositions towards numeracy most important (Figure 1), implying the information students learn and approaches to that learning are the vital parts of their numeracy. A student's disposition towards numeracy is a predictor of maths performance (Evans and Field, 2020) and had mixed rankings, implying teachers may neglect it in favour of other pillars.

The contexts students could apply their knowledge in were ranked centrally, contrasting the interviews where both teachers indicated numeracy is an understanding of numbers applied throughout various contexts.

'The application of numbers, as much as the numbers themselves, play a part in the numeracy overall.' (Teacher B)

Use of knowledge to make decisions was spread across the rankings with no agreement on placement. Teachers primarily placed the use of materials to shape student thinking last on the ranking, despite research indicating the importance of numeracy tools in the classroom (Kul, Çelik, and Aksu, 2018).
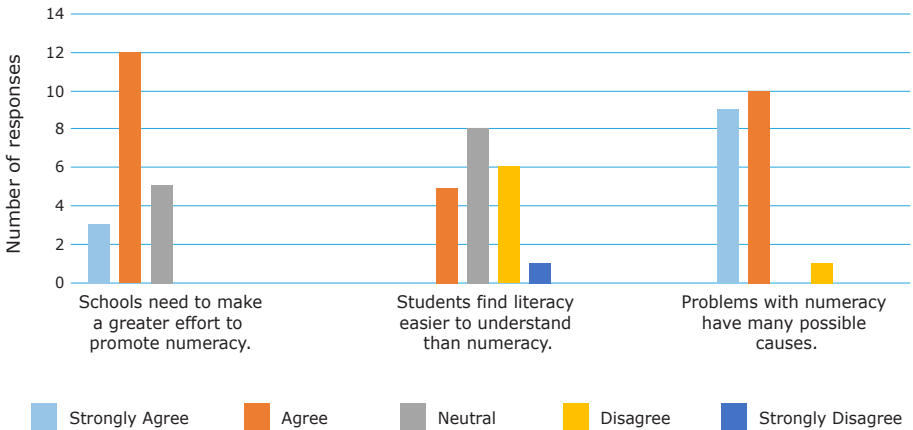
Statements about numeracy

Figure 2: Levels of agreements with statements about numeracy

Teachers indicated factors affecting numeracy have many potential causes (figure 2). These are classified within four broad themes: stigma, home life, advancements in society, and student responsibility.

Numeracy has a negative stigma attached in society (Ziegler, 2011). Teacher A indicates this prevents students seeking help for numeracy, providing an example of a student who refused help due to being bullied about it in primary school. This refusal to seek help is often seen in adults due to the associated social stigma (Kelly, McGuinness, and O'Connell, 2012). Stigma has a negative effect on students' disposition towards numeracy and may stem from home life; when parents have a negative view of numeracy, it informs the attitudes of their children (Wu et al., 2022). The surveyed teachers indicated students with negative dispositions have worse numeracy than their peers.

Advancements in society arose in survey responses as teachers lamented overuse of technology in classrooms. They highlighted an overreliance on calculators and phones, reducing competence levels of students. They also noted, however, that calculator access allowed students to perform better than without. Tool use to shape mathematical thinking is an important part of numeracy when the tool use is appropriate for their level. Teacher B highlighted the additional skills that students need to be numerate in today's society.

Teachers emphasised the importance of student responsibility in their numeracy. Attention and motivation are key in how students approach numeracy, and as students mature, one of the biggest factors is their own self-efficacy (Ramdani, Mohamed and Syam, 2021). Survey responses indicated that disruptions of examinations may have played a part in this. Teacher A highlights students not bringing essential equipment to class, resulting in a sub-optimal learning environment.

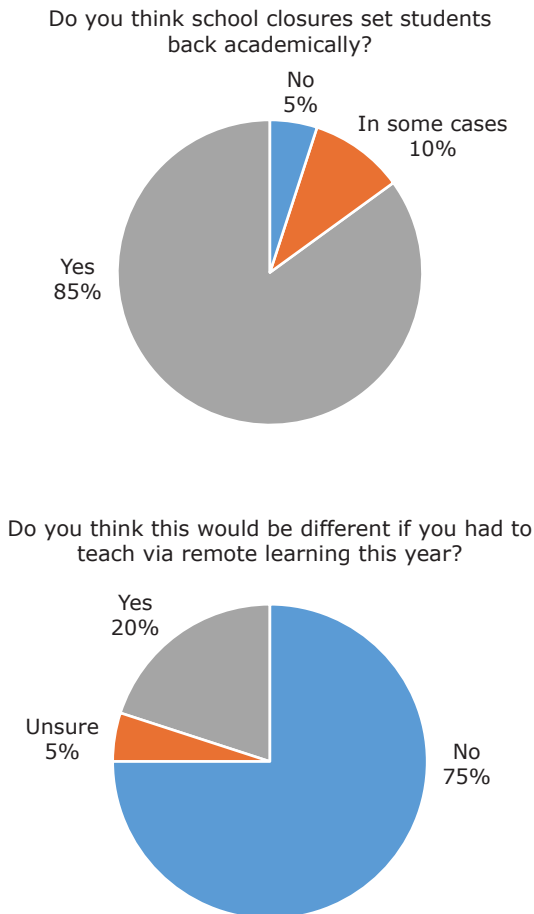The effectiveness of remote learning

Figure 3: Teacher responses to two questions about the effect of remote learning on students

Teachers overwhelmingly viewed remote learning as having less value than teaching in person (Figure 3), and teachers viewed remote learning as an ineffective system (Figure 4). However, teacher B indicates it was as effective as it could have been while schools were shut down.

The following themes emerged from the survey responses: engagement and assessment, home life, lost time, and student responsibility. Teachers found engagement and assessment difficult throughout remote learning. Classes benefit from engaging in nonverbal responses to evaluate learning throughout a lesson (Mottet and Richmond, 2002). Teachers reported students struggled to maintain concentration without school environments (Yates et al., 2021). Teacher B suggests this was students adjusting to focusing on a screen all day. When in-person classes were resumed, students often performed better compared to remote learning peers (Lichand et al., 2022). Teachers also reported benefits, as the technology used is used today to enrich classroom environments.

How effective was remote learning during school closures?
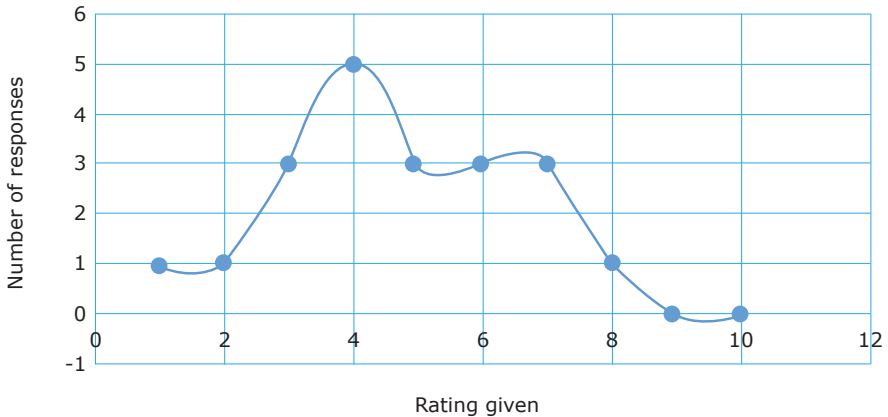
Figure 4: Ranking from 1-10 of the effectiveness of remote learning

Home life is another theme that emerged, as the socioeconomic status of students factored in their successes (Chen et al. 2021; MacDomhnaill, Mohan, and McCoy, 2021; Hasudungan, Ofianto, and Ningsih, 2022). Students may lack suitable internet or technology, a quiet workspace, and the support in a school environment.

'If you are a child who needs extra help and you're home, and everyone's at home at the same time. Where is your quiet space to go?' (Teacher A)

Teachers flagged lost time as an important theme. Teacher A described this loss as additional time being needed to teach over remote learning compared to in person. Survey responses indicate students missed a lot of content throughout this period or attended class less throughout. Additionally, students found mathematics particularly difficult to learn online (Ariawan, 2022).

Students did have the opportunity to benefit through remote learning, however, through student responsibility. Some students had the opportunity to benefit from the online format by focusing on learning with fewer distractions. Teacher B considers this, wondering if any decline in numeracy may be due to a lack of student practice.

The impact of remote learning on student numeracy

Student numeracy across three periods
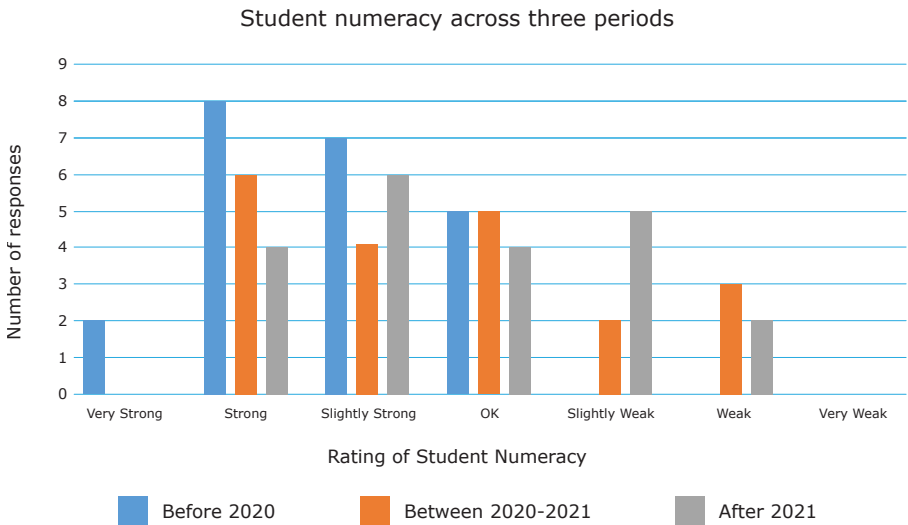
Figure 5: A combined rating of student's numeracy across three periods

Figure 5 displays a decline in students' numeracy across the period of remote learning. Teachers considered the numeracy of students before 2020 to be generally good as compared to a significant drop in ability between 2020-2021. There is a decrease in the number of students ranked weak after 2021, but an increase in the amount ranked slightly weak. Additionally, more students are ranked as slightly strong than between 2020-2021, implying an increase in student numeracy from the primary period of remote learning.

Overall, Figure 5 indicates a decrease in numeracy, as some teachers report a greater level of decline than others. Additionally, students may have already begun rebuilding their numeracy skills once in-person learning resumed. Teacher A indicated a direct decrease while teacher B believes classes would have decreased in ability between 2020 and 2021, but that numeracy can be regained or even improved upon by students.

Rating of numeracy Vs remote learning questions
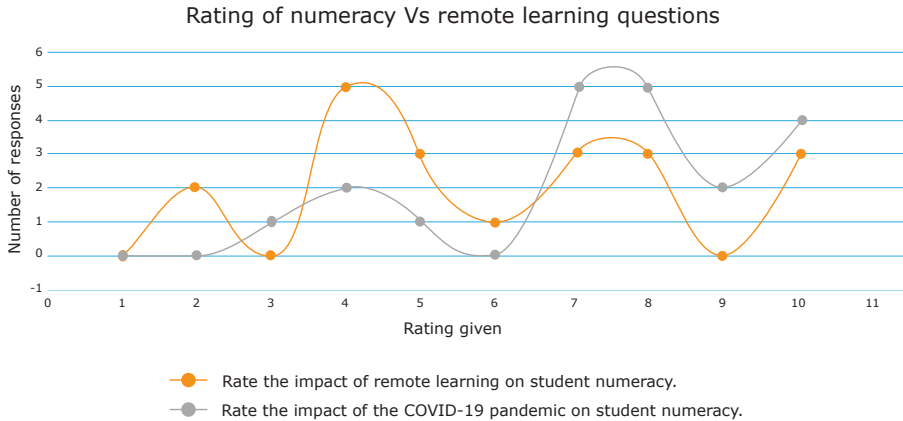
Figure 6: A comparison of the ranking from 1-10 of remote learning's impact against the impact of the COVID-19 pandemic on numeracy

Teachers ranked the impact of remote learning lower across the board compared to the impact of the pandemic (Figure 6). Narrow differences at the higher levels of the scale imply teachers viewed remote learning as part of an overall problem during the COVID-19 pandemic as reinforced by Teacher B. Surveyed teachers agreed numeracy was difficult to teach over remote learning. Interview responses also followed this assessment, focusing on additional factors that would have affected numeracy in this period, such as the lack of exams.

> 'I feel that for students to develop numeracy skills, a teacher needs to be present in the classroom to aid the students in their learning. Students are less likely to discuss a numeracy-related issue when learning remotely.'
>
> (Survey response)

The research indicated teachers' attitudes towards numeracy, how they conceptualise it in their classroom, and what steps they suggest to improve numeracy. The findings also indicate teachers' attitudes towards the effectiveness of remote learning, the impact of remote learning on the numeracy of their students, and how numeracy has changed across the period of remote learning.

Conclusion

The aims of this mixed-methods study were to investigate what teachers knew about their numeracy and of their students, to look into the effectiveness of remote learning, and to investigate the impact of remote learning on student numeracy in the post-primary classroom. This study sought teacher perspectives on remote learning and numeracy, using a questionnaire (N=20) to obtain quantitative data and semi-structured interviews (N=2) for qualitative data. This data was analysed, compared, and triangulated to examine how teachers interacted with remote learning and numeracy.

The findings revealed that teachers had varied conceptualisations of numeracy, remote learning was not an effective teaching or learning tool for numeracy, and while remote learning had some impact on student numeracy, it was only one factor during the COVID-19 pandemic. Consequently, there is a need for schools to assess students' numeracy to determine the extent of any learning loss and to implement strategies to remedy them.

The results of this research study highlight several areas for improvement in the teaching and learning of numeracy and suggest several recommendations for addressing these issues. Firstly, teachers should be further trained to incorporate numeracy across the curriculum. Secondly, schools should take steps to address learning lost by providing dedicated numeracy classes for students, such as extra classes during Transition Year, or classes held after school to support positive relationships with numeracy (Brodie, 2022). Additionally, schools should begin initiatives to involve parents more heavily in their children's numeracy, either by hosting classes to assist parents themselves or by providing opportunities for positive growth through a parent-centred approach (Jay, Rose, and Simmons, 2018).

