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**University
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Education

**A policy analysis of flip classroom pedagogy in
Scottish education literature and an investigation of
the link between flip classroom and skills
development**

BY

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Abstract

The need for the traditional lecture education model to adapt to a more suitable and engaging approach, appropriate for twenty first century learners has been readily documented. However, education systems across the globe, typically, remain unchanged and fail to prepare learners with the skills required for life beyond school. This study focuses upon flip classroom, a student-led learning strategy, in which the pupil takes responsibility for the learning process and the skills that can be developed as a result of engaging in the pedagogy. Moreover, this research also analyses the prevalence of flip classroom and student-led learning language within Scottish education policy. Furthermore, the underlying pedagogy in literature produced by Skills Development Scotland (SDS), Education Scotland and the General Teaching Council for Scotland (GTCS) is assessed and further explored to identify the emphasis placed on skills development by these agencies. Critical Discourse Analysis (CDA) is used to analyse the linguistics within policy and literature from an interpretivist perspective. This research paradigm allows the available literature to be explored to 'make sense' of the language used in order to provide answers to the research objectives. The findings from this study indicate that the benefits of flip classroom pedagogy are ignored by Scottish education authorities, and a teacher-led approach to education is preferred. Furthermore, despite flip classroom pedagogy allowing learners to develop key skills, teachers are unsupported in the use of this pedagogy within the classroom. It is recommended that the Scottish education system recognises the benefits of flip classroom pedagogy in skills development and provides support to teachers who wish to engage learners using this strategy. This research further recommends that the Scottish Government conduct a review of education policy to ensure learners are prepared with the appropriate skills for life in twenty-first century Scotland, allowing learners to take responsibility and lead their own learning.

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1.0 Introduction

This dissertation seeks to assess the prevalence of flip classroom language within Scottish education discourse and investigate the link between skills development and flip classroom learning.

1.1 Research context

The Scottish Government has a duty to ensure that the education system in Scotland is robust, sustainable and durable, and meets the changing demands of learners within a changing world (Scottish Government, 2014; IFC, 2020). The policy and legislation surrounding Scottish education suggests that the education system is designed to be progressive, adaptable and accessible to all learners, regardless of the socio-economic factors which may affect a learner. Luna Scott (2015) records that learners should develop a range of skills, including critical thinking, communication and problem solving skills, in order to be prepared for life in the twenty-first century. The purpose of this study is therefore to explore flip classroom learning in the context of skills development, and identify if the use of such pedagogy would allow the entire Scottish education community to better develop learners' skills.

1.2 The Flip Classroom Approach

Flip classroom learning creates a shift from the typical teacher-led instructional model of learning, and involves the learner taking responsibility for their learning experience and learning outcomes (Barron & Darling-Hammond, 2008). Gilboy et al (2015) record that flip classroom pedagogy is rooted in the constructivist theory of learning, and allows the learner to apply the understanding of knowledge on a deeper level. This approach requires learners to take responsibility for developing the foundation of their understanding at home through watching videos or reading materials, and this understanding is then solidified in school through class-based tasks (Bergmann & Sams, 2012). This further fashions a shift in the role of the teacher who is there to support the learning by providing related tasks to cement the theoretical understanding gained through the student-led learning experience (Luna Scott,

2015). As a result of engaging in this pedagogy, learners develop a range of skills, including leadership, communication, problem solving and the ability to think critically whilst engaging in higher-order thinking (Huba & Freed, 2000; McLoughlin & Lee, 2008; Lai & Hwang, 2016; Klegeris, Bahniwal & Hurren, 2013).

1.3 Research Rationale

This study was originally designed to engage in field research in order to assess the skills which learners develop as a result of engaging in flip classroom pedagogy; to identify the recognition for flip classroom pedagogy within Scottish education policy and evaluate the emphasis placed on skills development by the authorities surrounding Scottish education. As a result of the Coronavirus pandemic, schools across Scotland were required to close in March 2020 for a number of months. This led to a change in direction for this study as primary data was unable to be obtained. However, it was still possible to conduct a policy analysis to explore the extent to which flip classroom language is present in Scottish education policy and explore the connection between flip classroom and skills development. Academic articles, journals and grey literature were used to investigate this matter.

