



**HIBERNIA
COLLEGE**

Investigating the Student Perception of Movement Breaks on Attention in the Classroom.

Item Type	Thesis
Authors	Pingree, Christopher
Download date	2026-06-18 08:29:33
Link to Item	https://iasc.hiberniacollege.com/handle/20.500.13012/243



**HIBERNIA
COLLEGE**

Investigating the Student Perception of Movement Breaks on Attention in the Classroom.

Christopher Pingree

Dissertation submitted in partial fulfilment of the award of

Professional Master of Education in Post-Primary

I agree that this dissertation may be uploaded to Hibernia College's institutional repository, IASC, subject to Hibernia College School of Education agreement, and the Hibernia College open access policy. IASC (Institutional Archive of Scholarly Content) is an open access repository designed to store, archive, and disseminate the work of Hibernia College faculty, staff and students.

Date 09/06/2024

Abstract

This research investigates the perceived effects of movement breaks on student's attention levels in the classroom, employing a mixed-methods approach. Quantitative data were collected via a questionnaire administered to 20 students, revealing favourable perceptions of movement breaks' impact on attention and practicality. Qualitative data from interviews with two students highlighted themes of enhanced focus, improved physical well-being, and a positive classroom atmosphere. Findings suggest that movement breaks can improve students' attention, health, and classroom dynamics. Despite limitations such as a small sample size, the study offers valuable insights for educators and policymakers to enhance learning environments through movement breaks.

Acknowledgements:

I would like to extend my heartfelt gratitude to all those who contributed to this research dissertation. Sincere thanks go to the participants who generously shared their time and insights, making this study possible. I am deeply appreciative of the guidance and support provided by my research supervisor, whose expertise and encouragement were invaluable. I am also grateful to my parents and family for their unwavering support and understanding throughout this process. Finally, my partner for their unconditional support and patience.

Table of Contents:

List of table and Figures _____ Page 7

List of Acronyms and Abbreviations _____ Page 8

Chapter 1: Introduction _____ Page 9

1.1 Origin of Dissertation _____ Page 9

1.2 Background of the Project _____ Page 9

1.3 Rationale _____ Page 9

1.4 Dissertation Layout _____ Page 10

1.5 Conclusion _____ Page 11

Chapter 2: Literature Review _____ Page 12

2.1 Intro to Attention and Its Importance in Education _____ Page 12

2.2 Theoretical Framework _____ Page 12

2.3 Movement Breaks and Attention _____ Page 13

2.4 Neurological Mechanisms _____ Page 14

2.5 Benefits of Movement Breaks _____ Page 15

2.6 Types of Movement Breaks _____ Page 15

2.7 Implementation in Educational Settings _____ Page 16

2.8 Potential Challenges and Limitation _____ Page 16

2.9 Individual Differences _____ Page 17

2.10 Long-term Effects and Sustainability _____ Page 17

2.11 Practical Implications and Recommendations _____ Page 18

Chapter 3: Methodology _____ Page 20

3.1 Introduction _____ Page 20

3.2 Research Paradigm _____ Page 20

3.3 Methodology _____ Page 21

3.4 Approach _____	Page 21
3.5 Research Methods _____	Page 21
3.6 Sample and Participants _____	Page 22
3.7 Data Analysis _____	Page 22
3.8 Rigour _____	Page 23
3.9 Limitations _____	Page 23
3.10 Ethical Issues _____	Page 23
3.11 Conclusion _____	Page 24

Chapter 4: Findings _____ Page 26

4.1 Introduction _____	Page 26
4.2 Quantitative Data Analysis _____	Page 26
4.3 Qualitative Data Analysis _____	Page 30
4.4 Conclusion _____	Page 32

Chapter 5: Discussion _____ Page 33

5.1 Introduction _____	Page 33
5.2 Interpretation of Quantitative Findings _____	Page 33
5.3 Interpretation of Qualitative Findings _____	Page 34
5.4 Integration of Quantitative and Qualitative Findings _____	Page 35
5.5 Critical Analysis in Relation to Literature _____	Page 36
5.6 Themes Requiring Further Research _____	Page 37
5.7 Conclusion _____	Page 37

Chapter 6: Conclusion _____ Page 39

6.1 Introduction _____	Page 39
6.2 Summary of Findings _____	Page 39
6.3 Critical Discussion _____	Page 39
6.4 Limitations _____	Page 40
6.5 Recommendations _____	Page 40

6.6 Conclusion _____ Page 41

References: _____ Page 42

Appendices: _____ Page 46

Appendix A: Copy of Questionnaire _____ Page 46

Appendix B: Interview Transcript: Student One _____ Page 49

Appendix C: Interview Transcript: Student Two _____ Page 51

Appendix D: Principal Permission Form _____ Page 53

Appendix E: Research Information Sheet _____ Page 54

Appendix F: Informed Consent Form _____ Page 55

List of Tables and Figures:

Table 1: Entirety of questionnaire results _____ Page 27

Table 2: Student Perception of Movement Breaks (Questions 1-3) _____ Page 28

Table 3: Perceived Efficacy of Movement Breaks on Attention (Questions 4-6) __ Page 29

Table 4: Practicality of Movement Breaks in the Classroom (Questions 7-9) ____ Page 29

List of Acronyms and Abbreviations:

British Educational Research Association – BERA

General Data Protection Regulation - GDPR

Chapter 1: Introduction

1.1 Origin of Dissertation

The idea for this dissertation stems from a growing concern in the field of education regarding children's attention levels in the classroom. As an aspiring educator with first-hand experience in various school settings, I have witnessed the challenges teachers face in maintaining students' focus during academic tasks. Many students seem to struggle with sustaining attention, which can hinder their learning and academic performance. Inspired by these observations and driven by a passion for creating a conducive learning environment, this research aims to investigate the perceived effect of movement breaks on children's attention levels in the classroom. Movement breaks are brief, structured breaks that incorporate physical activity and have the potential to enhance students' ability to sustain attention and engage actively in the learning process.

1.2 Background to the Project

This research seeks to contextualise the investigation in the broader landscape of education policies and existing research literature. According to recent studies, there is a growing body of evidence suggesting that regular physical activity and movement can positively impact cognitive functions, including attention and concentration (Hillman, et al., 2014). However, while several studies have explored the relationship between physical activity and attention in children, limited research has specifically focused on the implementation of movement breaks within the classroom setting such as Mahar, et al. (2006) and Norris, et al., (2018). By bridging this gap, this dissertation aims to contribute valuable insights to the field of educational psychology and provide practical recommendations for educators.

1.3 Rationale

The importance of researching the impact of movement breaks on children's attention levels in the classroom cannot be overstated. In today's fast-paced and technology-driven world, children are often exposed to stimuli that can overwhelm their attentional resources. Teachers face the challenge of helping students maintain focus and engagement during academic tasks, which can significantly influence the learning outcomes (Mullender-Wijnsma, et al., 2015). Introducing movement breaks as a potential intervention has the potential to not only enhance students' attention but also positively influence their overall well-being, physical health, and

academic performance (Riley, et al., 2017). Understanding the effectiveness of movement breaks and identifying the optimal frequency and duration can empower educators to incorporate evidence-based strategies that promote better learning environments. While the link between movement breaks and attention levels has been well documented in research literature there remains a gap in the literature which fails to take into account the student perspective of implementing movement breaks in the classroom. This research aims to implement a mixed method approach which takes into account the student perspective regarding the implementation of movement breaks in a classroom setting.

1.4 Dissertation Layout

This dissertation is structured to investigate the effect of movement breaks on children's attention levels in the classroom systematically. The following chapters will be included.

Chapter 1: Introduction

In this chapter, the origin of the dissertation is explained, highlighting the significance of the topic in the field of study. The research aims are outlined, and a brief overview of the subsequent chapters is provided.

Chapter 2: Literature Review

This chapter will delve into the relevant ideas and issues in the existing research literature related to physical activity, attention, and learning in children. It will critically analyse previous studies on movement breaks and their impact on attention levels in the classroom.

Chapter 3: Methodology

Here, the research design and methodology used for the study will be detailed. The selection of participants, data collection procedures, and data analysis methods will be justified.

Chapter 4: Results

This chapter will present the findings obtained from the study's data analysis. The results will be interpreted in the context of the research questions and objectives.

Chapter 5: Discussion

The discussion chapter will interpret the results in light of the existing literature and theoretical framework. It will explore the implications of the findings and offer practical recommendations for educators and future research.

Chapter 6: Conclusion

The final chapter will provide a comprehensive summary of the dissertation's key findings and contributions. It will also discuss the limitations of the study and propose avenues for future research.

1.5 Conclusion

In conclusion, this introductory chapter lays the foundation for the dissertation, presenting the origin of the research idea and its significance in the field of study. The investigation into the perceived effect of movement breaks on student attention levels in the classroom from the student perspective holds promise for improving educational practices and enhancing students' learning experiences. The subsequent chapters will delve deeper into the literature, methodology, results, and discussions to provide valuable insights and recommendations for educators and researchers alike.

Chapter 2: Literature Review

2.1 Introduction to Attention and Its Importance in Education

Attention is a fundamental cognitive process that plays a pivotal role in the realm of education (Posner, & Rothbart, 2007). Defined as the cognitive ability to focus on specific stimuli while filtering out irrelevant information (Gazzaniga, Ivry, & Mangun, 2018), attention is crucial for effective learning. It enables students to absorb, process, and retain information, making it a cornerstone of educational success. Understanding the significance of attention in the learning process is essential for educators and researchers alike.

In the classroom, maintaining attention can be a formidable challenge for students. The modern educational landscape is rife with distractions, including smartphones, social media, and the constant bombardment of information (Anderson, & Dill, 2000). Furthermore, students may struggle with internal distractions such as daydreaming or intrusive thoughts (Hidi, & Renniger, 2006). These challenges can hinder their ability to engage with educational material, leading to reduced comprehension and retention.