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Teachers' Perspectives on the Use of *Aistear* in Supporting Children's Development in the Infant Classrooms

Orla McHugh

Biography

Orla McHugh completed her Professional Master of Education (PME) in Primary Education with Hibernia College in 2023. Prior to this, she graduated with a first-class honour's degree in Early Childhood Care, Health and Education from Letterkenny Institute of Technology. Orla has a keen interest in play-based learning and the valuable contribution it has in supporting children's learning and development. This passion influenced this research project in focusing on play-based learning with particular emphasis on the use of the Aistear framework in supporting children's development in the Infant classrooms.

Orla is currently teaching Third-class and is bringing her knowledge from completing this dissertation into her classroom. Orla believes this pedagogical approach has such wonderful potential in supporting learning and development for children of all ages and in all classes.

Teachers' Perspectives on the Use of *Aistear* in Supporting Children's Development in the Infant Classrooms

Research supervisor: Dr Maura Thornton

Abstract

This study explores the use of play-based learning through Aistear in supporting primary school children's development. The researcher selected an interpretivism paradigm through purposive sampling. Situated in the northwest of Ireland, semi-structured interviews were conducted with five participating Infant teachers (n=5). Findings illustrate that *Aistear* is positively used to facilitate play-based learning, which undoubtedly supports the holistic development of children. Furthermore, challenges were identified that include a lack of resources and personnel. This study recommends mandatory training for teachers in the *Aistear* framework to support effective implementation of play-based learning in the Infant classroom.

Keywords: *Aistear*, play-based learning, benefits, challenges, teacher training

Introduction

The origin of this dissertation emerged from the researcher's interest in play-based learning, particularly on benefits and challenges that this pedagogical approach could offer. The research allowed the researcher the opportunity to explore, critically, play-based learning in the Infant classroom, that which will benefit her future career as a qualified primary school teacher.

To support children's holistic learning and development, it is crucial that Infant teachers know how to implement play-based learning effectively. Ryan and Northey-Berg (2014) assert that teachers need to be knowledgeable and have the skills to plan, prepare and successfully implement a playful pedagogy for children to receive the benefits of play.

The aim of this research project investigated the use of play as set out in the *Aistear* framework through Infant teachers' perspectives.

There is a significant amount of research regarding play-based learning. There are many educational theorists who conceptualised play-based learning. Educational theorists such as Piaget and Vygotsky are all pioneers of active learning (Pardjono, 2016). As highlighted by Bello et al. (2022), Piaget emphasises the need for children to be active in their learning to construct knowledge, and Vygotsky states that through active learning and social interactions knowledge is constructed. These theorists suggest that one way in how active learning can be facilitated to support learning and development is through the implementation of a playful pedagogy. Further educational theorists, such as Dewey, Montessori and Froebel, are all in agreement and encourage such an active, child-centred play-based approach to learning (Gray and MacBlain, 2015). Interestingly, the Froebel approach, which was influenced heavily by Pestalozzi, state that it is through play and enquiry-based learning that children construct their knowledge and that this is arguably the most effective approach to support child development (Aisyah, Harun and Rohman, 2023; Tovey, 2020). It could be argued that all these educational theorists rely on teachers to be knowledgeable of play-based learning and how to create an environment that supports this approach to learning. International research highlights how play-based pedagogy can support children's learning and holistic development (O'Kane, 2015; Pyle and Bigelow, 2015; Wood, 2013). Anderson and Thomas' (2021) qualitative study further emphasises the potential of play-based learning in supporting children's cognitive development.

The United Nations Convention on the Rights of the Child (UNCRC) (1989), which was ratified in Ireland in 1992, has been highly influential in terms of education and play in Ireland, as this international agreement states that every child has the right to learn and play (United Nations General Assembly, 1989). It could be argued that the growing amount of research on play-based learning, along with the influence of the UNCRC, has encouraged the Irish government to support this approach in Irish primary schools. Initiated in 2009, *Aistear* is a national early childhood curriculum framework that assists mainstream teachers in providing a range of play-based learning opportunities to support children's acquisition of knowledge and skill development (National Council for Curriculum and Assessment (NCCA), 2009). The UNCRC and international research underpinned the development of *Aistear* in guiding teachers to facilitate play-based learning in the Infant classroom. However, the implementation of an effective

framework is not without its challenges. Arising from a comprehensive literature, the following research question emerged:

What are Infant teachers' perspectives of the Aistear framework in guiding the provision of play-based learning in order to support children's development in the Infant classroom?

Methodology

The researcher firstly considered a positivist approach, as positivism allows a single ontology where the researcher removes themselves form the data collection, which removes bias and increases objectivity (Davies and Fisher, 2018). The researcher also considered the pragmatic approach, as Kivunja and Kuyini (2017) argue that one approach may not provide robust findings. Therefore, a pragmatic approach would involve the researcher using a mixed-method approach, which would increase the validity and reliability of the research project. However, after careful consideration, the researcher focused on the paradigm of interpretivist epistemology. Interpretivism allows researchers to receive and interpret participants' views and essentially make sense of these views (Jackson, Drummond and Camara, 2007; Arghode, 2012; Johannesson and Perjons, 2014; Davies and Fisher, 2018). This approach allowed the researcher to receive in-depth information to answer the research question within the timeframe given to complete this project.

Semi-structured interviews

Offering flexibility, semi-structured interviews allow researchers to ask open-ended questions (Dearnley, 2005). This chosen method allowed the researcher to delve deeper in gathering information and clarification if needed (Kelly, 2010; Alsaawi, 2012). Semi-structured interviews support the interpretivist paradigm and qualitative methodological approach, which provided the researcher with the opportunity to gain a rich understanding of Infant teacher perspectives. The researcher used this method as it afforded more opportunities to receive more detailed, in-depth responses to effectively address the research question.

Sample and participants

The researcher used a purposive sampling methodology to recruit five Infant teachers (n=5). Purposive sampling is a non-probability sampling approach, which consists of recruiting participants that have the experience and traits to be able to answer questions based on their area

of expertise (Bryman, 2012). Therefore, the inclusion criteria were that the participants were currently teaching either Junior Infants or Senior Infants for at least three years and that all participants were teaching in the same school as the researcher. The exclusion criteria applied to participant selection were that no retired teachers or personal contacts were recruited to take part in the study; only teachers teaching at Infant level were recruited, and teachers with less than 3 years' experience were excluded from the study.

Piloting

The researcher piloted the chosen methodology before conducting primary data collection. As explained by McGrath, Palmgren and Liljedahl (2019), it is crucial to carry out a trial prior to undertaking a research project. This allows researchers to acquire skills such as listening, adapt questions and reflect on the interview process to mitigate against ambiguities in the data instrument. The research methodology was piloted with a friend of the researcher, who is a teacher in a different school. This participant was subsequently excluded from data collection. The piloting allowed the researcher to identify strengths and areas for improvement regarding the questions. The researcher adapted the wording of several questions to improve the quality of the interview questions. If the researcher did not carry out piloting, the five interviews for the research project may not have been to the highest possible standard.

Ethical considerations

The researcher aligned the study closely with GDPR guidelines, the code of ethics and worked in accordance with the British Educational Research Association (BERA) (2018) throughout the research project. This ensured the researcher adhered to ethical standards. Firstly, the researcher received full ethical approval for the project from Hibernia Colleges' Ethics Committee before data collection. Following this, all potential participants were presented with a research information sheet and were asked to read and sign letters of informed consent. Participants were informed that the semi-structured interviews would be recorded and their right to withdraw without negative consequences during the data collection phase and up to one month after data collection. Furthermore, confidentiality and anonymity were upheld by ensuring the participants and the school remained anonymous throughout the research project and by ensuring no data was left where others could gain access. Furthermore, in accordance with BERA (2018), all data collected should be retained for ten years.

However, as this was a small-scale project, the researcher worked in accordance with Hibernia Colleges' requirements, which state that the data will be kept for three years after submission and will then be deleted. This allows the participants the opportunity to read the completed dissertation upon request.

Data analysis

As this project used a qualitative approach, thematic analysis was the most appropriate way to analyse the findings. Vaismoradi, Turunen and Bondas (2013) describe thematic analysis as an effective way to analyse data collected through qualitative methodologies. The researcher followed the thematic analysis (TA) steps as outlined by Braun and Clarke (2006). Such steps include: '1. Familiarizing yourself with your data. 2. Generating initial codes. 3. Searching for themes. 4. Reviewing themes. 5. Defining and naming themes. 6. Producing the report' (Braun and Clarke, 2006, p.87). The researcher followed these steps by listening back to the audio recordings of the interviews and read the notes that were written down during the interviews. This allowed the researcher to recap on the answers provided by the participants and become familiar with the data collected. Then, the researcher listened to the audio recordings again and identified a number of themes that became apparent. These themes included the benefits of play-based learning, the challenges of play-based learning and teachers' views of the *Aistear* framework. As a result, the researcher was able to interpret the findings in response to the research question and produce a robust research project.

Rigour

The researcher ensured this qualitative research project was conducted to a high standard, which consequently influences the rigour of the project. However, one criticism of the qualitative, interpretivist approach is that it may result in subjectivity (Johannesson and Perjons, 2014). This could be due to the researcher making sense of the information through their personal knowledge and experience (Kivunja and Kuyini, 2017).

Furthermore, trustworthiness of the process needs to be addressed in order to support rigour (Dyar, 2022). This trustworthiness was established by ensuring confirmability. As described by Williams (2015), one way to ensure confirmability in research is through reflexivity. Importantly, it is crucial for researchers to address personal knowledge, thoughts and opinions of the research area. If this did not occur, the projects'

findings may not be trustworthy as biases may be present and could have a negative impact on the research project. Therefore, the researcher remained professional, retained a journal and regularly reflected on the notes throughout the research process. This helped mitigate against possible bias and subjectivity, increased rigour and allowed the researcher to overcome this aspect of the interpretivist approach.

Findings and discussion

Through thematic analysis, the researcher identified three overarching themes, which include: 1. Benefits of play-based learning, 2. Challenges of play-based learning, and 3. Teachers' views of the *Aistear* framework.

Benefits of play-based learning

All participants provided a solid understanding of play-based learning and provided examples of how play-based learning is incorporated into the teaching and learning in their Infant classrooms. As stated by one participant, 'play is needed throughout all areas of the curriculum'. The participants also strongly emphasised the need for play-based learning in the Infant classrooms. For example, Participant 1 stated how play caters for all learning styles and is an effective approach to learning 'play is multisensory and supports a range of learners, including learners, kinaesthetic learners and learners who learn through movement. It develops the brain; cognitively that's very important because they are learning through discussion, conflict resolution… there's a lot of exploration, it is very child centred'…'there are no boundaries.' All participants were of the mindset that children should not be sitting at tables and chairs for long periods of time and should be engaged in active, hands-on learning to support learning and development. Play-based learning was portrayed by the participants as a very positive and essential methodology in supporting young children's learning and development in the Infant classrooms. All participants referred to how play-based learning has the potential to support children's holistic development. Participant 4 explained that play 'is so relevant to their age. They don't see it as learning but as having fun. It promotes all of their oral language, their co-operation skills, social skills.' Furthermore, Participant 5 reported that 'play is just the best way for learning. You are developing their mental, academic, motor skills. They learn better, they remember it better, social, interacting with others, makes lessons interesting, it is fun.' As highlighted

by one participant, 'play engages everybody, and it caters for each individual child.' Therefore, children's social, emotional, physical and intellectual development is supported through such a pedagogy. As a result, there is a strong link between the responses in this research project to current peer-reviewed published research. O'Sullivan and Ring (2018) state that playful learning opportunities are very important for young children and are a fundamental aspect in the Infant classroom to support children's holistic development (Shin and Partyka, 2017). This reflects views of other Infant teachers in Ireland who value and understand the importance of play for learning and development (Gray and Ryan, 2016).

Holistic development	Social Emotional Cognitive Physical	Communication skills	Literacy skills
Fun	Engaging	Effective approach to learning	Play presents no boundaries for children	Caters for all learning styles

Figure 1: Participant perspectives on the benefits of play-based learning

After analysing the data collected from the participants, the participants are implementing a playful pedagogy to support the children's learning and holistic development. In this research project, participants stressed the endless benefits for children in terms of learning and holistic development. On numerous occasions, participants referred to how play-based learning supports cognitive, social, emotional and physical development as well as developing essential skills, including communication skills. It is accurate to state that in this research project, the five participants that were interviewed value play-based learning in their classrooms and witness the positive impact this pedagogy has in terms of supporting learning and holistic development.

Challenges of play-based learning

All five participants provided at least one challenge of the facilitation of play-based learning in the Infant classrooms. The most noted challenge in regard to play-based learning was in regard to resources, followed by time, class sizes, organisation and personnel.
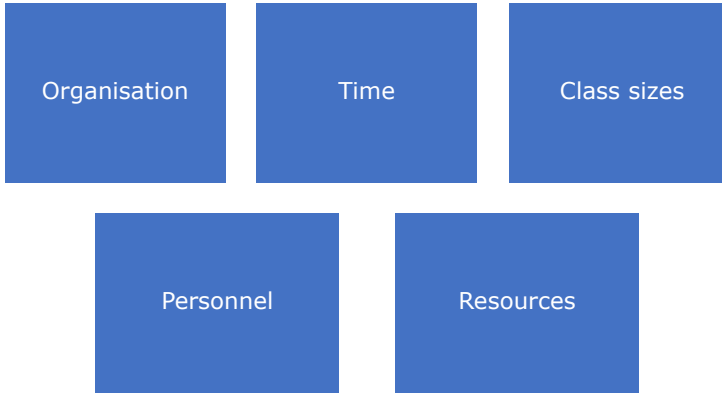
Figure 2: Participant perspectives on the challenges of play-based learning

Resources

All participants identified 'sourcing good quality resources' as the biggest challenge when facilitating play-based learning in the classroom, especially in relation to the facilitation of *Aistear* play areas. However, as the participants all work in the same school, they are provided with funding and support from management to provide the playful learning opportunities that they want to. As Participant 1 explained:

> 'we are lucky here…. the Principal is very generous… wanted the *Aistear* framework to be a success within the school… anything we have ever requested the principal has been so supportive in that regard' and that they share and look after all the resources each year, 'we did 10-12 boxes on themes so we could share every year'.