Scottish education policy readily documents the need for learners to develop a variety of skills throughout their education. However, academic research has not focused on the correlation between the pedagogy recorded within education discourse and the skills development of learners. Flip classroom pedagogy is currently used at the discretion of the teacher, and teachers are relatively unsupported in the use of this pedagogy (Swinney, 2018). Swinney (2018) records a preference for a teacher-led approach to education in Scotland and dismisses the benefits of student-led learning. Moreover, student-led or flip classroom pedagogy appears to be undocumented within Scottish education literature and it is therefore valuable to explore the rationale behind this.

1.4 Research Aim

The aim of this research is to explore the prevalence of flip classroom language within Scottish education literature. The following additional research questions have also been identified:

1. What discourses of flip classroom or student-led learning are documented by Education Scotland; the Scottish Government and General Teaching Council for Scotland (GTCS) and how are these correlated?
2. How does Education Scotland; the Scottish Government; Skills Development Scotland and the GTCS support the development of skills in learners, and how could flip classroom be used to better meet this objective?

1.5 Research Approach

To answer the research questions, Critical Discourse Analysis (CDA) has been selected to explore the range of literature available from an interpretivist perspective. CDA allows literature to be analysed from a linguistic perspective in order to explore the semiotic dimensions of power, abuse or cultural change in society (Fairclough & Wodak, 1997). The interpretivist research paradigm allows the literature to be explored in a way that 'makes sense' of the language used in order to answer the research questions, rather than hypothesising (Yanow & Schwartz-Shea, 2015). Moreover, earlier research has not used CDA to explore the use of flip classroom or student-led language within Scottish education policy, and this study therefore aims to provide an interpretive insight into the use of such language within policy. Academic research, grey literature and policy documentation will be analysed using this approach in order to answer the research questions.

1.6 Dissertation Structure

This dissertation is comprised of five chapters, including this introductory chapter. The second chapter provides an overview of the literature available regarding student-led learning and explores the benefit of flip classroom pedagogy. Moreover, the literature review

also explores the effectiveness of flip classroom in the development of transferrable skills within learners and presents a policy analysis of the prevalence of flip classroom terminology in Scottish education literature. Chapter three presents the methodological approaches and search strategies used within this study, and explores the benefits and limitations of using CDA to investigate the literature. Chapter four provides an in-depth analysis and discussion of the research findings. The fifth and final chapter provides an overview of the research findings; discusses the limitations of this study; identifies recommendations for future research and examines the impact that this research can have on the Scottish education system and beyond.

2.0 Literature Review

2.1 The Scottish Education Policy Context and the absence of student-led learning

The Scottish Government have a statutory duty to ensure adequate and sufficient provision of school education throughout the country (Education (Scotland) Act, 1980). A large number of policy, legislation and academic literature surrounds the Scottish Education system. This literature review seeks to explore the extent to which Scottish Education legislation and policy supports flip learning pedagogy within the classroom and the extent to which flip classroom pedagogy is recognised in the development of transferable skills within learners. Moreover, it will also seek to assess the extent to which the array of legislation, policy and literature surrounding the topic of student-led learning and, if possible, flip classroom pedagogy, connect and form a relationship with one another. Finally, this literature review will also identify the role of the teacher in preparing learners with the necessary skills required for learning, life and work and the extent to which teachers are supported in this responsibility. It is important to explore the role of the teacher documented within Scottish education discourse to establish the use of a student-led or teacher-led approach to learning.