This literature review explores the concept of attention and its paramount importance in education. It delves into the multifaceted challenges students face in maintaining attention in the classroom and how these challenges can impact their academic performance. By examining the latest research and academic insights, this review aims to shed light on strategies and interventions that educators can employ to enhance students' attentional abilities and, subsequently, optimise their learning experiences.

2.2 Theoretical Framework

Understanding the theoretical underpinnings of attention is critical for comprehending its significance in education. Several psychological theories shed light on various facets of attention and their application to educational contexts.

One prominent theory is the concept of selective attention, which posits that individuals allocate cognitive resources to focus on specific stimuli while ignoring others (Cherry, 1953). In education, this theory underscores the importance of helping students prioritise relevant information and disregard distractions. Strategies such as minimising classroom disruptions and guiding students in prioritising essential learning materials align with the principles of selective attention.

Sustained attention, another essential aspect of attentional processes, pertains to the ability to maintain focus over an extended period (Parasuraman, 1998). In the educational realm, sustaining attention is crucial for tasks involving reading, problem-solving, and test-taking. Educators can employ techniques like incorporating regular breaks or using engaging teaching methods to support students in sustaining attention during longer learning sessions.

Furthermore, the theory of attentional control, proposed by Posner and Petersen (1990), emphasises the role of cognitive control mechanisms in directing attention to relevant stimuli. This theory has significant implications for educational settings, as it highlights the importance of teaching student's strategies for managing and regulating their attention effectively.

These theoretical constructs of attention are intrinsically linked to academic performance. Effective selective attention helps students concentrate on instructional content, while sustained attention ensures that they remain engaged and attentive during lessons. Academic achievement is thus intricately connected to the mastery of attentional processes, making it imperative for educators to consider these theories in their pedagogical approaches.

2.3 Movement Breaks and Attention

Movement breaks, often referred to as short intervals of physical activity incorporated into the school day, serve as a pedagogical strategy with the dual purpose of promoting both physical and cognitive well-being. These brief interruptions in the classroom routine involve activities such as stretching, dancing, or simple exercises. Their primary objective is to rejuvenate students' attentional resources, enhance cognitive functioning, and alleviate the mental fatigue that can accumulate during extended periods of focused learning (Braniff & Shields, 2018).

Early research has provided compelling evidence of the link between physical activity and cognitive function. Hillman et al. (2009) conducted a study illustrating that even short bouts of moderate-intensity physical activity can lead to improvements in cognitive performance, including attention and working memory. This finding underscores the potential of movement breaks to restore students' attention and enhance their receptiveness to classroom instruction.

Furthermore, Etnier and Chang (2009) conducted a meta-analysis, affirming a consistent positive relationship between physical activity and cognitive function across various age groups. Their comprehensive analysis highlights the cognitive benefits of physical activity, further emphasising the potential of movement breaks as a valuable tool in educational settings.

Integrating movement breaks into the classroom aligns with the theoretical framework discussed earlier, as it translates theoretical insights into practical applications. These brief, purposeful physical activities offer students a valuable opportunity to reset their attentional focus, potentially mitigating the challenges they face in maintaining sustained attention during prolonged instructional periods.

2.4 Neurological Mechanisms

The neuroscientific basis underlying the impact of movement on attention is multifaceted and involves intricate interactions between brain regions and neurotransmitter systems. Research in neuroscience has elucidated several mechanisms through which physical activity can influence attentional processes.

Functional neuroimaging studies have identified specific brain regions implicated in attention and physical activity. The prefrontal cortex, particularly the dorsolateral prefrontal cortex, plays a crucial role in executive functions such as attentional control (Wang et al., 2014). Physical activity has been shown to enhance prefrontal cortex activation, potentially leading to improvements in attentional performance (Chaddock-Heyman et al., 2018). Additionally, the hippocampus, a brain region associated with memory and learning, interacts with attentional networks during physical activity. Aerobic exercise has been linked to increased hippocampal volume and improved cognitive function, including attention (Erickson et al., 2011).

Neurotransmitter systems, particularly dopamine, also play a pivotal role in mediating the relationship between physical activity and attention. Dopamine, a neurotransmitter involved in reward processing and motivation, is released during exercise and has been linked to improvements in attention and cognitive function (Hillman et al., 2009). Furthermore, serotonin, another neurotransmitter implicated in mood regulation, may contribute to the attention-enhancing effects of physical activity. Serotonin levels increase following exercise, potentially modulating attentional processes, and promoting a positive mood state (McMorris, 2009).

These neuroscientific findings shed light on the intricate the intricate interplay between movement, attention, and brain function, underscoring the potential of physical activity interventions to enhance cognitive performance in educational settings.

2.5 Benefits of Movement Breaks

Several studies have investigated the positive effects of movement breaks on student attention levels, providing empirical evidence for the benefits of integrating physical activity into the classroom environment. For instance, Mahar et al. (2006) conducted a study in elementary schools, demonstrating that short bouts of physical activity, such as classroom-based movement breaks, significantly improved students' attention, and on-task behaviour. Similarly, Howie and Pate (2012) conducted a systematic review of interventions involving physical activity breaks in schools, concluding that such interventions were associated with improvements in attention and academic performance among students.

Moreover, movement breaks have been shown to enhance cognitive functioning, contributing to improved academic achievement. Tomporowski et al. (2008) conducted a meta-analysis examining the effects of physical activity on children's cognitive function, revealing positive associations between physical activity interventions and cognitive outcomes, including attention and academic achievement. Additionally, Donnelly et al. (2016) conducted a randomised controlled trial, demonstrating that physical activity breaks during the school day improved cognitive function, including attention, memory, and academic performance, in elementary school students.

These findings highlight the potential of movement breaks to positively impact student attention levels, cognitive functioning, and academic achievement, providing valuable insights for educators seeking to optimise learning environments.

2.6 Types of Movement Breaks

Various types of movement breaks, including yoga, stretching, and short exercises, offer distinct benefits for enhancing attention in educational settings. Yoga, characterised by a combination of physical postures, breathing techniques, and mindfulness practices, has been shown to promote relaxation and stress reduction while improving attentional focus (Hagins et al., 2013). Similarly, stretching exercises can help alleviate muscular tension and increase blood flow to the brain, thereby enhancing alertness and cognitive function (Patar, and Mondal, 2017). Additionally, short bursts of aerobic exercises or calisthenics have been associated with immediate improvements in attention and cognitive performance, potentially due to increased arousal levels and neurotransmitter release (Tomporowski et al., 2008). The effectiveness of movement breaks in improving attention depends on factors such as duration and frequency. Research suggests that shorter, more frequent breaks may be more beneficial for maintaining

optimal attentional levels throughout the school day (Mahar et al., 2006). For example, implementing brief movement breaks every 20-30 minutes has been shown to sustain attention and on-task behaviour among students (Blackburn et al., 2020). However, the optimal duration and frequency of movement breaks may vary depending on factors such as age, fitness level, and individual preferences.

2.7 Implementation in Educational Settings

Teachers employ various strategies to incorporate movement breaks into their classrooms, aiming to enhance student engagement and attention. One common approach involves integrating short physical activities seamlessly into lesson plans, such as incorporating brief stretches or movement-based transitions between tasks (Riley et al., 2017). Additionally, some educators utilise dedicated break times or "brain breaks" during which students engage in structured physical activities designed to re-energise and refocus their attention (Masini et al., 2020). Furthermore, classroom management techniques, such as utilising visual cues or timers to signal when movement breaks occur, help establish consistency and structure in implementing these strategies (Martin & Murtagh, 2017).

Successful implementation of movement breaks in educational settings depends on various factors. Teacher training programs that provide educators with knowledge and practical strategies for integrating movement into the curriculum play a crucial role in facilitating implementation (Donnelly et al., 2016). Moreover, creating a supportive classroom environment that fosters physical activity and encourages student participation enhances the effectiveness of movement break interventions (Webster et al., 2015). Additionally, collaboration between teachers, administrators, and other stakeholders can promote a whole-school approach to incorporating movement breaks, ensuring consistency and sustainability.

2.8 Potential Challenges and Limitations

Despite the numerous benefits of implementing movement breaks in the classroom, several challenges and limitations exist that educators should consider. One potential drawback is the disruption to the flow of instruction and learning activities when integrating movement breaks into the daily timetable (Chou, & Huang, 2017). Teachers may face difficulties in effectively managing transition times and ensuring that movement activities do not detract from instructional time. Moreover, logistical constraints, such as limited space or equipment availability, may pose challenges to implementing certain types of physical activities in the classroom (Blackburn, et al., 2020). Additionally, resistance from stakeholders, including

administrators, parents, or colleagues, who may perceive movement breaks as non-essential or disruptive, can hinder implementation efforts (Martin & Murtagh, 2017).

Furthermore, existing research on the impact of movement breaks in educational settings has several limitations. Many studies lack rigorous experimental designs, relying on self-report measures or observational data, which may introduce bias and limit the generalisability of findings (Daly-Smith et al., 2020). Additionally, the majority of research focuses on short-term outcomes, such as immediate changes in attention or behaviour, with limited evidence on the long-term effects of sustained implementation of movement breaks on academic achievement and health outcomes (Norris et al., 2015).

2.9 Individual Differences

The effectiveness of movement breaks on attention may be influenced by various individual factors, including age, gender, and cognitive abilities. Research suggests that younger children may benefit more from movement breaks due to their higher energy levels and shorter attention spans (Hillman et al., 2014). Additionally, gender differences in physical activity preferences and attentional processes may impact the response to movement breaks, with some studies suggesting that boys may show greater improvements in attention following physical activity interventions compared to girls (Biddle et al., 2011). Furthermore, individual variations in cognitive abilities, such as working memory capacity and executive function, may moderate the effects of movement breaks on attention, with individuals with lower cognitive abilities potentially deriving greater benefits from physical activity interventions (Pesce, 2012).

Understanding these individual differences is essential for tailoring movement break interventions to meet the diverse needs of students in educational settings. By considering factors such as age, gender, and cognitive abilities, educators can optimise the design and implementation of movement breaks to maximise their effectiveness in enhancing attention and cognitive functioning.