It was noted, therefore, that the initial set-up of gathering good quality resources to support the learning in each theme was the most challenging aspect. It is crucial that teachers are supported in overcoming these challenges in line with what Kennedy et al. (2016) emphasise in that resources and space are essential in providing engaging playful learning opportunities to support learning and development. Therefore, it can be argued that with support from management and appropriate funding, the challenge of resources can be overcome.

Personnel and Class Sizes

Other challenges that emerged were 'personnel and class sizes'. One participant stated:

> 'When you have 30 children and one teacher, it is hard to make it all work; however, we are lucky now…. we have small numbers, but the way it used to be we had large numbers, so you needed a lot more resources to cater for every child.'

Regarding the challenge of space, this participant tellingly stated, 'you could do with this classroom being twice the size.' Two other participants commented that 'these challenges need to be addressed' in order to fully implement a playful pedagogy. These challenges align with Gray and Ryan's (2016) large-scale mixed-method study that identified a large proportion of their sample size encountering challenges such as large class sizes and the teacher-pupil ratio when facilitating play-based learning. Therefore, the participants in this research project are continuing to face similar challenges of play-based learning. If teachers are equipped with the correct resources and are afforded sufficient time with small teacher-child ratio, these challenges would be significantly reduced or overcome. It could be argued that these are essential components in providing a learning environment that allows for high-quality play-based learning to take place, which supports children's learning and holistic development.

Infant teachers' views of the *Aistear* framework

All five participants use the *Aistear* framework in their Infant classrooms to support their facilitation of play-based learning. Participants provided the researcher with their personal understandings of the *Aistear* framework and positively remarked on its role in supporting learning and development. One participant evidenced this point in stating, 'I basically consider *Aistear* play, making the child the centre of the curriculum and developing social skills, motor skills, communication skills.' Therefore, all participants subsequently perceived *Aistear* as a framework that places the child at the centre of his or her education while supporting learning and development through playful pedagogy.

All teachers facilitate play areas in their classroom that reflect an *Aistear* framework, and all have a designated time for *Aistear* each day. However, it was interesting to note that even though all five participants have scheduled times for *Aistear*, participants identified that *Aistear* is also incorporated into their teaching across all subjects as it is inherently fun, engaging and perceived as the most effective way for children to learn.

Participant 5 illustrated this point in stating:

> '*Aistear* is needed throughout all areas of the curriculum and not just that specific time.' A number of participants referred to *Aistear* of more of a concept to integrate throughout the day into all lessons rather than having a stand-alone *Aistear* lesson. This can be seen This can be seen in Participant 5's response, stating that 'it doesn't have to be a time-tabled slot'.

When the framework was first introduced, however, Participant 2 stated that many teachers 'were led to believe it was a subject. We were never really trained that it was a methodology to use throughout the day and that it can be used in every subject'. This highlights that the teachers in this research study are now aware on ways to integrate *Aistear* across all subjects, and consequently, consider the benefits they witness first-hand. This reflects Madray and Catalano (2010, p.11) assertation that, 'educators have continually supported the fact that children learn when they play'.

The researcher notes as interesting that not one participant received mandatory training from the Department of Education in regard to facilitating *Aistear* in their classrooms. Participant 2 stated: 'We were given no training or given no introduction to it. It was given as an option to train during the summer if we wanted to.' This participant further emphasised that training was 'only by choice nothing was mandatory'. However, all five participants have since undertaken continuing professional development (CPD) courses and/ or summer courses as well as engaged in self-study to further develop their understanding of the framework and how best it can be used to provide playful learning opportunities. Participant 1 stated: 'I have just done CPD courses.' Participant 2 further stated that 'we have all done it as one of our CPD courses because we wanted to know more about it ourselves'. Participant 3 strengthens this point in commenting, 'No specific training from the Department of Education. I took it upon myself to do the summer course and a couple of courses online.' This highlights participant interest and passion, alongside a desire to become more knowledgeable and confident in this area of professional development. Participant 4 finalised the commitment of all participants in stating, 'we done some courses, different CPD courses.' Participant 5 shared that 'I did a CPD summer course'. Therefore, it is clear that all training was voluntarily undertaken through CPD courses and not undertaken through mandatory training from the Department of Education. It could be argued that if teachers

were not dedicated to complete these courses, then children may not receive the playful learning opportunities as teachers may not implement *Aistear* due to the lack of understanding.

Importantly, participants in this research project are building on their knowledge of the *Aistear* framework to further support Infant learning through playful pedagogy. Consequently, participants are confident in their implementation of *Aistear* and have a clear focus on how they structure and plan for play opportunities. This is in significant contradiction to Gray and Ryans' (2016) findings, which identified that many teachers did not feel confident in the implementation of the *Aistear* curriculum in their classrooms. This is also very different to McGettigan and Gray's (2012) results, which found that many young children are receiving fewer playful learning opportunities in Irish classrooms. However, in this research project, it is clear from data analysis that all participants are confident in facilitating *Aistear*. This could be as a result of such teachers working together whilst engaging individually with CPD to support them in facilitating play-based learning.

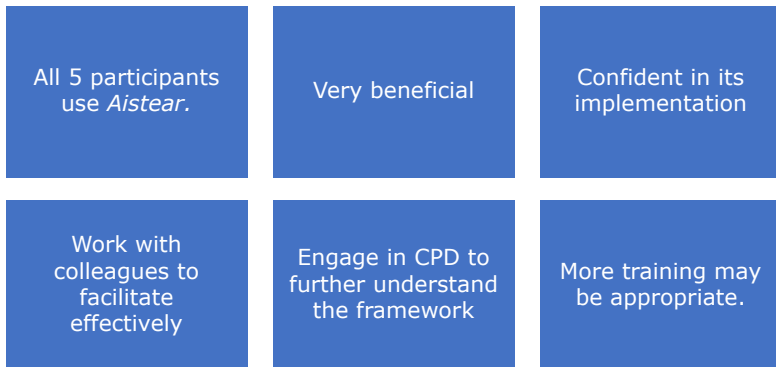|		
All 5 participants use *Aistear*.	Very beneficial	Confident in its implementation
Work with colleagues to facilitate effectively	Engage in CPD to further understand the framework	More training may be appropriate.

Figure 3: Infant teachers' views of the *Aistear* framework

In summary, the five Infant teachers in this research project value play-based learning in their classrooms. They consider *Aistear* to be an effective methodology to support children's learning and holistic development in the Infant classrooms and as stated by Participant 1: 'I absolutely love *Aistear* and I think if I was to take it away from my classroom and think about what my classroom would look like, I don't think it would be as inspiring as a teacher and wouldn't be as fun.'

Conclusion

The researcher conducted five semi-structured interviews to explore teachers' perspectives on the use of *Aistear* in supporting children's development in the Infant classrooms. The researcher identified many benefits of play-based learning, with the greatest benefit being its potential to support holistic development, the challenges of play-based learning (including challenges relating to resources, personnel and class sizes) and teachers' positive views of the *Aistear* framework and its importance in the Infant classrooms.

However, the researcher was faced with a number of limitations when completing this project. As this was a small-scale investigation with a short timeframe, it was a challenge for the researcher to carry out extensive research in regard to this topic. Firstly, the selected participants were teaching in the same school in the northwest of Ireland, which resulted in a lack of transferability. If the research project had had a longer timeframe, perhaps a mixed-methods approach could have been employed. This would have included a larger sample size and the results may have been more generalisable and would not have a lack of triangulation, as more than one method would have been used. However, the researcher chose a qualitative approach and selected the participants through purposive sampling to receive the information from suitable participants.

The researcher also identified a number of practical-based and policy-based recommendations after analysing the findings of this study. A practical-based recommendation would be for all schools to be provided with adequate funding in order to source appropriate resources. It could be argued that schools may struggle to provide meaningful play opportunities without the resources to support this pedagogy. Additionally, further research in this area would be recommended. A policy-based recommendation would be for mandatory training to be facilitated from the Department of Education to ensure the effective implementation of *Aistear.*

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An Investigation of Teachers' Perspectives on Effecting Teaching Strategies Employed by Post-Primary Teachers in DEIS and Non-DEIS Schools to Support Academic Motivation and Engagement

Grace O'Donnell

Biography

Grace O'Donnell graduated with a Bachelor of Commerce (Hons) specialising in Economics from University College Cork in 2017. Subsequently, Grace completed a master's in Design and Development of Digital Business (MSc) from University College Cork in 2018. Grace's international teaching experience in Dubai over three years deepened her passion for education. Graduating with a First-Class Honours in the Professional Master of Education (PME) in Post-Primary Education from Hibernia College in 2023, Grace is looking forward to sharing her interests in business, economics and technology with her students. Grace's research focus centres on active teaching methodologies.

She is committed to equipping teachers with effective strategies to engage and motivate post-primary students. Grace's journey reflects a dedication to academic excellence and a genuine desire to enhance the learning experience for the next generation.

An Investigation of Teachers' Perspectives on Effecting Teaching Strategies Employed by Post-Primary Teachers in DEIS and Non-DEIS Schools to Support Academic Motivation and Engagement

Research supervisor: Sarah Walshe

Abstract

This mixed-methods study investigated active teaching methodologies (ATM) employed by teachers to support academic motivation and engagement, while exploring the influence of socioeconomic factors on student motivation and engagement. The research included surveying 29 teachers and two semi-structured interviews. According to the findings, all participants used ATM, which increased student motivation and engagement. However, classroom management issues, particularly in DEIS schools, hindered ATM implementation. It also revealed socioeconomic factors perpetuated educational poverty cycles. Teachers played a critical role in mitigating the impact of socioeconomic factors on students' academic success. The findings also highlighted the need for adequate training and continuing professional development (CPD) to effectively implement ATM.

Keywords: Active teaching methodologies, socioeconomic factors, continuing professional development (CPD), formative and summative assessment, DEIS (Delivering Equality of Opportunity in Schools)

Introduction and Background

This chapter delineates the background to the study and the rationale for choosing to investigate this topic. The foundations of education modules have provided the researcher with valuable insights into various theorists who have explored the field's fundamental concepts. The researcher developed a keen interest in the influence of socioeconomic factors on students' motivation and engagement in the school environment among other topics covered. Furthermore, the researcher has been researching

and planning to implement ATM in the classroom in preparation for school placement in DEIS and non-DEIS post-primary schools, recognising their potential to improve student learning experiences. Thus, the intention of this study is to examine teachers' perspectives on effective teaching strategies employed by post-primary teachers in DEIS and Non-DEIS schools to support academic motivation and engagement. This study examines how socioeconomic factors like family income, parental education level, race, and gender influence students' motivation and engagement in post-primary schools. Furthermore, key findings from this study will help provide insight into how equipped teachers are in implementing ATM in addition to pinpointing if there is a need for further professional development.

By exploring relevant literature and theories in the field, this study seeks to understand how socioeconomic factors can shape students' educational experiences, as well as the effectiveness of ATM in addressing potential disparities. The study intends to gain a comprehensive understanding of these factors and their implications for future educational practice by looking into relevant literature and theories in the field.

Three-quarters of students in non-DEIS schools, compared to just over half of students in DEIS schools, had parents who expect them to complete a university degree (Nelis et al, 2021). Even though most differences in achievement are driven by home and parental characteristics, Torres (2018) emphasised the critical role of teachers as the most important school-level determinant of students' educational outcomes. Numerous studies have shown that teachers play a key role in shaping students' academic performance. Teachers must not only impart knowledge but also create a supportive and stimulating learning environment. Similarly, Ekmekci and Serrano (2022) claim that teachers are the most important contextual factor influencing student achievement. The quality of instruction, instructional methods, and ability to engage students can all have a significant impact on their motivation, learning outcomes, and overall educational experience.

The strategies claimed by active learning have a long history in pedagogy and have gained attention in educational research to address potential disparities caused by socioeconomic factors. Furthermore, teachers can restructure the teaching and learning environment by providing different learning strategies to students and finding ways to motivate students to learn and to engage them in active learning (Rugutt and Chemosit, 2009). These methods encourage students to actively participate in the learning process, fostering critical thinking skills, comprehension, problem-solving

abilities, and interest in the subject (Lundahl, 2008).

Considering the evolving world we live in, it is crucial for educators to possess the knowledge and skills required to effectively engage and motivate students in various educational settings. The primary objective of this research is to examine how teachers utilise their expertise and understanding to implement ATM, fostering academic motivation and engagement within post-primary schools.

Therefore, the questions that drive this research are as follows:

- What effective teaching methodologies do post-primary teachers employ in schools to support academic motivation and engagement?
- How do socioeconomic factors, such as family income, parental education level, race ,and gender, influence students' motivation and engagement in post-primary schools?
- Do teachers feel adequately equipped and are they provided with the necessary resources to implement active teaching methodologies for their students?

Methodology

The researcher used a mixed-methodology analysis of teachers' perspectives of effective teaching strategies in post-primary schools to support academic motivation and engagement. Interviews were the main source of qualitative data, permitting the researcher to observe and gather more descriptive data (Creswell, 2013). Similarly, according to Scott and Morrison (2006, p.182), in qualitative research, 'the focus is one seeing the world through the eyes of those being studied.' Online survey's gathered quantitative data, which were used to collect numerical data for statistical analysis. Creswell (2013) states that by gathering qualitative and quantitative data, the researcher is obtaining statistical and personal data, which can lead to a more in-depth understanding of the research question. Similarly, Johnson and Christensen (2014) imply that it is wise to collect multiple sets of data using different research methods and approaches in a way that the resulting mixture has complementary strengths and non-overlapping weaknesses. The quantitative data from the questionnaires were analysed to identify trends among the participants, while the qualitative data from the interviews were used to determine why participants associate certain teaching strategies with effective methods of motivating and engaging students in post-primary schools. This section informs readers about the methodology, data

analysis, participants, and limitations of research. This chapter described how participants were chosen, as well as any ethical concerns that may arise during the research process.

Selected Methods

As previously stated, a mixed-method approach was used to collect qualitative and quantitative data. Mixed methods are particularly well-suited to multilevel investigations because they allow for the deliberate and strategic integration of quantitative and qualitative approaches throughout the research process, providing a way to understand processes and effects between levels (McCrudden and Marchand, 2020).

Braun and Clarke's (2006) distinction between qualitative and quantitative research is simplified, they write that the most basic definition of qualitative research is that it uses words as data, collected and analysed in all sorts of ways. Quantitative research, in contrast, uses numbers as data and analyses them using statistical techniques. Furthermore, Creswell (2013) implies that in qualitative research, the data collection and analysis are simultaneous activities. This procedure differs from traditional approaches in quantitative research, in which data collection occurs first, followed by data analysis.