The United Nations Convention on the Rights of the Child (UNCRC) (UN General Assembly, 1989) asserts that each child has the right to an education. This is a legally binding agreement across 194 countries protecting the civil, political, economic, social and cultural rights of every child, regardless of race, gender or ability (Save the Children, 2019). LeBlanc (1995) has commended the success of the UNCRC to the belief that children are the most vulnerable members of society and, therefore, member states were quick to adopt the treaty at its inception (Todres, 1998). Todres (1998) further highlights the reason behind the success of the Convention, namely that countries who had not signed up would be viewed as neglectful to children. This ideology, however, is contested by LeBlanc (1995) who argues that global leaders and governments possess an inherent belief that children should be protected from such abuse. Nonetheless, this agreement pinpoints not only a child's right to an education, but the importance of receiving an education.

The UNCRC (UN General Assembly, 1989) is limited in its provision of an education to each child. More specifically, the education service in which each of these countries provide is at the curricular discretion of the country and thus lacks consensus and consistency. In Scotland, education is a devolved power from the Westminster Government and, as such, the Scottish Government are responsible for ensuring a robust, sustainable and durable education service which meets the needs of each child.

Getting it Right for Every Child (GIRFEC) (Scottish Government, 2014) stipulates that it is the “Responsibility of All” adults to ensure the social and emotional wellbeing of a child. Furthermore, the General Teaching Council for Scotland (GTCS, 2012a) identifies that teachers have a duty to adapt their teaching practice to meet the demands of learners in their class; thus allowing the education system to ensure that the needs of all learners are met and that teachers really do *‘get it right for every child’*.

Attainment has been defined as the measurable progress a child makes as they develop through school education and obtain the skills, knowledge and attributes which are required in order to be successful in learning, life and work (Scottish Government, 2015). According to the Scottish Attainment Challenge (Scottish Government, 2015), the term *‘attainment gap’* refers to a gap in the levels of attainment between children from the wealthiest and poorest backgrounds. The Scottish Index of Multiple Deprivation (SIMD) identifies small concentrated areas across the country which experience multiple deprivation (Scottish Executive, 2006). An area could be deprived in terms of income; employment; health; education; skills and training; geographic access to services; housing; and crime. Statistically, areas of multiple deprivation are likely to have a larger attainment gap compared to areas which possess lower levels of deprivation (Scottish Executive, 2006).

The GTCS (2012a) documents the requirement for teaching practitioners to employ a range of pedagogical strategies to ensure the engagement of all learners. Specifically, GTCS (2012a) highlights that teachers should be able to use, design and adapt materials for teaching and

learning which motivate, support and challenge all learners. Research from Black and Wiliam (2010) document the importance of teachers' utilising interactive teaching strategies to support learners' needs. Furthermore, earlier research from Black and Wiliam (1998) notes the importance of finding a 'whole-class approach' to learning, which theoretically would leave no pupil left behind. On the other hand, Gibson et al (2000) notes that the learning requirements of each learner vary and therefore, in practice, this ideology presents a challenge in its implementation. Teachers are therefore required to vary their practice from pupil to pupil to ensure that the demands of every child are met.

Scottish teaching standards, along with Scottish Government legislation, demonstrate a duty for teachers to adapt their professional practice in order to meet the learning requirements of all learners (GTCS, 2012a; Scottish Government, 2014). However, neither Scottish legislation nor GTCS Standards document the requirement for teachers to prepare learners to engage in student-led learning. This highlights a gap in literature which fails to document the responsibility of teachers to prepare learners with the necessary skills to lead their own learning. Learners who are capable of leading their own learning have a deeper cognitive understanding of a given subject and possess a range of skills which support life-long learning and equip them for the world of work (Day, 2002; Newble & Cannon, 1995; Torenbeek et al, 2009).

2.2 A background to student-led learning and the use of student-led learning within education

The benefits of incorporating student-led learning into the classroom are extensive and have been recorded by many academic writers. A quote from Levett-Jones (2005, p.2), referencing an earlier text from Rogers (1983), highlights the need for learners to develop the ability to learn:

“The only man who is educated is the man who has learned how to learn... and the ability to learn on one’s own has become a prerequisite for living in a dynamic world of rapid change.”