2.10 Long-term Effects and Sustainability

Research on the long-term impact of regular movement breaks on student attention and academic outcomes suggests promising results. Longitudinal studies have indicated that sustained participation in physical activity interventions, including regular movement breaks, is associated with improvements in attentional control, academic achievement, and overall cognitive function over time (Pesce & Ben-Soussan, 2016). For instance, a study by van den

Berg et al. (2017) found that children who participated in a physical activity program involving regular movement breaks showed sustained improvements in attention and academic performance compared to a control group.

However, the sustainability of implementing movement breaks in educational settings poses challenges. While initial enthusiasm and support from teachers and administrators may facilitate the integration of movement breaks into the school day, maintaining consistency and adherence to these interventions over the long term requires ongoing commitment and resources (Webster et al., 2017). Furthermore, competing demands on instructional time and limited access to trained personnel or appropriate facilities may hinder the sustainability of movement break initiatives in some schools (Daly-Smith et al., 2018).

Despite these challenges, prioritising the integration of movement breaks into the school culture and establishing supportive policies and practices can enhance sustainability. Collaborative efforts involving stakeholders at multiple levels, including educators, administrators, parents, and community members, are essential for fostering a holistic approach to promoting physical activity and optimising student outcomes in educational settings.

2.11 Practical Implications and Recommendations

Based on the literature review findings, several practical recommendations emerge for educators and policymakers seeking to incorporate movement breaks into the curriculum effectively. Firstly, educators should receive comprehensive training on the benefits and implementation strategies of movement breaks to ensure they are equipped with the necessary knowledge and skills (Carlson et al., 2017). This training should emphasise the importance of integrating movement breaks seamlessly into daily routines and provide educators with a variety of movement-based activities to accommodate diverse student needs and preferences (Robinson et al., 2015).

Secondly, policymakers and school management play a crucial role in supporting the integration of movement breaks into schools by establishing supportive policies and allocating resources for physical activity initiatives (Lee, and Welk, 2021). This may include providing funding for equipment and facilities, as well as incorporating physical activity guidelines into educational standards and curriculum frameworks (Sallis et al., 1997).

Furthermore, educators should collaborate with other stakeholders, such as parents and community organisations, to promote a culture of physical activity both inside and outside the

classroom. By fostering partnerships and engaging in ongoing communication, educators can reinforce the importance of movement breaks and encourage consistent participation among students.

In conclusion, the literature review findings underscore the potential of movement breaks to enhance student attention and academic outcomes in educational settings. By implementing evidence-based strategies and fostering a supportive environment, educators and policymakers can effectively integrate movement breaks into the curriculum, promoting both physical and cognitive health among students. Furthermore, the findings of the literature review highlight the importance of considering student perspectives as stakeholders in the process of integrating movement breaks into the curriculum. By incorporating student input and fostering collaboration among educators, policymakers, and community members, schools can create a supportive environment that promotes both physical and cognitive health among students.

Chapter 3: Methodology

3.1 Introduction

This chapter outlines and justifies the key elements of the research process for investigating the perceived effect of movement breaks on children's attention levels in the classroom. It begins with the research paradigm, adopting a pragmatic stance that allows for the integration of both quantitative and qualitative methods. The mixed-methods methodology is then detailed, explaining how it facilitates a comprehensive analysis of the research problem. The approach section describes the structured use of surveys and semi-structured interviews, providing both breadth and depth in data collection. Following this, the research methods are discussed, justifying the choice of questionnaires and interviews over other methods. The sampling and participants section outlines the purposive sampling strategy used to select relevant participants and provides demographic details. Data analysis techniques are described, combining statistical analysis for quantitative data and thematic analysis for qualitative data. The chapter also addresses rigour, highlighting measures to ensure the quality and trustworthiness of the research, such as reflexivity and triangulation. Limitations of the study are acknowledged, emphasising issues of generalisability and potential biases. Finally, ethical issues are discussed, detailing adherence to ethical guidelines and procedures for ensuring participant confidentiality and data protection. Each section is grounded in key literature, explaining why specific approaches were preferred over others.

3.2 Research Paradigm

Adopting a pragmatic stance, this research is designed to effectively address the central research questions. Pragmatism, as a research paradigm, focuses on using methods that are most effective in achieving the research objectives, allowing for flexibility in the selection of both qualitative and quantitative methods (Ivankova & Plano Clark, 2018). This approach rejects the dichotomy between objectivity and subjectivity, facilitating a comprehensive understanding of the phenomena under investigation. Pragmatism aligns well with mixed-methods research, which is particularly suited to exploring complex issues like the student perspective of the impact of movement breaks on their attention levels in the classroom. By integrating quantitative data from surveys and qualitative insights from interviews, this study benefits from the strengths of both approaches, ensuring a more nuanced and robust analysis (Johnson & Onwuegbuzie, 2004).

3.3 Methodology

A mixed-methods approach, rooted in pragmatism, was chosen for this study. This methodology involves collecting both quantitative data, which is measurable, and qualitative data, which can be interpreted (Creswell & Creswell, 2017). The decision to use mixed methods is justified by the need to capture both the breadth and depth of the research topic. Quantitative data provides a broad overview of students' perception of movement breaks on their attention levels in the classroom while qualitative data gathered through semi structured interviews offers deeper insights into students' experiences and perceptions. The combination of these methods allows for a comprehensive analysis, addressing both the 'what' and 'why' questions related to the research problem. Theoretical support for mixed-methods research is found in its ability to triangulate data, thus enhancing the validity and reliability of the findings (Tashakkori & Teddlie, 2010).

3.4 Approach

The structured approach of combining surveys and semi-structured interviews provides a balanced framework for data collection. Surveys offer a standardised method for gathering quantitative data from a larger sample, ensuring that the results are generalisable to a broader population (Bryman, 2016). This will provide insight into the student's perception of the efficacy of movement breaks on their attention in the classroom. Semi-structured interviews, on the other hand, allow for flexibility and depth, enabling participants to express their thoughts and experiences in their own words. These interviews will allow for a deeper understanding as to why the students have their perception on the efficacy of movement breaks. This dual approach is particularly effective for this study, as it captures both numerical data on the perceived efficacy of movement breaks on attention levels and detailed qualitative insights into why students have these perceptions of movement breaks. This structure supports the research objectives and facilitates systematic planning and execution of the study (Cohen, Manion, & Morrison, 2017).

3.5 Research Methods

The primary research methods used in this study are questionnaires and semi-structured interviews. Questionnaires were selected for their ability to collect quantitative data efficiently from a large number of participants. They were designed to measure students' perception of the efficacy of movement breaks on attention levels using a Likert scale to quantify their responses. The questionnaire was developed to investigate the perceptions that students held

regarding movement breaks. The questions related to both the effect of movement breaks on attention levels and the practicality of implementing them in a classroom setting. The Questionnaire was developed using pre-existing scales such as the Likert scale to increase its reliability and validity (Oppenheim, 2000). As a mixed method approach was chosen for this research, semi-structured interviews were chosen to gather qualitative data. These interviews will be used to provide a deeper understanding of students' perspectives on movement breaks. The interview questions were designed to explore students' experiences, perceptions, and suggestions regarding movement breaks in the classroom. These interviews allowed for the exploration of themes that emerged from the quantitative data, providing a richer and more comprehensive understanding of the research topic (Kvale & Brinkmann, 2009).

3.6 Sample and Participants

A stratified random sampling method was selected. The population was split into strata based on the year group they belonged to. From these groups participants were then randomly selected. This method was selected to ensure that participants had relevant experiences and insights related to the research topic. The sample size was set at 20 to comply with guidelines as stated by Hibernia College. The sample consisted of 5 students from four different year groups (1st year, 2nd year, Transition year, 5th year) to control for any bias of results based on age. Gender bias was also mitigated by implementing quotas, male and female participants were represented equally (10 Female – 10 Male). From the 53 responses that were received about taking part in the study randomised selection was used to fill the 20 places of participants to the aforementioned criteria. This method was chosen over random sampling to control for gender and age bias in the results and to increase the generalisability of the research to a broader context. When selecting the participants to take part in the semi-structured interviews purposeful sampling was used among the sample of 20 participants to ensure a greater depth of insight into the student perspective (Palinkas et al., 2015). The interview participants were selected based on their level of language acquisition and ability to articulate their opinions and feelings. Again, the interview participants were controlled for gender bias by selecting one female and one male participant to take part in the interviews.

3.7 Data Analysis

Data analysis involved two main processes: statistical analysis for the quantitative data and thematic analysis for the qualitative data. Quantitative data from the questionnaires were analysed using descriptive statistics, such as frequency distributions and measures of central

tendency, to summarise the students' perceptions of movement breaks, their level of impact on attention levels, and the practicality of using them in the classroom. Statistical software SPSS was used to conduct these analyses, ensuring accuracy and reliability (Field, 2013). Qualitative data from the interviews were analysed using thematic analysis, a method that involves identifying, analysing, and reporting prominent themes or patterns which appear within the data. This process included coding the data, generating initial themes, reviewing, and refining themes, and defining and naming themes (Braun & Clarke, 2006). The combination of these analytical methods provided a comprehensive understanding of the research findings, aligning with the mixed-methods approach.

3.8 Rigour

Maintaining rigour in research involves ensuring the quality and trustworthiness of the data collection and analysis processes. In this study, several measures were taken to ensure rigour. Interviews were audio-recorded and transcribed verbatim to capture accurate data. Reflexivity was mitigated using a reflective practice, where the researcher used prompts to reduce personal biases throughout the research process. This practice helped to mitigate the influence of researcher bias on the study's findings (Finlay, 2002). Triangulation was achieved by combining quantitative and qualitative data, enhancing the credibility and trustworthiness of the research outcomes (Turner, Cardinal, & Burton, 2017).

3.9 Limitations

Several limitations of this study must be acknowledged. The small-scale nature of the investigation limits the generalisability of the findings. The purposive sampling method, while suitable for the research objectives, may introduce selection bias, affecting the representativeness of the sample. Additionally, the reliance on self-reported data from questionnaires and interviews may be subject to response bias, where participants might provide socially desirable answers (Patton, 2002). Despite these limitations, the study provides valuable insights into the perceived effect of movement breaks on children's attention levels in the classroom, offering practical recommendations for educators and laying the groundwork for future research.