Denscombe (2010) states that the mixed-methods approach acts as a 'third paradigm' for research purposes. He believes that the method fosters a podium of different beliefs and realistic actions. Similarly, according to Creswell (2013), combining qualitative and quantitative data collection methods provides for a deeper knowledge of a research issue. During this research, there were two semi-structured interviews carried out with teachers with more than three years' experience. Interview questions were open-ended to encourage a natural flow of information, thus enabling deeper responses (Cohen, Mannion and Morrison, 2011). Similarly, Freeboy (2003) describes the semi-structured interview as beginning with a 'predetermined set of questions but allows some latitude in the breadth of relevance.' The interviews allowed the respondents and the interviewer to interact in an informal and unstructured atmosphere, encouraging participants to develop ideas, answers, and precise opinions dynamically beyond the questionnaire. The questions were piloted and tested on one experienced teacher to ensure they were appropriate and aligned with the research questions.

The researcher collected quantitative data from online surveys completed by experienced teachers working in DEIS and non-DEIS post-primary schools in Ireland. It is customary for the researcher to ask brief, open-ended questions that make no assumptions.

Data Collection

Qualitative Research

The researcher conducted two semi-structured interviews to collect qualitative data. Both teachers were chosen from a private school but have prior experience working in DEIS schools. Each participant was given a Research Information Sheet and a Consent Form prior to the interview, which explained the format and purpose of the interview (Appendix A and C). Qualitative researchers are interested in understanding how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences (Merriam and Tisdell, 2016). Creswell (2013) implies qualitative researchers analyse their data by reading it several times and conducting an analysis each time. Each time you read your database, you develop a deeper understanding about the information supplied by your participants.

A standard practice for qualitative research has become accepted in which interviews are conducted, the data are coded, and the results reported in the form of summaries written in formal language (Packer, 2011). With the consent of participants interviews were recorded. Sapsford and Jupp (1997) highlight that the semi-structured style interviews allow for elaboration of the interviewees regarding questions asked, enabling the researcher to gain rich insight into the mindset and thought process of the participants.

Quantitative Research

An online survey was used to collect information from qualified post-primary teachers working in a DEIS and a private school for this study (Appendix D). The researcher will be collecting primary data which involves directly obtaining responses from people (Fallon, 2016). The teachers were chosen at random, and 29 returned the online questionnaire. Each participant was given a Research Information Sheet and an online Consent From that contains a detailed description of the research study. The questionnaire included reflective questions to which respondents can provide more detailed responses, questions to be answered on a five-point scale, and questions to collect demographic and other potentially useful information. The questionnaire collected data and information to support the qualitative analysis in this research study.

There are multiple advantages to using an online survey to collect quantitative data in two different post-primary schools. As Minnaar and Heystek (2013) highlight, respondents may complete the survey in their own time, taking as much time as they need to answer individual

questions, which is convenient. Furthermore, Wilson and Laskey (2003) point out that once respondents submit their complete surveys, the researcher automatically receives the raw data, which is stored in a database from where it can be exported effortlessly to a spreadsheet and be readily available for analysis. Fallon (2016) implies that by conducting quantitative research, your analysis allows you to accomplish three important goals. Firstly, you describe your data, and then you ascertain whether the variables you examined in your sample are related in the population. Following this, you determine whether the relationships or effects are important.

Data Analysis

Analysing the data began with the process of comprehension. This was achieved when collected data facilitated an in-depth inquiry (Mayan, 2009). While analysing the information, the researcher John Tukey coined exploratory data analysis (EDA). Tukey implies that exploratory data analysis is an attitude, a state of flexibility, a willingness to look for those things that we believe are not there, as well as those we believe to be there (Raghavender 2019). Similarly, Marshall and Rossman (2006), imply the researcher must immerse themselves in the data during the first phase of the research process.

The researcher analysed the data after the participants completed the interviews and surveys from the research study. To ensure that a potential bias from a specific approach is not repeated in other ways, quantitative data can be used to supplement or elucidate qualitative data, thereby improving the description (Mackenzie and Knipe, 2006). The researcher examined the interview data by listening to and transcribing both interviews to become acquainted with the transcripts. Any emergent or recurring themes that addressed the research questions were identified, coded, and analysed further. Thematic analysis can be described as 'a method for identifying, analysing and reporting patterns within the data' (Braun and Clarke, 2006, p.79). Similarly, Howitt and Cramer (2008, p.328) stated that the task of the researcher in thematic analysis is to 'identify a limited number of themes which adequately reflect their textual data.' To ensure the required level of analysis was conducted on the data, the researcher followed the Braun and Clarke (2006) phases of thematic analysis, as illustrated in the below table.

Table 3.1 Phases of Thematic Analysis (Source: Braun and Clarke, 2006, p.87)

Step	Phase	Description of the Process
1	Familiarise yourself with your data	Transcribing the data, reading and re-reading the data, noting down initial ideas
2	Generate initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code
3	Searching for themes	Collating codes into potential themes and gathering all data relevant to each potential theme
4	Reviewing the themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic map of the analysis
5	Defining and naming the themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme
6	Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis

The researcher collected survey data using Google Forms for analysis and interpretation, and basic descriptive analysis was performed using Microsoft Excel. Throughout the analysis, graphical data such as charts and graphics were used to represent the data. To ensure confidentiality, all files were encrypted for quantitative analysis and stored in a single, password-protected application. Interviews were recorded as mp3 files on the researcher's password-protected laptop and were uploaded and transcribed using Sonix, an automated transcription service. The interviews were then typed in Microsoft Word and saved on the researcher's password-protected laptop.

By analysing the interview and survey responses, the researcher conducted thematic analysis by locating repeated subjects in accordance with the research questions in this study (Patton, 2005). The mixed-methodology approach revealed themes that were inextricably linked. The information gathered was used to evaluate the mixed-method strategy. The researcher was able to write the analysis for this research paper after collecting data from participants to produce the key findings.

Findings and Discussion

This section outlines the findings from the online surveys (n=29) and semi-structured interviews (n=2). The researcher used a mixed-methods approach to investigate teachers' perspectives on effective teaching strategies employed by post-primary teachers to support academic

motivation and engagement. In the initial stages of the study, quantitative research was carried out and several themes emerged that informed further areas of exploration through semi-structured interviews. The researcher conducted two semi-structured interviews with DEIS and non-DEIS teachers working in Irish post-primary schools. Four predominant themes emerged from the findings in relation to the research question: *Participants and School Setting, Student Motivation and Engagement, Active Teaching Methodologies and Socioeconomic Factors.*

Participants and School Setting

Participants in this study were all practising post-primary teachers in both DEIS and non-DEIS schools in Ireland. From the quantitative findings, there were 17 (58.6%) teachers working in a DEIS school and 12 (41.4%) teachers working in a non-DEIS school out of the total population (n= 29) sampled. In relation to the semi-structured interviews, Interviewee A has over 5 years' experience and Interviewee B has over 20 years' experience. It is important to note that the interviewees were speaking from their own experiences, which in some cases included multiple schools.

Student Motivation and Engagement

Participants in the survey were asked to consider whether motivation and engagement have a direct impact on student outcomes in the classroom by rating their response on a Likert scale of 1 to 5, with 5 being Strongly agree and 1 being Strongly disagree. According to 75.9% of participants, motivation and engagement have a direct impact on student outcomes in the classroom. Figure 1 depicts a bar chart that summarises the responses to this question.
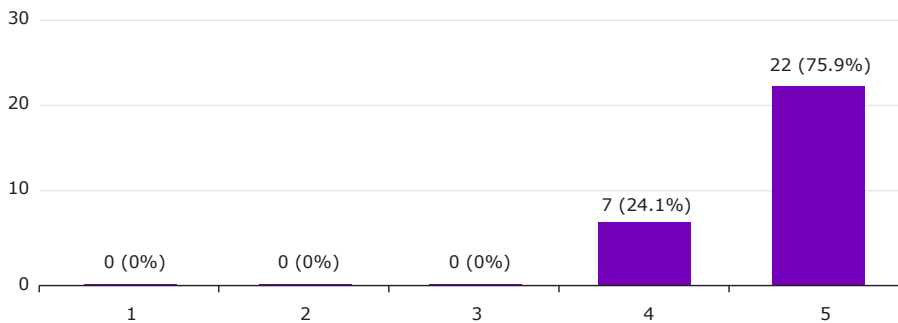

Figure 1: Teachers' perspectives on whether motivation and engagement have a direct impact on student outcomes in the classroom on a scale from 1-5 (n=29)

Furthermore, survey participants were asked to identify the primary causes of low engagement in DEIS and non-DEIS schools. Some of the responses from participants included 'lack of self-esteem, poor parental support, feeling lost/unsupported, learning difficulties, physical/mental or emotional challenges, poorly prepared lessons and peer influences'.

Motivation was later investigated in greater depth through interviews in which participants were asked about intrinsic and extrinsic motivators that influence student motivation. Firstly, there was agreement across interviewees that teachers have a considerable influence on a pupil's motivation to learn. Interviewee A stated 'that there is a lot more emphasis on personal reward in the non-DEIS school they are currently teaching in because the students want to get high points. However, there is some parental pressure to do well in school because many of the parents own businesses and are extraordinarily successful'. According to Interviewee B, students are intrinsically motivated because 'the students see the link straight away between getting good grades, going to college and having a good life'. Similarly, Interviewee A stated, 'that there is a lot more emphasis on personal reward in the non-DEIS school they are currently teaching in because the students want to get high points'. Prior research has also favoured intrinsic motivation by suggesting extrinsic motivation is detrimental to learning as it distracts from tasks (Froiland et al., 2012, p.97). This supports the views of Ward and Gary (2014), who state that a sense of self-efficacy, or the belief that you can succeed at a task, is one individual quality that has been positively related to motivation. Similarly, Bowman (2011) states that a body of scientific research suggests that intrinsically laden academic environments enable students to be creative, self-empowered, self-disciplined, and engaged.

Similarly, Interviewee B said, 'The students see the link straight away between getting good grades, going to college and having a good life'. Both interviewees agreed that parent-teacher meetings in non-DEIS schools were much more focused on exam results and class averages. In comparison, Interviewee A stated that 'some students in a DEIS school would have a personal incentive to do well in school, but you would have to motivate them a little more in class. After a test, for example, you could tell students, we will have a relaxing class where we can play Kahoot and other games'. Also, Interviewee A noted that 'if students wanted to go to college in DEIS schools, their parents would ask a lot more questions because many had not gone to college themselves and wanted to learn more about the process'. On the contrary, Interviewee B stated that, 'depending on the parents' attitudes, students in DEIS

schools may be motivated by 'social personal motivation' to do well in school and attend college'. Furthermore, Interviewee B stated that 'teaching students from their point of view is critical in order to keep them motivated and engaged'. Interviewee B, for example, stated that 'in non-DEIS schools, you could ask students where they had been on holidays, and the majority of students would say they had been away. However, in a DEIS school, you would have to adjust your perspective to suit the students seated in front of you'.

There is considerable evidence to suggest that when teachers relate topics to students' everyday lives, it can significantly improve motivation and engagement in the learning process. This supports the views of Ekmekci and Serrano (2022), who state that teachers are the most significant contextual factor impacting student achievement. This was evident in the interview findings when Interviewee B stated that 'teaching students from their perspective is critical to keep them motivated and engaged'. This is consistent with Daniels and Perry's (2003, p.107) studies, which found that children need their teachers to show an interest in them to provide quality learning experiences that motivate them to learn. Students are more likely to see the relevance of the material to their own lives and are therefore more motivated to learn and engage with the material. This can be related to the self-determination theory (Deci and Ryan, 2013), which suggests that students are more motivated when they feel a sense of autonomy, competence, and relatedness in their learning. When teachers relate topics to students' everyday lives, it can increase students' sense of relatedness to the material and provide a context for the learning that enhances their understanding and engagement. Furthermore, teachers can restructure the teaching and learning environment by providing different learning strategies to students and finding ways to motivate students to learn and to engage them in active learning (Rugutt and Chemosit, 2009). Finally, this study highlights the importance of the teacher's ability to form positive relationships with their students and create a supportive learning environment. Interviewee B concurred with Deci and Ryan (2013) on the importance of getting to know students on a more personal level, particularly through extracurricular activities.

Active Teaching Methodologies

All participants (n=29) in DEIS and non-DEIS schools stated that they use ATM in their classroom. Participants in the survey were asked to choose one of five multiple-choice answers to indicate how frequently they would use active teaching and learning strategies in the classroom. According

to the survey results, 55.2% of participants said it 'depends on the class' how frequently they use ATM. Figure 2 displays a pie chart summarising the responses to this question.
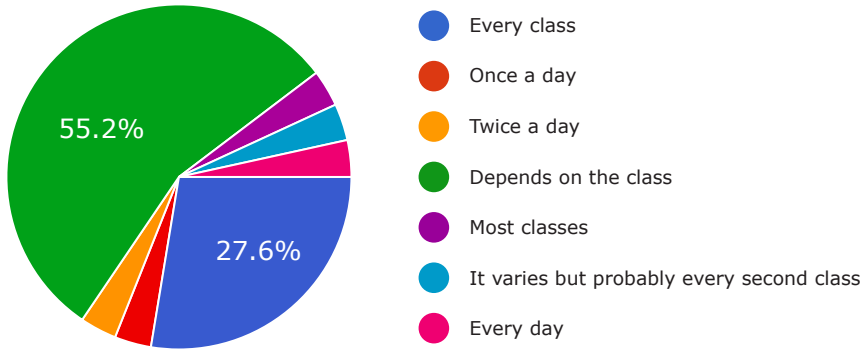

Figure 2: How frequently teachers use active teaching methodologies in the classroom (n=29)

The interviews provided a more in-depth look at ATM in DEIS and non-DEIS schools. Both interviewees stated that their ATM differed depending on the school, class, and other factors. Furthermore, both interviewees stated that classroom management, particularly in DEIS schools, was a barrier to implementing ATM in the classroom. Interviewee A stated that 'getting through the curriculum, particularly English texts, is a much slower process in DEIS schools due to classroom management'. Similarly, Interviewee B stated that 'implementing active teaching methodologies in DEIS schools can be much more difficult because you are dealing with more classroom management issues while explaining the learning intentions, explaining the exercise, and then suddenly the class is finished'. Moreover, Interviewee B noted that 'at senior level it was very much 'chalk and talk' and you did not really have time to be doing a lot of group work or doing very nice stuff'.