Indeed, the world is rapidly changing, as is the education system and the curriculum within education itself. It is therefore imperative that educators are aware and informed of advancing pedagogical theories and practices and are willing to apply these within education. Rogers (1983) distinguishes the goal of education is the facilitation of change and learning, recognising the need for teachers to adapt their pedagogy and teaching practice to meet the changing demands of education. Moreover, teachers are facilitators of change and learning, and are responsible for this within the classroom.

At the turn of the century, student-led learning formed the basis in a shift in the way that pupils learn, placing the onus to learn upon the pupil (Nicol & Macfarlane-Dick, 2006). Student-led learning provides the learner with a sense of ownership for their own learning and their learning experience, yet this learning could be directed by the educator through problem-solving or guided discovery (Elen et al, 2007). Learners therefore have a duty to be leaders of their own learning, rather than passive recipients of knowledge as directed by the teacher (Maher, 2004). In turn, this required pupils to develop a sense of self-regulation, with the added responsibility for planning, setting targets, organising, monitoring and evaluating their own learning (Nicol & Macfarlane-Dick, 2006).

According to Marvell et al (2013), student-led learning is an advanced form of active learning, with learners’ holding direct responsibility for their own learning. Hoogenes et al (2015) goes further, advocating that the student-led learning paradigm creates an interactive process which allows learners to define learning goals, develop strategies to achieve these goals and learn key technical skills. The enthusiasm for student-led learning has grown along with the accelerating pace of social and technological change (McDiarmid, 1998). This emphasises the vitality for educational authorities and establishments, as well as the educators themselves, to be progressive and adaptive in their approach to learning and teaching, not only to the

credit and success of the teacher as the educator but to ensure the success of the learner in their education and key life skills. The importance, therefore, of the professional development and adaptability of teachers to adopt new teaching strategies such as student-led learning, alongside the support of local authorities and educational establishments, should not be underestimated.

Maher (2004) and Watson et al (2006) document that high-quality student-led learning, as a result of effective implementation of student-led learning processes on behalf of the educator, allows for the development of essential skills. Student-led learning allows the learner to develop organisation, problem-solving and leadership skills; all of which are indispensable attributes to a learner in their educational career and beyond (Maher, 2004; Watson et al, 2006). Furthermore, GTCS (2012a) highlights the requirement for teachers to develop these skills in learners through education. Teachers are required to:

“Plan appropriately, in different contexts and over differing timescales, for effective teaching and learning in order to meet the needs of all learners, including learning in literacy, numeracy, health and wellbeing and skills for learning, life and work.” (GTCS, 2012a, p.13).

Teachers are required to produce differentiated material and adapt their teaching techniques in order to meet the needs of all learners. This therefore resonates with GIRFEC (Scottish Government, 2014).

Kim & Davies (2014) identifies that a student-led learning approach has a strong correlation with Bloom’s Taxonomy (1956), which allows learners to facilitate the use of higher-order thinking skills (comprehension, application, analysis, synthesis and evaluation of knowledge). This allows learners who engage in student-led learning to solidify their knowledge and understanding of a given topic, rather than develop the ability to recall or memorise pieces of information. This approach allows learners to build a stronger comprehension of a topic, whereas a teacher-led approach to learning may result in superficial learning outcomes with

a lack of depth to the learning (Kim & Davies, 2014). Furthermore, learners who engage in student-led learning develop a deeper cognitive understanding and gain a richer learning experience as a result of their participation in the learning process (Newble & Cannon, 1995; Torenbeek et al, 2009). Knowles (1975) identifies that learners who engage in this approach develop a greater sense of purpose to their learning and a tendency to retain and make better use of what they have learned. This is reinforced by Trigwell et al (1999) and Prince (2004) who argue that teacher-led learning fashions pupils who lack critical-thinking and problem solving skills.