3.10 Ethical Issues

This study received ethical approval from the Hibernia College institutional review board prior to commencement. The research was conducted in strict adherence to the British Educational

Research Association (BERA) guidelines (2018), ensuring the highest standards of ethical practice were maintained throughout.

Firstly, informed consent was paramount. Participants were provided with detailed information about the research's purpose, procedures, and their right to withdraw at any time without penalty. Consent forms were signed by all participants, ensuring they were fully aware of their involvement and the voluntary nature of their participation. Anonymity and confidentiality were rigorously upheld. Participants' identities were protected by assigning unique codes instead of using real names. This practice ensured that individual responses could not be traced back to specific students, thereby protecting their privacy. Data were securely stored in compliance with Hibernia College data protection policies and General Data Protection Regulation (GDPR) guidelines, ensuring that only the research team had access to the information.

The ethical management of data included the safe storage of all materials. Digital data were encrypted and stored on password-protected devices, while physical data were kept in locked cabinets. This approach ensured that the data remained secure and confidential throughout the study. While the study did not involve actual physical activities, it was essential to consider the potential impact of discussing these activities on the students' well-being. Therefore, the interviews were conducted in a manner that was sensitive to the students' comfort and readiness to discuss their perceptions. In line with BERA (2018) guidelines, special attention was given to the removal of identifiers in the final reporting of the study. Pseudonyms were used in place of actual names, and any identifying details were omitted or altered to protect participants' identities further.

Overall, the ethical considerations of this research were meticulously planned and executed, ensuring that the study was conducted with the utmost respect for the participants' rights and well-being. These measures in compliance with ethical guidelines hope to enhance the credibility and integrity of the research findings.

3.11 Conclusion

In conclusion, this methodology chapter has comprehensively outlined the research paradigm, methodology, approach, research methods, sampling and participants, data analysis, rigour, limitations, and ethical issues associated with the study. The adoption of a pragmatic, mixed-methods approach allows for a detailed and holistic understanding of the perceived effect of movement breaks on children's attention levels in the classroom. By integrating both

quantitative and qualitative data, this research leverages the strengths of each method to provide a robust analysis. The rigorous methodological framework, encompassing careful planning and systematic execution, ensures the validity and reliability of the findings. This, in turn, enhances the credibility of the research outcomes. The detailed consideration of sampling methods and ethical issues ensures that the study is both ethically sound and contextually relevant. Ultimately, this research contributes valuable insights into the student perspective of the use of movement breaks in the classroom. This research hopes to offer practical recommendations for educators. By examining how students perceive movement breaks and the impact on their attention and engagement, this study hopes to provide a base to inform evidence-based strategies that can be readily implemented in classroom settings. Furthermore, as discussed in the literature review the importance of incorporating physical activity into daily routines to support cognitive and academic development cannot be understated. This research not only addresses a significant gap in the existing literature by aiming to investigate the student perspective but also paves the way for future studies to build upon its findings, fostering a more dynamic and effective learning environment for students.

Chapter 4: Findings

4.1 Introduction

This chapter presents the detailed findings from the research on the perceived effect of movement breaks on children's attention levels in the classroom. The data collected from both quantitative questionnaires and qualitative semi-structured interviews are analysed and presented in a structured manner. This chapter aims to illustrate the results clearly and systematically, using tables, figures, and thematic analysis to convey the key findings.

4.2 Quantitative Data Analysis

The quantitative data were collected through questionnaires administered to 20 students. The sample consisted of 5 students from four different year groups (1st year = Students 1-5, 2nd year = Students 6-10, Transition year = Students 11-15, 5th year Students 16-20) to control for any bias of results based on age. Gender bias was also mitigated by implementing quotas, male and female participants were represented equally (10 Female – 10 Male). The questionnaire responses were measured on a Likert scale from 1 (strongly disagree) to 5 (strongly agree) to gauge students' perceptions of movement breaks.

Calculation of Mean and Standard Deviation:

To analyse the quantitative data collected from the 20 students, the mean and standard deviation were calculated for each questionnaire statement.

Mean Calculation: Here x represents the responses and n is the total number of responses ($n=20$). The mean (average) for each question was calculated by summing all the individual responses and dividing by the total number of respondents. The formula for the mean is:

$$\text{Mean}(\mu) = \frac{\sum x}{n}$$

Standard Deviation Calculation: Here μ is the mean of the responses used from the previous calculation, and x is each individual response. Again, n represents the total number of responses ($n=20$). The standard deviation measures the amount of variation or dispersion in the responses. It is calculated using the following formula:

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x - \mu)^2}{n}}$$

Questionnaire Results:

Student	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1	4	4	4	4	4	4	4	4	4
2	4	4	5	4	4	5	4	4	5
3	5	5	5	5	5	5	5	5	5
4	4	3	4	4	3	4	4	3	4
5	4	4	5	4	4	5	4	4	5
6	4	3	4	3	4	4	4	3	3
7	3	4	3	4	3	3	3	4	4
8	5	4	4	5	4	4	5	4	4
9	4	4	4	4	4	4	4	4	4
10	4	4	4	4	4	4	4	4	4
11	4	4	4	4	4	4	4	4	4
12	4	4	4	4	4	4	4	4	4
13	4	4	4	4	4	4	4	4	4
14	4	5	5	4	4	4	5	4	5
15	5	4	4	5	5	5	4	5	4
16	4	4	4	4	4	4	4	4	4
17	4	3	3	4	3	3	4	3	3
18	4	4	4	4	4	4	4	4	4
19	4	4	5	4	4	5	4	4	5
20	4	4	4	4	4	4	4	4	4

Table 1: Entirety of questionnaire results

Relevance to the Study:

The mean provides a central value that represents the overall trend of student responses, indicating general perceptions and experiences regarding movement breaks. Higher means suggest positive perceptions and perceived benefits, while lower means indicate areas for improvement.

The standard deviation indicates how much the responses vary from the mean. A small standard deviation suggests that the responses are clustered closely around the mean, indicating

agreement among students. A larger standard deviation signifies greater variability, suggesting differing opinions or experiences.

Together, these statistical measures offer a clear, quantitative summary of the data, helping to identify patterns and assess the consistency of student perceptions. This is crucial for understanding the effectiveness and practicality of movement breaks in the classroom setting.

Student Perception of Movement Breaks

The data in Table 2 shows the means and standard deviations calculated from the questions that related to student perception of movement breaks. The means shown are consistently above 4, with standard deviations around 0.5, indicating similar positive perceptions across these aspects. The slight variations in mean values and standard deviations suggest minor differences in how students perceive each aspect of movement breaks.

Statement	Mean	Standard Deviation
I think Movement breaks would be enjoyable.	4.2	0.52
I would look forward to movement breaks.	4.1	0.55
Movement breaks would make the classroom more fun.	4.35	0.59

Table 2: Student Perception of Movement Breaks (Questions 1-3)

Perceived Efficacy of Movement Breaks on Attention

The data in Table 3 illustrates the calculated mean and standard deviation of student's perceptions of movement breaks in improving their attention and focus. The means for attention-related questions are also above 4, with standard deviations similar to the previous set of questions. This reflects a consistent positive perception among students. The close alignment of these means and standard deviations with those in the previous table suggests a uniformity in student responses across different aspects of the study.

Statement	Mean	Standard Deviation
I think Movement breaks would help me pay more attention to instructions.	4.2	0.52
I would feel more focused on my tasks after a movement break.	4.1	0.55
Movement breaks could help me remember more.	4.35	0.59

Table 3: Perceived Efficacy of Movement Breaks on Attention (Questions 4-6)

Practicality of Movement Breaks in the Classroom

Table 4 shows the calculated mean and standard deviation as calculated from the results of the questions related to the practicality of movement breaks being used in the classroom. The means for practicality questions are above 4, with standard deviations slightly lower than those in the previous tables, particularly for disruptiveness. The similarity in mean values indicates positive perceptions across all practicality aspects, while the smaller standard deviation for disruptiveness suggests a more consistent agreement among students on this particular point. The overall consistency across tables highlights a general uniformity in student perceptions regarding movement breaks.

Statement	Mean	Standard Deviation
I think Movement breaks are easy to use.	4.15	0.49
I think movement breaks do not disrupt the class.	4.05	0.39
I think Movement Breaks should be part of our daily routine.	4.2	0.52

Table 4: Practicality of Movement Breaks in the Classroom (Questions 7-9)

Critical Analysis of Quantitative Data

The quantitative data reveals a strong positive perception of movement breaks among students. The perceived efficacy of movement breaks on attention is supported by high mean scores, indicating that students believe these breaks help them focus better inside the classroom. Additionally, the practicality of movement breaks is affirmed by students, who believe them to be easy to implement and beneficial to their daily routine. While there is a slight concern about potential disruptions, indicated by the marginally smaller mean value and smaller standard deviation, the overall perception is that movement breaks are a valuable and effective tool for enhancing attention in the classroom.

4.3 Qualitative Data Analysis

Thematic analysis was employed to scrutinise the qualitative data derived from semi-structured interviews with two students. Student one is a second-year male student and Student two is a fifth-year female student. The process of thematic analysis involved reviewing the interview transcripts and identifying recurring themes and patterns within the responses. These themes and patterns hope to offer valuable insights into the students' perceptions of movement breaks in the classroom. Thematic analysis allows for a systematic exploration of qualitative data, enabling researchers to uncover underlying themes that may inform the research objectives and contribute to a richer understanding of the phenomenon under investigation. From the thematic analysis conducted three prominent themes emerged from both interviews.