Participants in the survey were asked to consider whether active teaching and learning strategies improved students' motivation and engagement in the classroom by rating their response on a Likert scale from 1 to 5, with 5 being Strongly agree and 1 being Strongly disagree. Figure 3 illustrates a bar chart summarising the responses to this question.
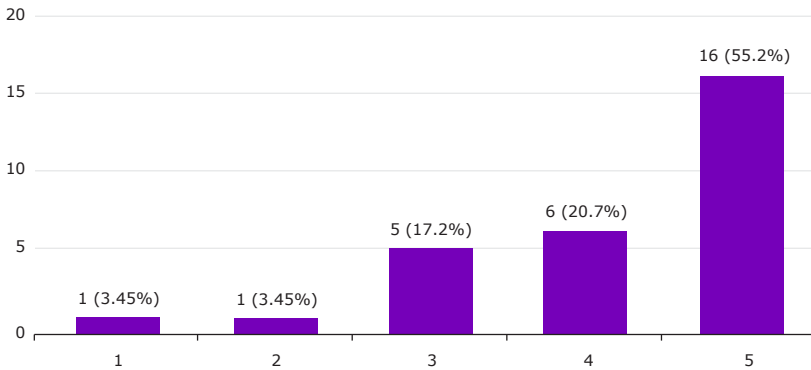
Figure 3: Teachers' perspectives on whether active teaching and learning strategies improved students' motivation and engagement in the classroom on a scale from 1-5 (n=29)

According to the survey, 51.7% of participants said there was a whole-school approach to using ATM to motivate and engage students. Figure 4 displays a pie chart summarising the response to this question.
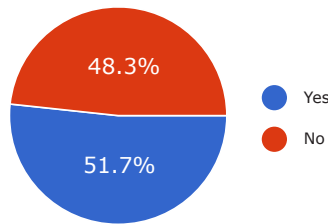

Figure 4: Teachers' perspectives on whether there is a whole-school approach to using active teaching methodologies to motivate and engage students (n=29)

This was later discussed in the interviews, and both interviewees expressed remarkably similar views on the whole-school approach to ATM. According to Interviewee A, 'Fifth and Sixth Years can be hard to do group work with because they are really focused on the Leaving Certificate exam questions. They are a bit more independent and the teachers know that'.

According to Interview B, 'the school and the teachers involved run the JCT days and other in-service days very well, and they have a lot of good information in terms of teaching methodologies that you can implement in your classroom'.

According to 66.5% of survey respondents, the Department of Education has not provided adequate training for teachers to implement ATM in the classroom. Figure 5 displays a pie chart summarising the responses to this question.
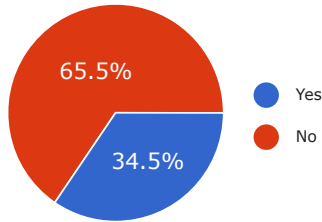
Figure 5: Teachers' perspectives on whether the Department of Education has provided adequate training for teachers to implement active teaching methodologies (n=29)

When asked what strategies they would like the Department of Education to implement, one participant from a DEIS school explained 'successfully implement peer learning and inquiry-based education into the classroom environment'. Another participant from a non-DEIS school stated, 'more training and CPD courses for teachers in relation to student engagement and involvement in the classroom'.

This question was discussed in greater depth during the interviews, and participants had varying reactions to the survey results. Interviewee A stated that 'the Department of Education has provided JCT training days, and you can do personal CPD in your own time. However, it would be useful to have something a bit more subject-based'. Similarly, Interviewee B noted that the JCT days, 'in terms of teaching methodologies have been very beneficial and can be modified for senior cycle classes'.

Socioeconomic Factors

Participants in the survey were asked to consider whether socioeconomic factors influence student motivation and engagement by rating their response on a Likert scale from 1 to 5, with 5 being Strongly agree and 1 being Strongly disagree. The responses to this question are summarised in Figure 6 below.
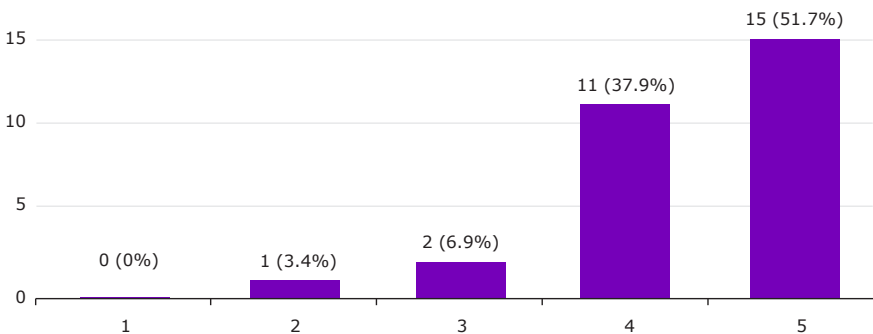

Figure 6: Teachers' perspectives on whether socioeconomic factors influence student motivation and engagement on a scale from 1-5 (n=29)

According to the results of the data analysis, 51.7% of participants strongly agreed that socioeconomic factors can influence student motivation and engagement. One participant from a DEIS school stated, 'Generally speaking, those from a low socioeconomic background have experienced poor educational achievement, have had a poor engagement in the educational system with little or no support from home and so the cycle of educational poverty continues'. This supports Mac's (2009) findings that children from lower socioeconomic backgrounds are more likely to be in the lowest-performing band in school. These findings are also supported by Giddens' (2021) studies, which show that social and family background have a significant influence on school performance, which is reflected in subsequent levels of income.

During the semi-structured interviews, socioeconomic factors were thoroughly explored. Interviewee A observed that in a DEIS school, 'Students may not have the support or resources at home, so if they need extra help with homework, they may not have it and may act out in school as a result'. Likewise, Interviewee B said, 'Everything comes from the parents, if their parents had a positive experience with education and went to college, they will instil this in their children'.

Other socioeconomic factors were discussed during the interviews, particularly, in relation to DEIS schools, where Interviewee B described 'some students coming to school hungry'. Furthermore, Interviewee B stated, 'Thankfully, many DEIS schools have breakfast clubs and offer students subsidised lunches in order to encourage students to come to school'.

Furthermore, both interviewees agreed that socioeconomic factors, such as family income and parental education can significantly impact students' motivation and engagement in post-primary schools. Interviewee A observed that in a DEIS school, 'students may not have the support or resources at home, so if they need extra help with homework, they may not have it and may act out in school as a result'. According to Sullo's (2009) research, students who come from supportive home environments value their education and thus respond well to the reward/punishment model that exists in most schools. This supports the view of Interviewee B who implied, 'Everything comes from the parents; if their parents had a positive experience with education and went to college, they will instil this in their children'. According to Bourdieu, 'Habitus' is formed primarily in the family, but in differentiated societies, the school also plays a significant role (Riley, 2017). These findings are consistent with Mac's (2009) research, which implied that if there is a significant difference between the school environment and the child's home environment, it can have an impact on the child's ability and school performance. Teachers' recognition of these factors and their ability to address them in the classroom can help mitigate their impact on students' academic success.

Also, during the semi-structured interviews, attendance issues in DEIS schools were raised. According to Interviewee A, 'attendance at DEIS schools can be quite low and this is often influenced by parents or guardians'. Furthermore, Interviewee A stated that 'some parents would have never gone to school, and they think it is not that important because they survived so long without it. So, it is like a very mixed attitude towards attendance'. Similarly, Interviewee B said that 'in my many years of working in DEIS schools, the attendance was very poor'.

The results of the study indicate that teachers in DEIS and non-DEIS schools use a variety of effective teaching methodologies to support academic motivation and engagement, including project-based learning, inquiry-based learning and differentiated instruction. These methodologies are characterized by their focus on student-centred, active participation and relevance to students' lives. Moreover, the study found that socioeconomic factors, such as family income and parental education level, can significantly influence students' motivation and engagement in DEIS and Non-DEIS schools. The study reveals that these factors can create a range of barriers to academic success, including lack of resources, limited opportunities and cultural stereotypes. The discussion chapter concludes by highlighting the need for ongoing professional development for teachers working in DEIS and non-DEIS schools to enhance their pedagogical knowledge and skills. It suggests that the Department of Education facilitates this through training programs, mentorship, and collaboration with other educators in similar subjects. Overall, CPD is critical for teachers to stay informed, engaged and effective in their teaching practice, which benefits their students' learning outcomes.

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The Support of Sustainable Food System Education by the Primary Curriculum of Ireland: Teachers' Perspectives

Bethan O'Driscoll

Biography

Bethan O'Driscoll graduated with a First Class Honours in the Professional Master of Education (PME) in Primary Education from Hibernia College in 2023. She is currently teaching Senior Infants in an Educate Together primary school in Dublin. Prior to pursuing a career in teaching, Bethan graduated with a Bachelor of Arts (Hons) Degree in Environmental Science from Trinity College Dublin.

While a passion for the environment was nurtured by her grandmother, Bethan's studies allowed her to develop a more specific interest in the relationship between food and the environment. Recognising the role education plays in all forms of sustainable development, Bethan strives to instil an appreciation for and an awareness of sustainable food systems amongst her pupils.

The Support of Sustainable Food System Education by the Primary Curriculum of Ireland: Teachers' Perspectives

Research supervisor: Art Ó Súilleabháin

Abstract

This study investigated teacher perspectives on the support of sustainable food system education in the Primary Curriculum of Ireland. A qualitative methodology was used through the data instrument of semi-structured interviews of participants (n=5) that were purposively selected. Thematic analysis was conducted informed by Braun and Clarke (2006). Themes that include a perceived lack of support for sustainable food system education in the curriculum, the use of a transdisciplinary approach through teaching methodologies of outdoor learning and local contexts, and challenges of curriculum overload and a lack of teacher education emerged. Recommendations drawn from this research identify a need for improved cross-curricular integration regarding sustainable food system education along with the need for more teacher training and support resources in this area.

Keywords: Sustainable food system education, Education for Sustainable Development (ESD), Sustainable Development Goals (SDGs), outdoor learning

Introduction and Background

This study originated in the researcher's classroom observations with respect to food education. Through teaching experience, the researcher encountered numerous teachings on food and nutrition. Due to an uncertainty on ways to navigate professional conversations on sustainability issues, the researcher found herself avoiding discussions on dietary choices such as vegetarianism and veganism. This reservation resulted in the emergence of critical questioning on aspects of food and its production that are covered in the curriculum, which lead to an

investigation on how and by what means food sustainability may be taught throughout primary education in Ireland.

Education for Sustainable Development (ESD)

According to Rieckmann, Mindt and Gardiner (2017), educational institutions of all levels must consider it their responsibility to address matters of sustainability and provide educational opportunities for the development of relevant competencies. Such an approach is known as Education for Sustainable Development (ESD), in which learners:

> Reflect on their own actions, taking into account their current and future social, cultural, economic and environmental impacts, from a local and a global perspective
> (Rieckmann et al., 2017, p.7)

With respect to primary-level education, the European Economic and Social Committee argue for ESD to, at the very least, involve teaching about sustainable energy, general consumption and production, reducing food waste and making informed food choices (Puech d'Alissac, 2021). When considering food education, it is important to adopt an ESD approach to avoid teaching about food discourse solely in terms of its relevance to the consumer (Bruckner and Kowasch, 2018). Rather, ESD has the potential to raise a critical awareness of the impact of local and global contexts on the production and consumption of food, allowing learners to make informed, sustainable decisions.

The United Nations' Sustainable Development Goals (SDGs)

The United Nations' Sustainable Development Goals (UN SDGs) are 17 interconnected, global objectives seeking to end poverty, protect the planet and ensure peace and prosperity for all. ESD is recognised as a key driver for the achievement of the SDGs (Rieckmann et al., 2017), with the production and consumption of food identified as an interrelated component to all 17 goals (FAO, 2017). As education and food systems are integral to these global goals, this study sought to research the ways in which primary education may provide opportunities for sustainable food system education (SFSE) in support of the SDGs.

Recent research by Smith et al. (2022) found the Irish primary curriculum to account for some aspects of SFSE in providing learning opportunities that address food waste and food trade, through the curriculum subject Social, Environmental and Scientific Education (SESE). While Smith et al.'s (2022) analyses find SFSE to be present in the curriculum, there is an argument that suggests there is a significant lack. Darmody (2022) argues

that food education in the curriculum strongly focuses on personal health and nutrition and does not adequately address SFSE. It may, therefore, be questioned whether or not the Irish primary curriculum affords educators meaningful opportunities to teach SFSE. Subsequently, arising from a comprehensive literature review in this area, this research sought to investigate teacher perspectives on the extent to which SFSE is supported by the SESE curriculum. This research also explored the curricular content and teaching methodologies, if any, teachers use to include SFSE, which led to the following research questions:

1. How do teachers perceive support of sustainable food system education by the SESE curriculum?
2. In what ways do teachers use the SESE curriculum to teach sustainable food system education?

Methodology

Aligning with the aims of the research, a qualitative approach was selected as such a methodology facilitates the attainment of data to offer in-depth descriptions of personal views and experiences (Denzin and Lincoln, 2011). Five mainstream teachers were selected using a purposive sampling methodology. Such sampling was chosen to achieve data that reflected a range of teaching contexts rather than data representative of a single school ethos or class level. These participants had a range of teaching experience across all class levels, with a minimum of three years required as an inclusion criterion for this study (Table 1).

Table 1. Characteristics of teacher participants (Please note that pseudonyms were used in this table and throughout all recordings of data.)

Name	Years teaching	Ethos of current school	Current class/es
Heidi	15	Church of Ireland	Junior and Senior Infants
Louise	6	Church of Ireland	Fifth and Sixth Class
Jenny	12	Educate Together	Fifth Class
Aoife	10	Educate Together	Third Class
Marion	16	Educate Together	Junior Infants

Research Paradigm

Given the purpose of this study was to investigate individual perceptions and experiences of teachers, an interpretivist paradigm was adopted. Interpretivism is largely characterised by the assumption that reality is socially constructed (Bogdan and Biklen, 1998). As a result of this assumption, the aim of such research is often to understand human experience and its subjective nature (Guba and Lincoln, 1989). This study intended to understand individual perspectives, with subsequent interpretations being context-dependent. It was, therefore, paramount that the subjective nature of human experience was acknowledged throughout this research process, lending itself to an interpretivist paradigm.