Notwithstanding the benefits of a student-led approach to learning, academics are quick to suggest the flaws in the pedagogy. Iwasiw (1987) identifies a certain degree of resentment towards student-led learning owing to the lack of preparation from the teacher and / or student to allow for successful implementation. Indeed, student-led learning requires a high degree of organisation and communication from the educator with regards to the expectations from the learning. The educator is there to simply guide the learning experience, whereas the student is required to take ownership and accountability for leading their own learning, using problem-solving skills to manoeuvre their own way to a successful learning experience. As teachers attend to the many demands of learners, including catering the diversity of additional support needs, it may not be possible for some learners to take ownership and drive their own learning experience.

A key principle to the success of flip classroom pedagogy lies in the effective implementation of the strategy. In order for flip classroom to be effectively implemented within the classroom environment, teachers must first share the objective of teaching using this strategy (Carpenter & Pease, 2012). For example, if a teacher were to use flip classroom to develop pupil's communication skills, pupils' utilising this pedagogy should be aware that it is their communication skills that are being developed. Moreover, teachers should exercise professional judgement in implementing this strategy to ensure that it is suitable for the learners in their care (Florian & Black-Hawkins, 2011). For example, a teacher-led approach to learning may be more effective if the pupils in the class are of low ability or possess

additional support needs (ASN). The success of flip classroom relies upon the skill of the teacher to effectively implement the pedagogy, and for the pedagogy to be used with the appropriate audience. Pupils who experience ASN may be more suited to a teacher-led approach to learning in which the teacher takes responsibility for and guides the learning process. As the educator, the teacher is responsible for being attentive and mindful to the ability of all learners within the class, and must adapt their practice to meet this demand (GTCS, 2012a). Pedagogical interventions should be utilised to meet the needs of learners, and as such, it may not be suitable or appropriate to use this strategy with pupils who may struggle with the process.

Lafee (2013) documents that this teaching approach increases the workload of teachers, instead of relieving it. In flip classroom pedagogy, teachers must create and prepare instructional videos or tasks which learners should complete prior to the lesson, and teachers must further prepare for the lesson itself (Ozdamli & Asiksoy, 2016). As a result, teachers may have to conduct further assessments to confirm that learners have successfully developed the knowledge that was intended (Lafee, 2013). Therefore, it is possible that teacher workload could be increased as a result of using this pedagogy.

Pedagogical theories do not provide a 'one shoe fits all' teaching approach which is suitable to all learners. As such, it is essential to note that a student-led learning approach is not universally applicable to all learners and all situations. hooks (2003) acknowledges that conformity within the classroom is dangerous, recognising the inflexibility of assessment within the education system which can lead to a belief within learners that to be successful in education is to be successful within such assessments. This highlights that teachers must adapt their instruction to meet the requirement of the pupils within the classroom.

Focusing upon the student-led learning approach within the medical sector, Turunen (1997) notes that nursing students appeared to favour a teacher-led approach to learning. Supporting this theory, research from Nolan & Nolan (1997) identified that learners in the

earlier stages of education preferred a teacher-led model which provides a direct, structured learning experience of highly organised activities with pre-defined targets and expectations. There is, therefore, an argument for the use of student-led learning at a more senior stage of education.

Knowles (1975) asserts that for the student-led approach to learning to be successful, both teachers and students ought to be familiar with the theoretical concept of student-led learning prior to its implementation. In addition, both parties must first possess the skills required for the successful implementation of student-led learning (Knowles, 1975). Students require a cognitive understanding of the student-led learning model in order to be able to apply it or be expected to engage with it (Levett-Jones, 2005). Without this understanding, learners may experience such an overwhelming sense of frustration and anxiety that learning may not actually take place (Levett-Jones, 2005).

Finally, the skill of the teacher in implementing student-led learning may also impact the success of this approach within the classroom. Indeed, this teaching approach creates a shift in the teaching dynamic, and in turn, may create a change in student perceptions and attitudes towards their education (Marvell et al, 2013). Teacher expectations, along with a basic theoretical understanding for student-led learning, should be thoroughly communicated to learners in order to cement this expectation within learners. Poor communication or a lack of skill from the teacher may result in an inability to effectively implement this approach.