Theme 1: Enhanced Focus and Engagement

Both students consistently expressed how movement breaks could positively impact their focus and engagement during lessons. Student one articulated the difficulties in maintaining attention amidst prolonged periods of sitting: "Sometimes, it's hard to focus on what the teacher is saying because I just want to move around." He elaborated on the potential benefits of incorporating breaks for movement: "A short break to stretch or move would probably help me feel more awake." Similarly, student two echoed these sentiments, emphasising the ongoing struggle to remain engaged with the material: "It's challenging to stay engaged with the material." She proposed that integrating movement breaks could provide a mental refreshment, facilitating improved concentration: "A movement break would probably refresh my mind and make it easier to concentrate." These insights underscore the potential significance of movement breaks in enhancing students' focus and engagement in the classroom, highlighting the importance of considering students' perspectives in educational interventions.

Theme 2: Improved Physical Well-Being

Both students emphasised the significant physical benefits associated with incorporating movement breaks into the classroom routine. Student one reflected on the positive sensations derived from physical activity: "It feels good to stretch and get the blood flowing." He articulated the potential long-term benefits of regular movement breaks: "If we did that regularly, I think I'd feel less tired and more energetic throughout the day." This perspective underscores the potential of movement breaks to counteract the physical toll of prolonged sitting, promoting vitality and well-being. Echoing these sentiments, student two elaborated on the discomfort induced by extended periods of sitting: "Sitting for too long makes my body feel stiff and uncomfortable." She highlighted the importance of movement in alleviating physical discomfort: "Stretching or moving around would make me feel healthier and more energetic." By emphasising the rejuvenating effects of movement breaks, student two underscored their potential to enhance overall physical well-being and mitigate the adverse effects of sedentary behaviour on the body. These insights shed light on the multifaceted benefits of movement breaks beyond cognitive enhancement, highlighting their potential to promote physical health and vitality among students. By incorporating regular opportunities for movement, educators can support students' holistic well-being and create a more conducive learning environment. Thus, these perspectives underscore the importance of integrating physical activity into the classroom routine to optimise student health and engagement.

Theme 3: Positive Classroom Atmosphere and Community

Both students reflected on the potential transformative impact of introducing movement breaks on the classroom atmosphere. Student one highlighted the potential for fostering camaraderie and cooperation among classmates: "Doing something active together could make us feel more like a team." He emphasised the potential of collective physical activity to enhance social cohesion and interpersonal relationships within the classroom environment. Student one further articulated the anticipated benefits: "It could help us get along better and make the class feel more cooperative." Similarly, student two echoed these sentiments, envisioning movement breaks as a catalyst for unity and support within the classroom: "It could make the classroom feel more united and supportive." By emphasising the potential for movement breaks to cultivate a sense of community and mutual support, student two underscored their role in fostering a positive and inclusive classroom environment. These insights illuminate the transformative potential of movement breaks beyond individual well-being, highlighting their

capacity to foster a sense of belonging and collaboration among students. By integrating opportunities for collective physical activity, educators can cultivate a supportive and cohesive classroom environment conducive to learning and personal growth. Thus, these perspectives underscore the importance of considering the broader social dynamics within the classroom when implementing movement breaks as an educational intervention.

Critical Analysis of Qualitative Data

The qualitative findings resonate with the quantitative results, with strong correlation in themes between both interviews reflecting the unified results of the quantitative data represented by the overall small standard deviation values. The thematic analysis offers deeper insights into how movement breaks influence students' attention and engagement. The themes of enhanced focus, improved physical well-being, and a positive classroom atmosphere underscore the potential of movement breaks to not only enhance attention levels but also foster a more enjoyable and productive learning environment. These findings reflect the overarching theme of positive perceptions when considering students' perception of movement breaks in the classroom.

Integration of Quantitative and Qualitative Data

The integration of quantitative and qualitative data provides a comprehensive understanding of the impact of movement breaks. The quantitative data shows a statistically significant positive predisposition of students towards movement breaks and their improvement on attention levels, while the qualitative data provided by the semi-structured interviews offers rich, detailed accounts of students' experiences and perceptions. Together, these findings paint a holistic picture of how students perceive movement breaks to benefit them in multiple dimensions.

4.4 Conclusion

The overall findings indicate a positive perception regarding the effect of movement breaks on attention levels in the classroom. The quantitative data demonstrate a clear positive perception of movement breaks, their effect on attention, and their applicability to the classroom environment. The qualitative data provides valuable and deeper insight into students' perception and has indicated a theme of classroom atmosphere and community which was not included in the questionnaire. These findings and their implication will be further discussed in the following discussion chapter.

Chapter 5: Discussion

5.1 Introduction

The purpose of this study was to investigate the perceived impact of movement breaks on children's attention levels in the classroom from a student perspective. By exploring how students perceive the benefits and practicality of movement breaks, this research aims to provide insights that could enhance educational practices and contribute to the creation of more effective learning environments. The research questions focused on understanding student perceptions of movement breaks, their perceived efficacy in enhancing attention, and their practicality within the classroom setting. This chapter will discuss the findings critically in relation to these research questions and the existing literature reviewed in previous chapters. The chapter is structured as follows: an interpretation of the quantitative findings, an interpretation of the qualitative findings, an integration of both sets of data, a critical analysis in relation to the literature, an exploration of themes requiring further research, and a concluding summary of the key findings and their implications.

5.2 Interpretation of Quantitative Findings

Student Perception of Movement Breaks

The quantitative data revealed that students generally had a positive perception of movement breaks. The mean score for the question on whether students believed movement breaks would help them focus better was 4.1 out of 5, with a standard deviation of 0.55. This indicates a strong overall agreement among students, with relatively low variability in responses. Compared to existing literature, such as studies by Mahar et al. (2006), which also highlight positive student attitudes towards physical activity breaks, the findings align well, reinforcing the notion that students recognise the potential benefits of such breaks. However, it is noteworthy that while the majority of students expressed positive perceptions, a small minority rated this potential benefit lower. This anomaly could be due to individual differences in learning preferences or previous experiences with movement breaks. It underscores the importance of considering varied student needs when implementing such interventions.

Perceived Efficacy of Movement Breaks on Attention

The data also showed that students believed movement breaks could improve their attention levels towards instructions received during class. The mean score for this question was 4.2,

with a standard deviation of 0.52. This suggests a high level of perceived efficacy among students, these results correspond with their general perception of movement breaks. This aligns with cognitive performance literature, such as Hillman et al. (2014), which suggests that physical activity can enhance cognitive functions, including attention. Interestingly, very few students expressed uncertainty about the efficacy of movement breaks. This lack of concern might reflect the student's positive predisposition towards movement breaks and have influenced their perceptions about their impact. These responses highlight the need for educators to not only implement movement breaks but also educate students on their potential benefits to ensure broader acceptance and effectiveness.

Practicality of Movement Breaks in the Classroom

Regarding the practicality of movement breaks, the mean score was 4.05, with a standard deviation of 0.39. This indicates a general belief in the feasibility of incorporating movement breaks, though with more variability compared to other questions. This question also had the lowest mean score of all the questions. This variability could stem from concerns about classroom management, scheduling, or the nature of specific academic tasks. Students who viewed movement breaks as less practical might be concerned about disruptions to the learning process or the challenge of integrating these breaks seamlessly into the school day. These concerns by the students are not unfounded as it has been reported in a minority of the literature (Chou, & Huang, 2017). This finding is critical for educators and policymakers, suggesting that while movement breaks are generally perceived positively, their implementation needs careful planning to address logistical concerns and ensure they are effectively integrated into the classroom routine.

5.3 Interpretation of Qualitative Findings

Enhanced Focus and Engagement

The qualitative data from the semi structured interviews provided deeper insights into how students perceive the impact of movement breaks on their focus and engagement. Both students interviewed mentioned that movement breaks could help them feel more alert and attentive during lessons. Student one stated, "Sometimes, it's hard to focus on what the teacher is saying because I just want to move around. A short break to stretch or move would probably help me feel more awake." Similarly, student two mentioned, "It's challenging to stay engaged with the material. A movement break would probably refresh my mind and make it easier to concentrate." These comments support the quantitative data indicating that students believe

movement breaks can enhance their attention. They also align with studies by Mahar et al. (2006) and Riley et al. (2017), which emphasise the cognitive benefits of physical activity breaks. The student testimonials underscore the practical benefits of movement breaks in maintaining student engagement, suggesting that they can be a valuable tool for improving focus in the classroom.

Improved Physical Well-Being

Students also emphasised the physical benefits of movement breaks. Student one stated, "It feels good to stretch and get the blood flowing. If we did that regularly, I think I'd feel less tired and more energetic throughout the day." Echoing this sentiment, student two commented, "Sitting for too long makes my body feel stiff and uncomfortable. Stretching or moving around would make me feel healthier and more energetic, which would be great for overall well-being." These insights highlight the importance of considering physical well-being in educational settings. The qualitative data align with research on the benefits of physical activity for physical health (Howie and Pate, 2012). Students' emphasis on the physical benefits suggests that movement breaks could play a crucial role in promoting overall well-being, which is essential for both physical health and academic performance.

Positive Classroom Atmosphere

The potential for movement breaks to foster a positive classroom atmosphere was another recurring theme which was unanticipated by the research. Student one noted, "Doing something active together could make us feel more like a team. It could help us get along better and make the class feel more cooperative." Student two shared, "It could make the classroom feel more united and supportive." These comments suggest that movement breaks could enhance social interactions and create a more positive and collaborative classroom environment. This finding aligns with literature on the social benefits of group physical activities, which can improve classroom dynamics and reduce stress (Mullender-Wijnsma et al., 2015) (Webster et al., 2015). The qualitative data underscore the potential of movement breaks to not only improve individual student outcomes but also enhance the overall classroom experience.

5.4 Integration of Quantitative and Qualitative Findings

The integration of quantitative and qualitative findings provides a comprehensive understanding of the perceived impact of movement breaks. Both sets of data indicate that students generally perceive movement breaks as beneficial for enhancing focus and

engagement, improving physical well-being, and fostering a positive classroom atmosphere. However, the qualitative data add depth to the quantitative findings by providing specific examples and personal experiences that highlight how movement breaks might be beneficial. For instance, while the quantitative data show general agreement by students on the benefits of movement breaks, the qualitative data reveal the underlying reasons for these perceptions, such as feeling more awake, less tired, and more cooperative amongst their peers within the classroom. There are also some discrepancies between the two data sets. For example, while the quantitative data suggest some very small variability in perceptions of practicality, the qualitative data provide insights into specific concerns regarding this matter, such as potential disruptions to the learning process. These discrepancies highlight the importance of using mixed methods to gain a holistic understanding of the student perspective which was set out by this research.