Data Collection Method

Given the purpose of this project was to investigate individual teacher perspectives and experiences on SFSE, semi-structured interviews were the chosen method of data collection. The semi-structured interview is most favoured within educational research (Hitchcock and Hughes, 1995) as it characterised by the use of an interview topic guide containing open-ended questions under various themes (Busetto, Wick and Gumbinger, 2020). Interview questions focused on: (1) Perceived integration of SFSE within the SESE curriculum, (2) Experiences with delivering SFSE through the Irish primary curriculum, and (3) Proposed improvements to be made to the integration of SFSE within the Irish primary curriculum. Prior to conducting the interviews, the interview topic guide was piloted with a practising primary school teacher. This allowed for edits and adjustments to be made and for the researcher to assess the methodological approach for any outstanding ambiguities. Conducted interviews were 20-30 minutes in length, allowing time for participants to elaborate on their answers and for probes and follow-up questions to be asked where necessary.

Prior to data collections, this project received full ethical approval from Hibernia College's Ethics Committee. The British Educational Research Association's ethical guidelines for education research (BERA, 2018) were followed to ensure the safeguarding of participants. Under these guidelines, participants were first fully informed of the research process and aims via a research information sheet and consent form through the gatekeeper of the school principal. Interviews were only then undertaken when the written consent of the participant was given. Interviewees were informed of the right to withdraw consent without negative consequences during the data collections phase and up to one month after data

collection. To ensure anonymity for all participants, pseudonyms were used throughout the data collection process and are reflected in this article.

Data Analysis

Sparker (2005) describes thematic analysis as a process of analytically examining narrative data of personal experiences. Braun and Clarke (2006) argue that this type of analysis to provides a deeply detailed account of data. This facilitated the research in achieving a greater understanding of teachers' perspectives. This study followed Braun and Clarke's (ibid.) six-phase framework for thematic analysis in the following manner:

1. The researcher familiarised herself with the data through multiple readings and transcribed each interview ad verbatim.
2. Meanings derived by the researcher emerged as patterns from the raw data and were coded across all transcripts.
3. The codes were developed into candidate themes relating to the study's aims and research questions. All data relevant to each theme were identified across the transcripts.
4. The themes and their supporting coded data were reviewed and four primary themes were selected.
5. Data relating to each theme were compared and contrasted across transcripts to produce a cohesive narrative of the themes.
6. 'Vivid, compelling' (Braun and Clarke, 2006) examples of data were selected and presented through pithy quotations and related back to the analysis of the research questions and wider literature.

Findings and Discussion

Through thematic analysis, four primary themes were identified which included:

1. Perceived support of SFSE provided by the SESE curriculum
2. Use of the SESE curriculum to deliver SFSE
3. Benefits of delivering SFSE
4. Challenges posed to delivering SFSE

Perceived support of SFSE provided by the SESE curriculum

> 'I think [SFSE] is touched on in the curriculum, but definitely improvements could be made.'
> (Louise)

The findings of this study show that while teacher participants perceived the SESE curriculum to be supportive of SFSE by way of the strand Environmental Awareness and Care, this opportunity was only recognised through an integration with other subject curricula or curricular support programmes: 'I try to find themes within the existing curricula and link them together to give me time to cover [SFSE]' (Heidi). The SESE recognition of SFSE was perceived as 'limited' (Louise) across most participants, which is consistent with Smith et al.'s (2022) recent findings. Of 11 countries that investigated their inclusion of food education within national curricula, Ireland's SESE curriculum was identified alongside Australia and Scotland as inclusive of SFSE by clearly linking food with the environment and social justice (Smith et al., 2022). However, while this linking was identified, the coverage of SFSE was not deemed as comprehensive but rather 'patchy' (ibid., p.17). Such an incomplete coverage of SFSE in the SESE curriculum, paired with curricular time constraints, likely accounts for participants reporting that the integration with other subjects or support programmes is necessary to teach SFSE more effectively.

While no participants reported a perfect opportunity for addressing SFSE solely through the SESE curriculum, all participants identified that the Social Personal and Health Education (SPHE) curriculum, Learn Together curriculum, Forest School and/or Green-Schools programmes can provide opportunities for integrated coverage of SFSE alongside the SESE curriculum, as participant Jenny put it:

> '[SFSE] is a really broad topic going across lots of things — the Green Schools programme, the Learn Together and the SESE curriculum. So, it is more likely to be taught in that bigger context.'

Although in referring to SFSE at post-primary level, Tippmann (2020) identifies such a transdisciplinary approach as vital for successfully teaching SFSE. While participants described the Learn Together content of SFSE as similar to that of the SESE curriculum, the SPHE curriculum focuses on health and nutrition aspects of food. Given curriculum time constraints as described by participants, it is recommended that such a transdisciplinary approach to SFSE be adopted to address the issue of time management:

'Integration is actually the only way we can teach effectively because if you're not integrating subjects, then you are not giving enough time to each curricular area.'

(Aoife)

Use of the SESE curriculum to deliver SFSE

All participants collectively reported the use of outdoor learning and/or local contexts to teach SFSE with respect to the origin of foods. Direct exposure to a food system is believed to be imperative in the delivery of any form of SFSE in a meaningful manner (Hilimire et al., 2014). Participants state that this exposure to food systems could be taken through school gardening, local foraging, talks from local farmers, writing to local supermarkets and visits to a local grocer and a city farm. Stewart et al. (2021) argue that local foods and local issues are the most accessible aspects of SFSE to integrate within the primary curriculum, which appears to be supported by participant responses. Heidi's experience of a whole-school garden initiative paired with local community members of farmers and grocers, demonstrated an extensive use of both outdoor learning within local contexts. Heidi also described a school garden as a 'wonderful tool' to expose children to food systems in an engaging and hands-on manner. Such ESD teaching methods in using school gardening with local expertise are widely used across Australian primary schools (Sommerville and Green, 2012). Heidi's statement on the importance of outdoor space combined with active and locally-situated learning is reflected in Green (2012), in the effectiveness of both outdoor and local settings in delivering ESD from the Australian perspective:

'Framed by everyday places, the lived, sensory, embodied and action-based experiences are the foundations on which children's genuine engagement with sustainability can be understood and built.'

(Green, 2012, p.340).

The described experiences of the study participants towards SFSE portray the use of effective methodologies such as outdoor, local environments and active experiences as recommended by Green (ibid.).

Benefits of delivering SFSE

With respect to identified participant SFSE experiences of outdoor learning and local contexts, four teachers reported similar benefits of an improved awareness of and appreciation for foods amongst pupils. With respect to school gardening and outdoor seed planting, participants Heidi and Louise described pupils as presenting an increased awareness and interest in

where their food came from and the processes involved:

> 'I felt the children were more clued in […] they were more interested in the foods, where it came from, and they were more interested in shopping locally. [It] kind of changed their outlook in a lot of areas.'
> (Heidi)

Blair (2009) and Darmody (2022) similarly attest that school gardening is capable of promoting an overall awareness with respect to the sustainable production of foods. Darmody's (2022) investigation into the use of the Green-Schools' Global Citizenship Food and Biodiversity theme to improve the scope of SFSE provided in Irish primary schools reports similar benefits as those identified by this study's participants. Through a key component of a school garden to facilitate hands-on learning, research projects and local studies, Darmody (2022) believes this approach of providing direct and extensive engagement with a food system results in increased active citizenship and environmental awareness.

There was consensus amongst Aoife, Heidi and Jenny that the use of farm visits and engagement with local communities promotes awareness of sustainable food systems (Joshi et al., 2008, Tippmann, 2020). Aoife described pupils as making connections between foods that they eat and the animals that produce them during one visit to a city farm within her school's locality, stating that such experiences 'promote awareness'. Tippmann (2020) mirrors Aoife's observations and articulates that such educational experiences can lead to an improved appreciation for foods and, by extension, better sustainability habits. Other participant responses supported by ibid. include the recognition of time constraints and lack of teacher training as challenges posed to SFSE.

Challenges posed to delivering SFSE

▪ **Curriculum overload and time constraints**

All participants described a curriculum overload as an impediment to their ability to deliver SFSE. Time constraints imposed by the curriculum overload paired with a perceived imbalance of time allocation resulted in participants feeling restricted in their ability to implement a non-core subject topic of SFSE: 'All of the curricula are overloaded, and you cannot get to everything you want to teach' (Jenny). A National Council for Curriculum and Assessment (NCCA) (2008) review found teachers identifying time as the biggest challenge to implementing the curriculum. Their conclusions pointed to a curriculum overload of excessive content (NCCA, 2010). It is therefore not surprising that participants of this study

consider time constraints imposed by the curriculum as an impact on their ability to deliver SFSE. Four participants proposed enhanced cross-curricular integration of SFSE to alleviate this challenge. This approach has been successfully implemented in Australia, in which sustainability is one of three primary cross-curricular themes (Hill et al., 2014). Such a transdisciplinary approach has been recognised as optimal for a national curriculum's contribution to ESD (Munkebye et al., 2020; Tippmann, 2020; Vásquez et al., 2021).

▪ **ESD Teacher Training**

Three participants also viewed lack of teacher training and/or knowledge as a barrier to teaching SFSE. Summers and Kruger (2003) argue for the delivery of any form of ESD at primary school level to be reliant upon the teacher's awareness of sustainability topics. Heidi, Louise and Aoife reflected this assertion, in expressing that teachers must have a personal interest in SFSE to effectively teach it. Participants did not consider there to be readily accessible resources for teachers to invest in the topic, many of whom are already under curricular time pressures. Louise articulated this point clearly in stating, 'you do have to go out and find the information yourself, plan the lessons yourself, and that might be a barrier to some [teachers]' (my parenthesis). An investigation into teacher perspectives in America relating to aspects of SFSE (Trexler, 2000) found that the majority of teachers feel uncomfortable in teaching this area and requested support in the form of educational materials along with the need for continuous professional development. Louise and Aoife's recommendations share this call for increased teacher support with respect to SFSE, through teacher guidelines, lesson exemplars and resources. While UNESCO (2017) describes teacher training in Ireland as adequately inclusive of ESD, this study's findings demonstrate there is more need for improved teacher supports relating to the SFSE aspect of ESD.

Conclusion

The results of this study illustrate that mainstream Irish teachers perceive there to be limited support for the teaching of SFSE provided by the SESE curriculum. Such a perceived limitation reflects conclusions Smith et al. (2022) make. However, participants demonstrated an ability to integrate SESE content with that of other subjects and support programmes through personal initiative. It is therefore evident from research findings

that there is a need for more support to be provided in the primary curriculum to integrate SFSE with other subjects and/or make use of relevant curriculum support programmes, such as Forest School or Green-Schools. This transdisciplinary approach combined with recognised methodologies of outdoor learning and engaging with local contexts can act as pathways into SFSE, especially in the face of identified curriculum overload and time constraints.

Final note

A limitation of this research must be acknowledged in the lack of ability to extend the findings to wider contexts with any transferability, as is often seen with quantitative research. Despite this, it may be concluded that the small-scale findings of this study illustrate a need for improved cross-curricular integration of ESD as a whole within the primary school curriculum in Ireland, along with more teacher training and supports with respect to SFSE. With a new, revised primary curriculum expected by 2025, it is hoped that SFSE will have a more prominent role, and for teachers to receive the appropriate continuous professional development to successfully deliver ESD in their classrooms to instil confidence in the subject, regardless of personal interest.

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Visual Literacy and the 'Looking and Responding' Strand Unit: Primary Teacher Perspectives

Hazel Scully

Biography

Hazel Scully grew up in Dublin and graduated with a joint honours degree in Classical Civilisation and French from Trinity College Dublin in 2016. She spent some time working in the area of natural health and wellbeing before moving on to diverse roles, such as a nanny, gallery assistant and bookseller in New York for two years. Upon returning to Ireland, Hazel worked in the area of children's art education in art museum settings in Cork. Graduating with First Class Honours in the Professional Master of Education (PME) in Primary Education in 2023, Hazel was the recipient of the Hibernia College Research Prize in her cohort.

Hazel is currently enjoying her role as a SET teacher with Junior Infants in a DEIS primary school in Cork.

Visual Literacy and the 'Looking and Responding' Strand Unit: Primary Teacher Perspectives

Research supervisor: Veronica Ryan

Abstract

This dissertation researched teacher perspectives on the concept of visual literacy and the 'Looking and Responding' strand unit. This study aimed to investigate whether 'Looking and Responding' activities in Visual Arts support student engagement and student verbal skills, and to explore teacher interpretations of visual literacy. Results show that 'Looking and Responding' activities promote student engagement and increase student verbal skills. Findings demonstrate a clear uncertainty about the concept of visual literacy amongst respondents.

Keywords: Visual literacy, teacher perspectives, 'looking and responding', aphantasia, hyperphantasia

Introduction and Background

This study is prompted by the researcher's experience looking at and speaking about art with young children in art museum and gallery settings. This research project concerns the 'Looking and Responding' strand unit in the Irish Visual Arts Curriculum (NCCA), 1999a). This unit was investigated from a visual literacy angle informed by existing research in this area and through mainstream teacher perspectives on teaching Visual Arts at primary school level.

Coined by John Debes (1968), the term 'visual literacy' concerns several skills developed through looking and seeing, which enable people to learn (Eilam, 2012). Images and visual symbols offer modes of learning and communicating (Calloway and Kear, 2000).

The value of visual elements in the primary school classroom has long been recognised. Indeed, primary teachers tend to value a 'print rich' environment (Eilam, 2012). The importance of a visually stimulating and print-rich environment is heavily emphasised in initial teacher education.

In a visually-dominated world, modes of communication have shifted from writing to images.