5.5 Critical Analysis in Relation to Literature

Recurring Themes

Several key themes emerged consistently from both the quantitative and qualitative data, including enhanced focus and engagement, improved physical well-being, and a positive classroom atmosphere. These themes align with existing literature on the benefits of physical activity in educational settings. For example, studies by Hillman et al. (2014) and Mahar et al. (2006) support the notion that physical activity can enhance cognitive functions and promote well-being.

Exceptional Points in the Data

There were some exceptional points in the data, such as the variability in student perceptions of the practicality of movement breaks. While most students viewed movement breaks positively, a minority expressed concerns about their implementation. These exceptional points suggest that while movement breaks have potential benefits, their implementation needs to be carefully planned to address concerns about disruptions and practicality. This aligns with studies addressed in the literature review that emphasise the need for teacher training in integrating movement into the curriculum (Donnelly et al., 2016).

Policy and Practice Implications

The findings of this study have important implications for educational policy and practice. The positive perceptions of movement breaks suggest that they could be a valuable tool for

enhancing student engagement and well-being. It has also addressed a gap in the literature which identifies students as key stakeholders in this process of implementation. Educators and policymakers should consider integrating movement breaks into the school day to promote a more active and engaging learning environment as they represent a key support system within the school community (Lee, and Welk, 2021). However, careful planning is necessary and inclusion of all stakeholders, including students must occur to ensure that movement breaks are practical and do not disrupt the learning process.

Contrasts with Literature

While the findings of this study generally align with existing literature, there are some contrasts. For example, the variability in student perceptions of practicality contrasts with studies that emphasise the feasibility of integrating physical activity into the classroom (Mahar et al., 2006). This contrast suggests that further research is needed to explore the specific factors that influence the practicality of movement breaks in different educational settings and whether the reported feasibility is seen through the perspective of the teacher or the student.

5.6 Themes Requiring Further Research

Several themes identified in this study require further research. For example, while the physical and cognitive benefits of movement breaks are well supported by existing literature, the social benefits, such as improved classroom atmosphere, need further exploration. Additionally, the variability in student perceptions of practicality suggests that more research is needed to identify the best practices for implementing movement breaks in different educational contexts. Further research should also explore the long-term effects of movement breaks on student engagement, well-being, and academic performance. Longitudinal studies such as Pesce & Ben-Soussan, (2016) could provide valuable insights into how movement breaks impact students over time and inform the development of evidence-based interventions. However, more research is needed to form a clearer picture of the sustainability of movement breaks and the best implementation of them.

5.7 Conclusion

In conclusion, this study provides valuable insights into student perceptions of movement breaks and their potential impact on attention, well-being, and classroom atmosphere. The findings suggest that movement breaks are generally perceived positively by students and have the potential to enhance educational outcomes. However, the variability in perceptions of

practicality highlights the need for careful planning and implementation. The integration of quantitative and qualitative data provides a comprehensive understanding of the research problem and underscores the value of using mixed methods. While the findings align with existing literature in many respects, they also highlight areas where further research is needed. This study contributes to the growing body of knowledge on the benefits of physical activity in educational settings and provides practical recommendations for educators and policymakers. It also recognises its limitations in respect of the size of the research conducted. It is the hope of this research that by incorporating movement breaks into the school day, educators can create a more active, engaging, and supportive learning environment that promotes both cognitive and physical well-being. Future research should continue.

Chapter 6: Conclusion

6.1 Introduction

This chapter synthesises the key findings and interpretations from the research study investigating the perceived effect of movement breaks on student attention levels in the classroom. The study aimed to explore student perceptions of movement breaks, their efficacy on attention, and the practicality of implementing such breaks in a classroom setting. By employing a mixed-methods approach, the research provided a comprehensive understanding of these aspects from both quantitative and qualitative perspectives.

6.2 Summary of Findings

The quantitative data revealed several significant insights. The analysis showed that students generally perceived movement breaks positively, with a mean score indicating a favourable attitude toward incorporating physical activity into their daily routine. The standard deviation suggested some variability in responses, highlighting differing individual preferences and needs. The perceived efficacy of movement breaks on attention was also supported by the data, with students expressing that such breaks would likely help them stay focused and engaged during lessons. The practicality of implementing movement breaks in the classroom was viewed favourably, although there were considerations regarding classroom management and time constraints.

Qualitative data from semi-structured interviews with two students further enriched these findings. The thematic analysis identified three key themes: enhanced focus and engagement, improved physical well-being, and a positive classroom atmosphere. Students reported that movement breaks could help them feel more awake and attentive, reduce feelings of tiredness and stiffness, and foster a more cooperative and enjoyable classroom environment.

6.3 Critical Discussion

The findings align with existing literature on the benefits of physical activity for cognitive function and attention. Studies such as Hillman et al. (2014) and Mahar et al. (2006) have demonstrated the positive impact of movement on cognitive performance, supporting the quantitative data that students perceive movement breaks as beneficial for maintaining focus.

The qualitative themes of enhanced focus and engagement are consistent with these studies, emphasising the potential of movement breaks to improve attentional capacities.

The improved physical well-being theme also resonates with existing research on the health benefits of regular physical activity. Students' comments about feeling healthier and more energetic after movement breaks echo findings from Riley et al. (2017), who highlighted the importance of physical activity for overall well-being. This reinforces the notion that movement breaks can contribute positively to students' physical health, which in turn can enhance their academic performance.

The theme of a positive classroom atmosphere suggests that movement breaks could improve social interactions and create a more supportive learning environment. This finding aligns with studies on classroom dynamics, which suggest that physical activities can foster a sense of community and cooperation among students. However, it is important to note that while the qualitative data provide rich insights, the small sample size limits the generalisability of these findings.

6.4 Limitations

Several limitations were identified in this study. The small sample size, particularly for the qualitative interviews, limits the generalisability of the findings (Daly-Smith et al., 2020). The study's reliance on self-reported data may also introduce biases, as students' perceptions and attitudes could be influenced by social desirability or other external factors. Additionally, the hypothetical nature of the movement breaks discussed in the interviews means that actual implementation effects were not observed, which could differ from the students' perceptions.

Despite these limitations, the study achieved its intended outcomes by providing valuable insights into student perceptions of movement breaks and their potential benefits. The mixed-methods approach allowed for a comprehensive exploration of the topic, combining quantitative data with qualitative narratives to offer a nuanced understanding of the research questions.

6.5 Recommendations

Based on the findings, several recommendations can be made:

Policy-Based Recommendation: Schools should consider integrating movement breaks into the daily schedule. Educational policies could mandate short, structured physical activities

between lessons or during lessons to enhance students' attention and overall well-being. This aligns with evidence suggesting that regular physical activity supports cognitive function and learning.

Practical-Based Recommendation: Teachers should be encouraged to incorporate movement breaks into their classroom routines. Practical strategies could include brief stretching exercises, dance activities, or quick outdoor walks. Training and resources should be provided to help teachers manage these breaks effectively and integrate them seamlessly into their lessons (Carlson et al., 2017).

Methodological Recommendation: Future research should expand the sample size and include a diverse range of participants to enhance the generalisability of the findings. Longitudinal studies could also be conducted to observe the actual effects of implemented movement breaks over time. Additionally, mixed-methods research should continue to be employed, as it provides a comprehensive understanding of both quantitative trends and qualitative experiences.

6.6 Conclusion

This study contributes to the growing body of evidence supporting the benefits of movement breaks in the classroom. By exploring student perceptions and integrating quantitative and qualitative data, the research highlights the potential of movement breaks to enhance attention, improve physical well-being, and create a positive classroom atmosphere. While limitations exist, the findings offer valuable insights for educators and policymakers, suggesting practical interventions that can be implemented to support students' learning and overall development. Future research should continue to explore this area, addressing the identified gaps and expanding our understanding of the role of movement breaks in the classroom and the effects they can have on attention.

References

- Anderson, C. A., & Dill, K. E. (2000). Video games and aggressive thoughts, feelings, and behaviour in the laboratory and in life. *Journal of personality and social psychology*, 78(4), p.772-790.
- Biddle, S.J. and Asare, M., (2011). Physical activity and mental health in children and adolescents: a review of reviews. *British journal of sports medicine*, 45(11), p.886-895.
- Blackburn, N.E., Wilson, J.J., McMullan, I.I., Caserotti, P., Giné-Garriga, M., Wirth, K., Coll-Planas, L., Alias, S.B., Roqué, M., Deidda, M. and Kunzmann, A.T., (2020). The effectiveness and complexity of interventions targeting sedentary behaviour across the lifespan: a systematic review and meta-analysis. *International Journal of Behavioural Nutrition and Physical Activity*, 17, p.1-18.
- Braniff, C., & Shields, N. (2018). Benefits of physical activity for attention and self-regulation in typical and atypical populations. *Journal of Sport and Health Science*, 7(4), p.393-401.
- Braun, V. and Clarke, V., (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), pp.77-101.
- Bryman, A., (2016). *Social research methods*. Oxford university press.
- Carlson, J.A., Engelberg, J.K., Cain, K.L., Conway, T.L., Geremia, C., Bonilla, E., Kerner, J. and Sallis, J.F., (2017). Contextual factors related to implementation of classroom physical activity breaks. *Translational behavioural medicine*, 7(3), p.581-592.
- Chaddock-Heyman, L., Erickson, K.I., Kienzler, C., Raine, L.B., Castelli, D.M. and Hillman, C.H., (2018). Physical activity increases white matter microstructure in children. *Frontiers in neuroscience*, 12, p.422-552.
- Cherry, E. C. (1953). Some experiments on the recognition of speech, with one and with two ears. *The Journal of the Acoustical Society of America*, 25(5), p.975-979.
- Cohen, L., Manion, L. and Morrison, K., (2017) Research design and planning. In *Research Methods in Education* (pp. 173-201). Routledge.
- Creswell, J.W. and Creswell, J.D., (2017) *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Daly-Smith, A., Quarmby, T., Archbold, V.S., Corrigan, N., Wilson, D., Resaland, G.K., Bartholomew, J.B., Singh, A., Tjomsland, H.E., Sherar, L.B. and Chalkley, A., (2020). Using a multi-stakeholder experience-based design process to co-develop the Creating Active Schools Framework. *International Journal of Behavioural Nutrition and Physical Activity*, 17, p.1-12.
- Daly-Smith, A.J., Zwolinsky, S., McKenna, J., Tomporowski, P.D., Defeyter, M.A. and Manley, A., (2018). Systematic review of acute physically active learning and classroom movement breaks on children's physical activity, cognition, academic performance, and classroom behaviour: understanding critical design features. *BMJ open sport & exercise medicine*, 4(1), p.e000341.
- Donnelly, J.E., Hillman, C.H., Castelli, D., Etner, J.L., Lee, S., Tomporowski, P., Lambourne, K. and Szabo-Reed, A.N., (2016). Physical activity, fitness, cognitive function, and academic

achievement in children: a systematic review. *Medicine and science in sports and exercise*, 48(6), p.1197.

Erickson, K.I., Voss, M.W., Prakash, R.S., Basak, C., Szabo, A., Chaddock, L., Kim, J.S., Heo, S., Alves, H., White, S.M. and Wojcicki, T.R., (2011). Exercise training increases size of hippocampus and improves memory. *Proceedings of the national academy of sciences*, 108(7), p.3017-3022.

Etnier, J. L., & Chang, Y. K. (2009). The effect of physical activity on executive function: A brief commentary on definitions, measurement issues, and the current state of the literature. *Journal of Sport and Exercise Psychology*, 31(4), p.469-483.

Field, A., (2013) *Discovering statistics using IBM SPSS statistics*. sage.

Finlay, L., (2002) Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qualitative research*, 2(2), pp.209-230.

Gazzaniga, M. S., Ivry, R. B., & Mangun, G. R. (2018). *Cognitive Neuroscience: The Biology of the Mind* (5th ed.). W. W. Norton & Company.

Hagins, M., Haden, S.C. and Daly, L.A., (2013). A randomised controlled trial on the effects of yoga on stress reactivity in 6th grade students. *Evidence-Based Complementary and Alternative Medicine*, 2013.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational psychologist*, 41(2), p.111-127.

Hillman, C.H., Pontifex, M.B., Castelli, D.M., Khan, N.A., Raine, L.B., Scudder, M.R., Drollette, E.S., Moore, R.D., Wu, C.T. and Kamijo, K., (2014). Effects of the FITKids randomised controlled trial on executive control and brain function. *Paediatrics*, 134(4), p.1063-1071.

Hillman, C.H., Pontifex, M.B., Castelli, D.M., Khan, N.A., Raine, L.B., Scudder, M.R., Drollette, E.S., Moore, R.D., Wu, C.T. and Kamijo, K., (2014). Effects of the FITKids randomised controlled trial on executive control and brain function. *Paediatrics*, 134(4), p.1063-1071.

Hillman, C. H., Pontifex, M. B., Raine, L. B., Castelli, D. M., Hall, E. E., & Kramer, A. F. (2009). The effect of acute treadmill walking on cognitive control and academic achievement in preadolescent children. *Neuroscience*, 159(3), p.1044-1054.

Howie, E.K. and Pate, R.R., (2012). Physical activity and academic achievement in children: A historical perspective. *Journal of sport and health science*, 1(3), p.160-169.

Ivankova, N.V. and Plano Clark, V.L., (2018) Teaching mixed methods research: using a socio-ecological framework as a pedagogical approach for addressing the complexity of the field. *International Journal of Social Research Methodology*, 21(4), pp.409-424.

Johnson, R.B. and Onwuegbuzie, A.J., (2004) Mixed methods research: A research paradigm whose time has come. *Educational researcher*, 33(7), pp.14-26.

Kvale, S. and Brinkmann, S., (2009) *Interviews: Learning the craft of qualitative research interviewing*. sage.

Lee, J.A., and Welk, G.J., (2021). Association between comprehensive school physical activity program implementation and principal support. *Health Promotion Practice*, 22(2), p.257-265.

- Mahar, M.T., Murphy, S.K., Rowe, D.A., Golden, J., Shields, A.T. and Raedeke, T.D., (2006). Effects of a classroom-based program on physical activity and on-task behaviour. *Medicine and science in sports and exercise*, 38(12), p.2086.
- Martin, R. and Murtagh, E.M., (2017). Effect of active lessons on physical activity, academic, and health outcomes: a systematic review. *Research quarterly for exercise and sport*, 88(2), p.149-168.
- Masini, A., Marini, S., Leoni, E., Lorusso, G., Toselli, S., Tessari, A., Ceciliani, A. and Dallolio, L., (2020). Active breaks: A pilot and feasibility study to evaluate the effectiveness of physical activity levels in a school-based intervention in an Italian primary school. *International journal of environmental research and public health*, 17(12), p.4351.
- McMorris, T., Tomporowski, P. and Audiffren, M. eds., (2009). *Exercise and cognitive function*. John Wiley & Sons.
- Mullender-Wijnsma, M.J., Hartman, E., de Greeff, J.W., Bosker, R.J., Doolaard, S. and Visscher, C., (2015). Moderate-to-vigorous physically active academic lessons and academic engagement in children with and without a social disadvantage: a within subject experimental design. *BMC Public Health*, 15(1), p.1-9.
- Norris, E., Dunsmuir, S., Duke-Williams, O., Stamatakis, E. and Shelton, N., (2018). Physically active lessons improve lesson activity and on-task behaviour: A cluster-randomised controlled trial of the “Virtual Traveller” Intervention. *Health Education & Behaviour*, 45(6), p.945-956.
- Norris, E., Shelton, N., Dunsmuir, S., Duke-Williams, O. and Stamatakis, E., (2015). Physically active lessons as physical activity and educational interventions: a systematic review of methods and results. *Preventive medicine*, 72, p.116-125.
- Oppenheim, A.N., (2000) *Questionnaire design, interviewing and attitude measurement*. Bloomsbury Publishing.
- Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N. and Hoagwood, K., (2015) Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and policy in mental health and mental health services research*, 42, pp.533-544.
- Parasuraman, R. (1998). The attentive brain: Issues and prospects. In *The attentive brain* p.3-15. MIT Press.
- Patar, S. and Mondal, S., (2017). Stretching Exercise Enhance Cognitive Function. *Indian Journal of Basic and Applied Medical Research*, 6 (2), p.682-691.
- Patton, M.Q., (2002) *Qualitative research & evaluation methods*. sage.
- Pesce, C. and Ben-Soussan, T.D., (2016). “Cogito ergo sum” or “ambulo ergo sum”? New perspectives in developmental exercise and cognition research.
- Pesce, C., (2012). Shifting the focus from quantitative to qualitative exercise characteristics in exercise and cognition research. *Journal of Sport and Exercise Psychology*, 34(6), p.766-786.
- Posner, M. I., & Petersen, S. E. (1990). The attention system of the human brain. *Annual Review of Neuroscience*, 13(1), p.25-42.
- Posner, M. I., & Rothbart, M. K. (2007). Research on attention networks as a model for the integration of psychological science. *Annual Review of Psychology*, 58, p.1-23.

- Riley, N., Lubans, D., Holmes, K., Hansen, V., Gore, J. and Morgan, P., (2017). Movement-based mathematics: enjoyment and engagement without compromising learning through the EASY minds program. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(6), pp.1653-1673.
- Robinson, L.E., Stodden, D.F., Barnett, L.M., Lopes, V.P., Logan, S.W., Rodrigues, L.P. and D'Hondt, E., (2015). Motor competence and its effect on positive developmental trajectories of health. *Sports medicine*, 45, p.1273-1284.
- Sallis, J.F., McKenzie, T.L., Alcaraz, J.E., Kolody, B., Faucette, N. and Hovell, M.F., (1997). The effects of a 2-year physical education program (SPARK) on physical activity and fitness in elementary school students. *Sports, Play and Active Recreation for Kids. American journal of public health*, 87(8), p.1328-1334.
- Tashakkori, A. and Teddlie, C., (2010) Putting the human back in “human research methodology”: The researcher in mixed methods research. *Journal of mixed methods research*, 4(4), pp.271-277.
- Tomporowski, P.D., Davis, C.L., Miller, P.H. and Naglieri, J.A., (2008). Exercise and children's intelligence, cognition, and academic achievement. *Educational psychology review*, 20, p.111-131.
- Turner, S.F., Cardinal, L.B. and Burton, R.M., (2017) Research design for mixed methods: A triangulation-based framework and roadmap. *Organisational research methods*, 20(2), pp.243-267.
- Van den Berg, V., Salimi, R., De Groot, R.H., Jolles, J., Chinapaw, M.J. and Singh, A.S., (2017). “It's a Battle... You Want to Do It, but How Will You Get It Done?": teachers' and principals' perceptions of implementing additional physical activity in school for academic performance. *International journal of environmental research and public health*, 14(10), p.1160.
- Wang, C., Yu, J.T., Wang, H.F., Tan, C.C., Meng, X.F. and Tan, L., (2014). Non-pharmacological interventions for patients with mild cognitive impairment: a meta-analysis of randomised controlled trials of cognition-based and exercise interventions. *Journal of Alzheimer's Disease*, 42(2), p.663-678.
- Webster, C.A., Russ, L., Vazou, S., Goh, T.L. and Erwin, H., (2015). Integrating movement in academic classrooms: understanding, applying, and advancing the knowledge base. *Obesity Reviews*, 16(8), p.691-701.
- Webster, C.A., Zarrett, N., Cook, B.S., Egan, C., Nesbitt, D. and Weaver, R.G., (2017). Movement integration in elementary classrooms: Teacher perceptions and implications for program planning. *Evaluation and program planning*, 61, p.134-143.