Symbols in images are used not only as a means of communication but also for facilitating thinking. Visual memories lay the foundation for describing such experiences with words, both written and oral (ibid.). Therefore, we must be cognisant that images children encounter on the walls and throughout the school day are mentally stored and engaged with. Developing skills to further understand and negotiate such symbols and images is imperative for children in the primary classroom. Studies have shown that most primary school teachers do not feel equipped to teach art in a way that encourages children's responses to the art in question (Prentice, 1999; Callaway, 2000; Wren and Haig, 2006). Therein lies the need for the researcher to explore teacher perspectives on strategies to support the teaching of responding to art alongside the skill set needed to promote visual literacy. Arising from classroom observation and discussions with primary school teachers during work as a substitute teacher during the COVID-19 pandemic, the researcher inquired into the ways in which mainstream teachers negotiate the 'Looking and Responding' strand unit of the Visual Arts curriculum. The primary aim of this small-scale investigation involved capturing and analysing teacher perspectives on visual literacy development and engagement. Following a comprehensive literature review in this area, the following research questions emerged:

1. Does the 'Looking and Responding' strand unit promote student engagement?

2. Does the 'Looking and Responding' strand unit increase students' verbal skills?

Methodology

Informed by a positivist research paradigm, a quantitative methodological approach was chosen. The rationale for this choice was illuminated by the affirmation that quantitative research collects facts and observes the relationship between them (Bell and Waters, 2014). The researcher chose the scientific method to investigate whether the 'Looking and Responding' strand unit is somewhat neglected in the primary classroom. The purpose of examining this hypothesis was to add to the limited research on visual literacy and visual arts in the primary classroom and to fill a research gap in the Irish context. The positivist paradigm was deemed most appropriate from a researcher-designed hypothesis, and this paradigm seeks to develop such a hypothesis (Picciano, 2016).

Data Collection: Questionnaires

An online questionnaire was chosen as the means of collecting data on visual literacy in the classroom. Using questions and questioning in research projects provides a method of collecting large amounts of data within a limited timeframe (Brace, 2008), a practical aim for this small-scale, timebound study. The researcher chose non-probability as the sampling method, specifically, convenience sampling as a representative sample was not possible in such a small-scale investigation.

The teachers surveyed teach in a variety of national schools, such as Educate Together schools, a private Catholic girls' school and Catholic ethos DEIS schools (PDST, 2023). Teachers ranged in age from 25 and under to 55+. 74 questionnaires were distributed online with the view to receiving at least 40 back for the sample study. The study was located in Leinster and Munster. Teachers were known to the researcher through school placement postings and substitute teaching experience.

Data Collection

Data was represented through pie and bar charts, categorised and analysed using descriptive statistics. To avoid ethical research pitfalls in the study, the data collected was kept anonymous. The study was granted ethical approval from Hibernia College's Ethics Committee. Researcher-designed Informed Consent Forms were distributed to participants in the study, detailing the aims and purpose of the study, and outlining data protection strategies along with their rights to withdraw. Participants were given the option to opt in to the study, and should they wish to, they could withdraw up to one month after data was collected without any negative consequences. To maintain rigour in the study, the researcher piloted the questionnaire to troubleshoot any potential problems and avoid any ambiguities or leading questions in the data instrument. The questionnaire aligned closely with the research questions. Google Forms software was used to format the questionnaire and, subsequently, analyse the raw data.

Findings and Discussion

This study was distributed to 74 primary school teachers in the provinces of Leinster and Munster, with a response rate of 54 (n=54) (73%). A total of 57.7% of these responses were from primary school teachers with mainstream class experience between the ages of 25 and 35. 23.1% of these teachers were aged between 36 and 45, 7.7% between the ages of 46 and 55, and 9.6% aged 56+. Only 1.9% of responses came from teachers under the age of 25.
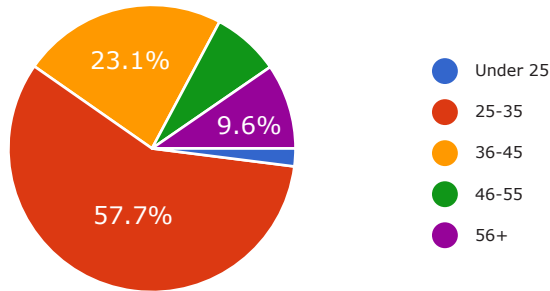
Please state your age category:

52 responses

Figure 1: How supported by the school respondents feel when issues regarding EAL arise

Meaning of Visual Literacy

A definition of visual literacy was not provided in the questionnaire. Instead, an inquiry into the meaning of visual literacy was posited in the form of the question, 'What does visual literacy mean to you?' Findings demonstrate that 10 respondents equated visual literacy with the conventions of reading and writing. One respondent suggested that the term refers to the ability to 'visually assess one's environment'. One other respondent described visual literacy as 'a set of skills involving decoding, interpreting and analysing visual signs and media'. Another respondent answered that visual literacy relates to 'an awareness of the formation of letters and word patterns'. A further response stated that they have very limited understanding of the term but suggested that it is 'the ability to visually assess our environment'. In summary, a myriad of definitions and interpretations on the meaning of visual literacy ranged from phonological awareness and reading written words, to combining art and literacy, to understanding the representation of meaning through visual mediums. As only 45 respondents answered this question, this perhaps highlights an uncertainty about its meaning. Research aligns with this finding in illustrating that even when student teachers are given a visual literacy learning task such as keeping a visual journal to record their learning, they approach literacy as primarily concerned with conventions of reading and writing, not creating, and using, images (Loerts and Belcher, 2019).

Initial Teacher Education

51 out of 54 total respondents answered the question on initial teacher education in relation to the 'Looking and Responding' strand. Just over 66% of respondents received training on the strand unit in teacher training colleges, despite the unit being a core part of the Visual Arts curriculum that must be taught. As such, there appears to have been a lack of emphasis on the subject during initial teacher training for the respondents. One respondent answered that they could not remember whether the 'Looking and Responding' strand unit was explicitly mentioned in college but rather incorporated into lectures and tutorials.
Only one respondent received in-depth training in college, which included a visual journal in which their own artwork, the work of artists and materials were kept. This answer corroborated with the findings that illustrate 30% of respondents consider themselves as 'very equipped' to teach the Visual Arts and 8% of respondents as 'extremely equipped' to teach the subject.

Did you receive training on the 'Looking and Responding' strand unit in teacher training college?
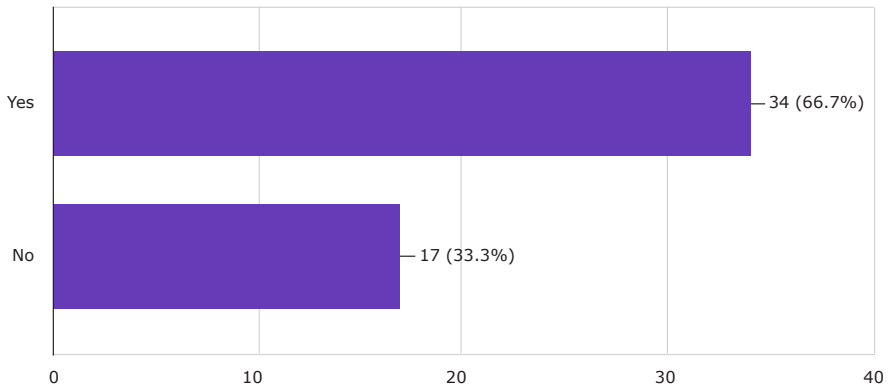
51 responses

Figure 2: Training received on the 'Looking and Responding' strand unit in teacher training college

Time Constraints

Of the 54 respondents, the question on time constraints garnered 52 answers. 53.8% of respondents spend 15 minutes per week on the strand unit, or 25% of the recommended allocated time for Visual Arts per week

for First to Sixth Class. 21.2% of respondents spend 30+ minutes per week on the unit or 50% of the recommended time allocated to Visual Arts per week for First to Sixth Class, while 19.2% devote 20-30 minutes to it, between 33% and 50% of the recommended allocated time for the subject for First to Sixth Class. Only 5.8% of respondents spend no time at all on the 'Looking and Responding' strand unit each week as represented in Figure 3.

A possible reason for over half of respondents spending only 15 minutes on these activities could be related to negative self-belief in the arts, which is linked to limiting teaching the subject or totally avoiding it (Wren and Haig, 2006). In addition to this, there is no explicit recommended time allowance given to the 'Looking and Responding' strand unit in the Visual Arts curriculum, even though the strand unit accompanies each strand (NCCA, 1999b).

On average, how much time per week do you spend on 'Looking and Responding' activities for Visual Arts?
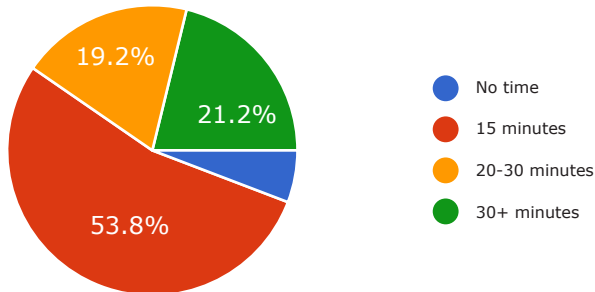
52 responses

Figure 3: Time spent per week on 'Looking and Responding' activities

Continuing Professional Development (CPD)

Of the 54 responses, 52 teachers responded to the question regarding continuing professional development in relation to the 'Looking and Responding' strand unit. Of these, 76.9% stated they have not received any related CPD training, while 23.1% have. This ranged from Professional Development Service of Teachers (PDST) training, training days in the National College of Art and Design in Dublin, and in-service training for the introduction of the 1999 revised curriculum.

Have you received CPD training for Visual Arts, including 'Looking and Responding'?
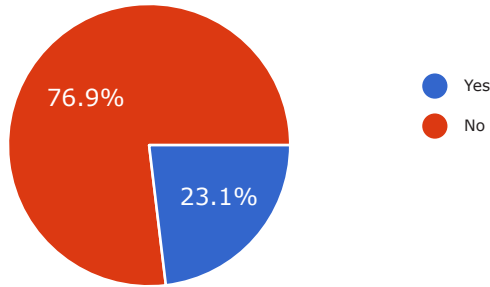
52 responses

Figure 4: Continuing Professional Development (CPD) training for Visual Arts

Perhaps, more available CPD in the Visual Arts would aid teachers in upskilling in this area, especially for teachers who consider themselves only somewhat or poorly equipped to teach it. In the USA, Visual Arts are considered only peripherally in teacher training: K-8 teachers are not required to teach the subject (Richards and McKenna, 2003). In the Irish context, perhaps further CPD would address this stated need.

Emphasis on Visual Arts

Of the 52 responses to the question on the emphasis placed on the Visual Arts, 46.2% rated their school's placement of its importance as 'good'. 25% of respondents rated their school's emphasis on the Visual Arts as 'fair'. Interestingly, however, 19.2% of respondents rated their schools as 'excellent' with regards to the Visual Arts. Only 9.6% of respondents rated their schools' emphasis on the Visual Arts as 'poor' as illustrated in Figure 5.

Can you rate the emphasis your school places on the Visual Arts?
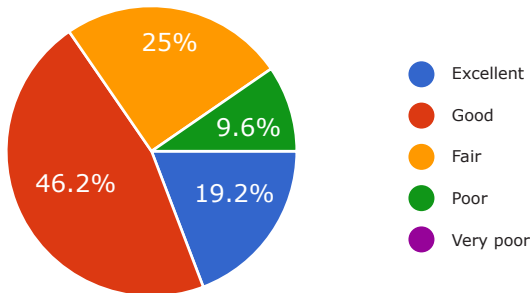
52 responses

Figure 5: Emphasis placed on the Visual Arts in respondents' schools

Of the 54 respondents, only 50 responded to the question on their opinion on their ability to teach Visual Arts. Of the 50 respondents, 48% maintain as being 'somewhat equipped' to teach Visual Arts and the 'Looking and Responding' strand unit. However, 30% of respondents stated they were 'very equipped' to teach the subject. 14% of respondents consider themselves 'poorly equipped' to teach it, while only 8% of respondents chose 'not equipped at all'.

How equipped do you feel to teach Visual Arts and, specifically, 'Looking and Responding' to art?
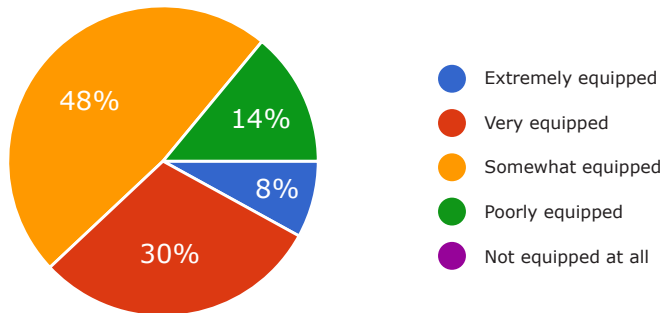
50 responses

Figure 6: Respondents' perspectives on their ability to teach the Visual Arts, including the 'Looking and Responding' strand unit

'Looking and Responding' Activities and Student Engagement

52 respondents answered the question on 'Looking and Responding' activities and student engagement. 96.2% stated that 'Looking and Responding' activities promote student engagement, while only 3.8% disagreed. Whilst almost half of respondents consider themselves only somewhat equipped to teach the Visual Arts, the vast majority agree that 'Looking and Responding' activities increase student engagement, suggesting that teachers recognise the value of including such activities in the teaching of Visual Arts, even if they do not think they are fully equipped to deliver them.

Do you think 'Looking and Responding' activities promote student engagement?

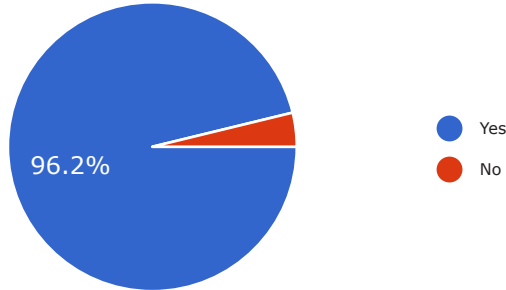52 responses

Yes

No

96.2%

Figure 7: 'Looking and Responding' activities and student engagement

Much of the evidence in this study highlights student engagement and 'Looking and Responding' activities as relating to children's verbal skills. One respondent mentioned that these activities demonstrate an increased use of descriptive words by students, along with increased vocabulary. Evidence that demonstrates student engagement include:

- 70% noted increased questioning by students.
- 40% noted increased work output.
- 76% noted increased ability to answer questions about artworks.

This increased work output presents an interesting finding. Prentice (1999) argues that speaking about art with children is often neglected in busy classrooms in favour of practical artmaking. As emotional literacy emerged as a theme, one respondent noted an increased awareness of children's' expressed feelings when responding to a classmate's artwork. Another respondent noted 'having an emotional response' as beneficial to these activities.

'Looking and Responding' Benefits

Of the 50 respondents who answered the question on benefits to 'Looking and Responding' activities, 11 chose the 'other' option to provide an open response. This interesting point perhaps suggests more evidence for student engagement than the given options in the structured questionnaire. Overall, findings illustrated that, of all the respondents,

- 86% noted: Increased talk and discussion about artworks by students
- 72% stated: Increased ability to describe artworks using the correct language and terminology, and
- 32% reported: Increased spatial awareness

Interestingly, 86% of respondents noted increased talk and discussion related to artworks created by children.

Research shows that developing visual literacy skills helps children who struggle with literacy skills to access a wider range of literacies (Clyde, 2003), while also developing oral language skills for responding to art. Some of the results were surprising and contrary to the starting hypothesis, which sought to examine how 'Looking and Responding' activities may be neglected due to time constraints (Prentice, 1999). For example, 46.2% of 52 respondents stated that their school's emphasis on the Visual Arts was 'good', and 19.2% rated their schools as 'excellent', even though 48% of 52 respondents consider themselves only somewhat equipped to teach the subject of Visual Arts. Surprisingly, however, 30% of respondents think they are 'very equipped' to teach Visual Arts, and 8% feel 'extremely equipped', despite a lack of training in college and CPD. Most respondents have not, to date, completed CPD courses in the Visual Arts. Moreover, over 30% of respondents did not receive training on the 'Looking and Responding' strand unit in teacher training colleges. These responses may provide an insight into why almost half of all respondents consider themselves only somewhat equipped to teach Visual Arts, due to a lack of emphasis on the subject in teacher training colleges. This is, however, at odds with the fact that almost half of all respondents rated their school's emphasis on Visual Arts as 'good'.

Conclusion

This research project investigated the perspectives of primary school teachers on visual literacy and, specifically, the strand unit 'Looking and Responding' strand unit. The aim sought to examine, whether related activities promote student engagement and verbal skills. It appears from the data that the unit activities do indeed increase student engagement and verbal skills. Respondents overwhelmingly agreed that 'Looking and Responding' activities increase literacy skills as the Visual Arts can communicate ideas without using words (Cornett, 1999). Corroborated by such literature, respondents gave a myriad of definitions and interpretations of the concept of visual literacy, highlighting that the concept is a difficult one to define and, subsequently, there exists no conclusive definition in the literature (Grant et al., 2008), as well as no explicit definition in the Visual Arts curriculum (NCCA, 1999a).

Most respondents have not received any CPD training in the Visual Arts, yet, almost 50% of respondents rated their school's emphasis on the

Visual Arts as good, despite confusion regarding visual literacy and over 50% of respondents spending just 15 minutes per week on the strand unit. This may suggest an implicit belief that the strand unit activities are not deemed as important as artmaking and, as such, it could be argued that the strand unit is somewhat neglected in this regard. Recommendations arising from this study include the provision of more government-run CPD courses for teachers in Visual Arts. Visual journals, multimodal artefacts created and maintained by student teachers during their teacher training (used by one respondent in the study) could be incorporated into Irish teacher training modules. Explicit time allocations for the 'Looking and Responding' strand unit may also provide teachers with more manageable parameters within which to plan for these activities and ensure they are not neglected.

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Barriers to Second language Acquisition for Students With Dyslexia:
A Practitioner Focused Study

Máire Toomey

Biography

In 2023, Máire Toomey graduated with First Class Honours in the Professional Master of Education (PME) in Post-Primary Education from Hibernia College. She is also a graduate of UCD with an Honours degree in Spanish and Sociology. After living and teaching in Spain, she spent eight years in Financial Services in Ireland before venturing into entrepreneurship, owning her own business for five years. Máire then moved into the realm of global development.

During her time in development work, Máire developed a global citizenship education program, impacting Transition Year and Senior Cycle students nationwide. This experience fuelled her dedication to education, emphasizing its transformative power. Her journey reflects her commitment to fostering positive change through education.

Barriers to Second Language Acquisition for Students with Dyslexia:
A Practitioner Focused Study

Research supervisor: Gillian Moore

Abstract

This study investigates the challenges to second language acquisition for students with dyslexia from a practitioner perspective. It is a small-scale, qualitative study. Through a series of five interviews with stakeholders in education at second level, it poses questions about best practice in supporting dyslexic students in the Modern Foreign Language (MFL) classroom. Through careful thematic analysis, the principal finding of the study was to identify a highly individualised approach to differentiation as the key to effective support. The study also identifies the main challenges in MFL teaching, including issues of time and teacher expertise, and recommends strategies that could be used to meet these challenges.

Keywords: Dyslexia, Second Language Acquisition, Language Learning, Teacher Expertise, Evidence-Informed Practices, Differentiation, Student Profile, Barriers to Implementation, Teacher Training, Professional Development, Student Mindset, Parental Support, Inclusive Learning, Educational Strategies, Thematic Analysis, Classroom Challenges, Language Teachers, Special Educational Needs, Teacher Preparation, Multisensory Approaches, Individualised Support

Introduction

The research landscape on dyslexia is extensive, exploring its nature, manifestations, and challenges for students and educators. Although dyslexia research has a long history, a consensus definition only emerged in 1968, when it was described as 'a disorder manifested by difficulty in learning to read despite conventional instruction, adequate intelligence, and socio-cultural opportunity' (Waites, 1968). Subsequent research has yielded evidence-informed methodologies to support students with dyslexia effectively, including Universal Design for Learning.

However, there is a scarcity of recent research focusing on dyslexia's impact on second language acquisition, with most studies originating in the United States or the United Kingdom. This knowledge gap, along with the need for more informed and inclusive practices, drove the rationale for this study.

In Ireland, the recognition of dyslexia as a distinct disorder with specific support requirements occurred in 2000. It is now classified as a disability under equality legislation. The significance of this study in the Irish context lies in the *Education for Persons with Special Educational Needs (EPSEN) Act* of 2004, which advocates for inclusive education for learners with special educational needs, including dyslexia. It emphasizes empowering students to access the curriculum at their level and participate fully in society.

To fulfil their responsibilities, teachers need access to evidence-based research in dyslexia and effective methodologies, especially in the context of second language acquisition. International inclusion policies like the Salamanca Statement (UNESCO, 1994) and the Dakar Statement (UNESCO, 2000) influenced Ireland's EPSEN Act 2004, promoting inclusive practices in schools. This research examines the effectiveness of policy and practice concerning students with dyslexia in post-primary modern foreign language (MFL) classrooms.

In April 2020, the Department of Education and Skills (DES) published a report on the quality of MFL practice in post-primary schools. The report highlights the need for greater understanding and implementation of differentiation and collaboration within MFL departments to benefit students of all abilities. It recommends increased professional development for teachers, incorporating theoretical and practical approaches based on best practices. However, no implementation plan has been established yet.

Having considered the literature on the topic, this study aimed to answer the following questions:

- What evidence-informed strategies are proven to be effective from a language teacher's perspective in supporting students with dyslexia in second language acquisition?

- What are the obstacles or barriers to implementing effective practices in the MFL classroom?

- What is required to facilitate the implementation of effective methodologies and interventions to allow teachers and schools to successfully support students with dyslexia in the MFL classroom?

Methodology

The selection of an appropriate methodology for this study involved a careful consideration of underlying theoretical positions. Pring (2010) emphasized the importance of understanding these theories as they provide the philosophical background against which research is conducted, guiding the choice of methodology.

One such theoretical perspective is logical positivism. Rooted in quantitative research methods, logical positivism posits that human experience and behaviour can be measured in a similar way and using similar methodologies to how we measure natural world phenomena. Quantitative research involves collecting extensive data, typically testing existing theories using numerical data and statistics (Scott and Morrison, 2005). On the other hand, interpretivism, which supports qualitative research, views the social world as distinct from the natural world, emphasizing the subjective meanings attributed by individuals (Chowdury, 2014). Interpretive research explores and describes reality as experienced by participants through smaller sample sizes and empathetic neutrality (Sarantakos, 1993).

Given the aim of this study to understand barriers and effective methodologies for students with dyslexia in second language acquisition, a qualitative research approach was chosen. Qualitative research allows for in-depth exploration of lived experiences and issues, making it suitable for this context (Pinnegar and Hamilton, 2009). Interviews were selected as the data collection method because they enable face-to-face engagement, probing, clarification, and the collection of rich data (Atkins and Wallace, 2012).

Purposive sampling was employed to select participants based on their experience teaching modern foreign languages and expertise in special educational needs and dyslexia. This approach was chosen to address the specific research questions, focusing solely on students with dyslexia (Etikan et al., 2016).

The participants were provided with information sheets, their written consent was obtained, and they were briefed on the nature of the interview and their right to withdraw at any time. Interviews were conducted, recorded, and stored securely in line with ethical guidelines (BERA, 2018).

To ensure the rigor, objectivity, and reliability of this qualitative study, reflexivity was employed to address the subjectivity of the researcher's positionality (Watt, 2007). Keeping a research journal facilitated

reflection on personal thoughts, reactions, observations, and perceptions throughout the study (Mosselson, 2010).

A qualitative interpretivist approach was chosen to explore effective methodologies and challenges for students with dyslexia in the MFL classroom. Semi-structured face-to-face interviews were selected to capture the rich experiences of participants. Thematic analysis was adopted to ensure rigorous data analysis, adding reliability and trustworthiness to the study.

Findings and Discussion

The ultimate goal is to support MFL teachers in developing effective methodologies and implementing research-informed pedagogies in real-world classrooms for better support of students with dyslexia.

This study conducted in-depth interviews with five individuals actively involved in educating and supporting post-primary school students with dyslexia. Employing thematic analysis, we extracted crucial insights related to the research questions. The participants included two teachers (TP1, TP2), a school principal (SP), a special educational needs coordinator (SENCO), and an advocacy group representative (AGR). We will primarily address the research questions and the critical insights gathered.

1. **Evidence-Informed Practices in Supporting Dyslexic Students in Second Language Acquisition**

Surprisingly, the participants did not explicitly mention evidence-informed practices. Instead, they emphasised the importance of differentiation and understanding each student's unique learning profile. While they did not use the specific term 'evidence-informed practices', their strategies align with these principles.

- **Technology and Multi-Sensory Approaches:** Participants discussed the use of technology, such as Quizlet, and emphasized teaching languages with simpler phonology (e.g., Spanish). These approaches resonate with research advocating for multi-sensory language learning, which involves hearing, seeing, saying, and writing simultaneously, benefiting students with dyslexia (Crombie, 2000).

- **Science-Based Reading Approach:** The participants mentioned a science-based approach to reading, focusing on phonics, vocabulary, fluency, and comprehension. Although not explicitly named, this approach aligns with evidence-informed methodologies.

2. Obstacles to Implementing Effective Practices in the MFL Classroom

Several barriers to effective support for dyslexic students were identified:

- **Lack of Teacher Expertise:** A significant barrier was the inadequate training and professional development for teachers to support dyslexic students effectively. Participants stressed the need for better preparation and ongoing training.

- **Time Constraints:** Participants highlighted the importance of allocating more time for planning, collaboration, and individualized support for dyslexic students. The 'gap' between lessons was also considered problematic.

- **Student Mindset:** Student mindset significantly affects success. Dyslexic students with negative primary school experiences may enter secondary school with low self-esteem and a belief that they cannot excel in language learning. Strategies to address this included removing exam pressure and fostering a growth mindset among students.

- **Parental Engagement:** Positive parental support and understanding of the school's role in supporting dyslexic students were identified as crucial for success.

3. Facilitating Effective Methodologies and Interventions

To facilitate the implementation of effective methodologies and interventions for dyslexic students, the following key elements were emphasised:

- **Teacher Expertise:** There is a need for increased teacher expertise and a genuine interest in supporting students with dyslexia. Adequate training and professional development, focusing on evidence-informed practices tailored to dyslexic students' needs, are essential.

- **Time Allocation:** Allocating more time for planning, collaboration, and professional development is essential. Teachers need opportunities to share best practices, collaborate with colleagues, and continuously improve their strategies for dyslexic students.

- **Individualization:** Knowing each student's unique learning profile and needs is fundamental to effective support. Personalized approaches are crucial for dyslexic students' success (Wilson, 2014; Hascoet, 2022).

In summary, while the participants did not always use the terminology of 'evidence-informed practices', their strategies and approaches align with these principles. Overcoming the barriers to implementing effective practices requires a combination of teacher expertise, time allocation, fostering a positive student mindset, and collaborative efforts between schools, students, and parents.

Conclusion

This research has shed light on the multifaceted challenges faced by dyslexic students in second language acquisition and the hurdles practitioners encounter in supporting them within the Modern Foreign Language (MFL) classroom. A predominant theme that emerged was the vital role of teachers in intimately understanding their students, recognizing their individual needs, and taking proactive steps to address these needs effectively.

However, this study is not without limitations, notably its small sample size, rendering findings non-generalizable. To mitigate against this, future research should consider broader, long-term studies with diverse practitioner involvement and the incorporation of surveys to offer a more comprehensive understanding of dyslexia's impact on a larger population.

One of the key findings emphasized the centrality of teachers' awareness of their students' unique learner profiles. This aligns with David Wilson's assertion that understanding a student's history and learning profile is pivotal (Wilson, 2014). This comprehension enables the creation of tailored resources and teaching approaches.

Despite possessing the knowledge of how to support dyslexic students, educators encounter barriers in implementing these strategies. Notably, deficits in teacher expertise and insufficient time allocation were identified as significant challenges. Addressing these issues necessitates comprehensive professional development for MFL teachers, specifically focusing on dyslexia's diverse manifestations in students.

Moreover, post-primary teacher education (PME) programs should incorporate a strong emphasis on best practices for teaching dyslexic students in MFL classrooms. This training should encourage teachers to empathize with students' language acquisition experiences, employ evidence-based approaches, and effectively assess dyslexic students.

To alleviate time constraints and foster collaboration among educators, scheduling dedicated planning periods within MFL teachers' timetables is

recommended. This designated time can facilitate the development and sharing of resources and expertise related to dyslexia.

Lastly, teachers must receive training on effectively engaging with parents, communicating the school's support approach, and guiding parents on how to best support their children. Such training demands a deep understanding of dyslexia and its implications.

While these recommendations involve policy, practical, and management-level adjustments, their implementation stands to benefit not only dyslexic students but also all learners engaged in second language acquisition, as underscored by Gallardo, Heiser, and McLaughlin (2015).

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