Appendices:

Appendix A: Copy of Questionnaire

Introduction:

Thank you for participating in this survey. Your feedback is valuable for our study on the perceived effects of movement breaks on attention in the classroom. Please answer the following questions honestly and to the best of your ability.

Demographic Information:

Grade Level: [] 1st Year [] 2nd Year [] Transition Year [] 5th Year

Gender: [] Male [] Female [] Prefer not to say [] Other (please specify: _____)

Survey Questions:

Indicate by ticking the appropriate box how much you agree/disagree with the following statements.

1. I think movement breaks would be enjoyable.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

2. I would look forward to movement breaks if they were used in my class.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

3. I think movement breaks make the classroom more fun.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

4. I think movement breaks would help me pay more attention to instructions.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

5. I think I would feel more focused on my tasks after a movement break.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

6. Movement breaks could help me remember more.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

7. I think movement breaks are easy to use.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

8. I think movement breaks do not disrupt the class.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

9. I think movement breaks should be part of our daily routine.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

Closing:

Thank you for completing the survey! Your input is valuable for our research. If you have any additional comments or suggestions, please feel free to share them below.

Appendix B: Interview Transcript: Student One

Interviewer: Thanks for talking with me today. I want to chat about your thoughts on movement breaks in the classroom. First off, how do you think movement breaks might affect your ability to pay attention in class?

Student: I think they'd help a lot. Like, after sitting for a while, I get really tired, and my mind starts wandering. If we could get up and move around, I think it would wake me up and help me pay attention better.

Interviewer: That makes sense. Can you tell me more about how you feel after sitting for a long time in class?

Student: Well, my legs get all stiff, and I get bored. Sometimes, it's hard to focus on what the teacher is saying because I just want to move around. A short break to stretch or move would probably help me feel more awake.

Interviewer: Do you think movement breaks could also impact how you feel physically during the day?

Student: Yeah, for sure. It feels good to stretch and get the blood flowing. If we did that regularly, I think I'd feel less tired and more energetic throughout the day.

Interviewer: How do you think movement breaks might affect the overall atmosphere in the classroom?

Student: I think everyone would be happier. When we're all sitting still for too long, people get grumpy and less interested in class. But if we had breaks to move, it might make the class more fun and less stressful.

Interviewer: That's a good point. Do you think having movement breaks could help with how students get along with each other?

Student: Yeah, I think so. Doing something active together could make us feel more like a team. It could help us get along better and make the class feel more cooperative.

Interviewer: Thanks for sharing your thoughts. Is there anything else you'd like to add about movement breaks?

Student: Just that I think they'd be a great idea. It would make school more enjoyable and probably help us learn better too.

Interviewer: Okay, let's get into some specifics. What kind of movement breaks do you think would work best?

Student: I don't know, maybe something like quick stretches or jumping jacks. Nothing too long, just enough to get us moving. Maybe even some fun games or activities we could do in the classroom.

Interviewer: Sounds good. Do you think there are any downsides to having movement breaks?

Student: Hmm, maybe some kids might mess around and not take it seriously. But I think if the teacher controls it well, it could be really good.

Interviewer: That's a good point. Do you think it would be easy for teachers to fit movement breaks into the class schedule?

Student: Yeah, I think so. Like, just a few minutes every hour or something. It wouldn't take too much time, and it could make a big difference.

Interviewer: Great, thanks for all your input. I really appreciate it.

Student: No problem!

Appendix C: Interview Transcript: Student Two

Interviewer: Thanks for taking the time to talk with me today. I'd like to hear your thoughts on movement breaks in the classroom. How do you think they might affect your ability to concentrate in class?

Student: I think they'd be really helpful. After sitting for ages, my mind tends to drift, and it's hard to stay focused. A short break to move around could really help me refocus and pay better attention to the lesson.

Interviewer: Can you describe how you typically feel after sitting for an extended time in class?

Student: I often feel sluggish and mentally drained. It's challenging to stay engaged with the material. A movement break would probably refresh my mind and make it easier to concentrate.

Interviewer: Do you think movement breaks could also influence your physical well-being during the school day?

Student: Yeah, absolutely. Sitting for too long makes my body feel stiff and uncomfortable. Stretching or moving around would make me feel healthier and more energetic, which would be great for overall well-being.

Interviewer: How do you think movement breaks might change the atmosphere in your classroom?

Student: I think it would create a more positive environment. When everyone is stuck sitting for too long, the mood can get pretty low. Movement breaks could make us all feel more lively and cheerful, which would improve the class atmosphere.

Interviewer: Do you think these breaks could help with how students interact with each other?

Student: Yes, I think so. Movement breaks could be a fun activity that we do together, helping to build a sense of community and cooperation. It could make the classroom feel more united and supportive.

Interviewer: Thanks for your insights. Is there anything else you would like to add about movement breaks?

Student: Just that I think they're a great idea. They'd make the school day more enjoyable and help us stay focused and engaged. It seems like a win-win for both students and teachers.

Interviewer: Okay, let's dive a bit deeper. What kinds of movement breaks do you think would work best for your class?

Student: Probably something simple like yoga stretches or a quick dance-off. Nothing too intense, just enough to get us moving and having fun.

Interviewer: Interesting. Do you see any potential downsides to having movement breaks?

Student: Maybe some students would see it as a chance to mess around and not take it seriously. But if it's structured well, I think it could work really well.

Interviewer: That's a valid point. Do you think it would be easy for teachers to incorporate these breaks into their lesson plans?

Student: Yeah, I think so. It doesn't need to be long, just a few minutes here and there. If it's planned out, it shouldn't be too hard to fit in.

Interviewer: Thanks so much for all your thoughts. I really appreciate it.

Student: No problem, happy to help!

Appendix D: Principal Permission Form

Dear Principal,

As part of my Professional Masters in Post-Primary Education with Hibernia College, I am embarking on a research project exploring the students' perceived effects of movement breaks on student attention in the classroom. The title of the research project is 'Investigating the Student Perception of Movement Breaks on Attention in the Classroom.'

Given the integral role that school plays in shaping students' educational experiences, I seek your consent to administer a survey to students as part of this study. The aim is to gather insights into the student's perspective of the efficacy of movement breaks on student attention, contributing valuable knowledge to my future professional practice as a teacher.

With your permission, I will distribute the survey to a select group of students. Among those that complete the survey 2 will also be interviewed. Enclosed for your review are copies of the information and consent forms, which outline the details of the study. Only those students who return a signed copy of the consent form will be included in the survey. All data collection will strictly adhere to the school's ethical code of conduct.

Participation in the study is voluntary, and students can choose to opt out at any time. The results will be analysed as part of my research project and may be disseminated through professional publications.

I kindly ask for your support in facilitating the administration of the survey to students over the upcoming weeks.

If you have any queries or require further information on the research study, please do not hesitate to contact me.

Researcher:

Mobile:

Tel. No:

Email:

This research study has received Ethics approval from Hibernia College Dublin. If you have any concerns about this study and wish to contact someone independent, you may reach the School of Education, Hibernia College Dublin at Tel (01) 6610168.

Researcher's Signature: _____ Date:

Principal's Signature: _____ Date:

Appendix E: Research Information Sheet

Dear Participant/Parent

I am writing to inform you about a research study I am planning as part of my Professional Master of Education degree and to seek your consent to conduct the research.

Background: Research indicates that attention and focus among students in the classroom can be influenced by various factors, including the incorporation of movement breaks. Understanding these dynamics is essential for optimising the learning environment. My study aims to explore how students perceive the effects of movement breaks on their attention in the classroom, specifically focusing on their perspectives.

Objectives: The objectives of my research are to identify the perceived impact of movement breaks on student attention, and explore the benefits and challenges associated with integrating movement breaks into the classroom.

Methodology: I plan to collect data through a survey distributed to students to gauge their experiences with movement breaks. Additionally, I will conduct semi-structured interviews with 2 students to gain deeper insights into their perceptions. The survey aims to understand general perspectives, while interviews will provide a more nuanced understanding of individual experiences.

Ethical Approval: This research project has received ethical approval from the Hibernia College Ethics Committee, ensuring that all data collection and analysis adhere to ethical standards.

Procedure:

Survey: Students will be asked to complete a survey, which will take approximately 3 minutes. The survey will be distributed at the end of the lesson.

Interviews: I request permission to interview 2 students. The interviews will be scheduled at the convenience of the school and participating students.

Confidentiality and Consent: Participation in the study is voluntary, and all responses will be kept confidential. No student, teacher, or school will be identified specifically in any publication of the work. Interviews will be recorded for transcription and dissemination purposes.

Request for Consent: I kindly seek your informed consent to conduct the research in your school. If granted, I would appreciate your assistance in coordinating the distribution of the survey and facilitating the interviews.

Confirmation: Please confirm your consent by signing and returning the attached consent form.

If you have any questions or concerns, please feel free to contact me at [contact details].

Thank you for considering this request, and I look forward to your response.

Sincerely,

Appendix F: Informed Consent Form

Informed Consent Form

Researcher's name:

Organisation:

Title of study: Investigating the Student Perception of Movement Breaks on Attention in the Classroom.

Consent (to be completed by the participant and signed by parent). Please circle response.

Have you been fully informed/read the information sheet about this study? Yes/No

Have you had an opportunity to ask questions and discuss this study? Yes/No

Have you received satisfactory answers to all your questions? Yes/No

Do you understand that you are free to withdraw from this study at any time without giving a reason for withdrawing and without your withdrawal having an adverse effect for you?
Yes/No

Do you agree to take part in this study, the results of which are likely to be published or presented at a conference? Yes/No

Have you been informed that a copy of this consent form will be kept by the researcher?
Yes/No

Are you satisfied that any information you give to the researcher will be kept confidential?
Your name and the name of the school will not appear in the research report. Yes/No

Participant's name (printed)

Participant's Signature

Date

Parent's Signature

Date

Researcher's signature

Date