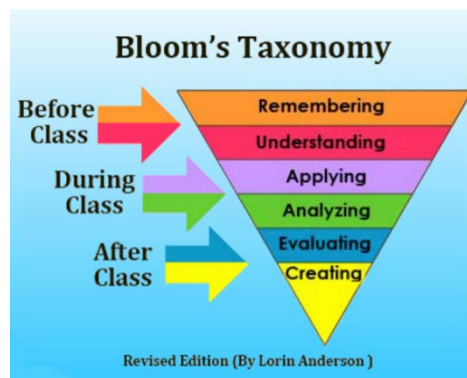
2.3 Exploring the potential of flipped classroom pedagogy in the context of student-led learning

One innovative pedagogical method that focuses on a student-led approach to learning is flipped classroom. Flipped classroom holds its roots in the constructivist theory of learning in which an individual possesses information which can be constructed or reconstructed to

make sense of new information; rather than the deficit model of education in which knowledge may not necessarily correlate to a sense of understanding (Gilboy et al, 2015).

In the flipped classroom approach to learning and teaching, tasks which are traditionally completed in the classroom and as homework are switched or flipped (Gilboy et al, 2015). Instead of the traditional teacher-led instructional approach to teaching, learners read material or watch videos at home to form the basis of their knowledge. This knowledge is then solidified in class through tasks which allow the learner to cement their understanding (Bergmann & Sams, 2012). Anderson & Krathwohl (2000) document that the flip classroom approach to learning allows the learner to engage in higher levels of Bloom's (1956) Taxonomy such as application, analysis and synthesis. Therefore, as a result, the learner develops a greater sense of understanding (Gilboy et al, 2015). Figure 1 demonstrates how the Bloom's (1956) Taxonomy process is also 'flipped' during the flip classroom process.

Figure 1: Bloom's Taxonomy in a Flipped Classroom Model



Michigan State University, 2019.

Missildine et al (2013) document a positive relationship between the use of flipped classroom and an increase in learner achievement and student satisfaction. Research from Flumerfelt & Green (2013) identifies impressive academic achievement and behavioural improvement as a result of utilising a flipped classroom model that could increase and promote interaction and positive relationships between teachers' and students'. This is corroborated by Wilson (2013) who identifies an increase in learner engagement and performance as a result of

engaging in flip classroom pedagogy. It is important to note that an increase in achievement does not necessarily correlate to an increase in attainment. Attainment refers to the measurable benchmarks which a child achieves as they progress through school education and develop the knowledge, skills and attributes necessary for life and work (Scottish Government, 2015) whereas achievement refers to the progress made towards achieving the skills or benchmarks (Zimmerman & Schunk, 2001). Moreover, learners who engage in flip classroom pedagogy have shown to develop critical thinking skills (Kong, 2015). Kong (2015) describes critical thinking skills as the ability to think reflectively, solve problems and use decision making conditions to decide what information is reliable.

Akçayır & Akçayır (2018) offers a possible explanation for the increase in popularity for flip classroom pedagogy, namely due to the increase in availability of internet technologies. The rise in internet technology in the 21st century has opened new doors in the education field and allows educators to communicate with learners in innovative ways (Johnson, Adams, & Cummins, 2012). Akçayır & Akçayır (2018) further document the requirement of a reliable internet connection. Although the increase in internet technology and internet availability has contributed to the rise in the use of flip classroom; flip classroom requires the learner to have access to suitable technology and a reliable internet connection in order for this approach to be fruitful (Akçayır & Akçayır, 2018). Therefore, this approach to learning and teaching may not be suitable for all and is dependent on learner having the available resources in order to complete the learning. In order for this pedagogy to be successful, it would require all learners to have access to the internet and suitable technology, and possess the ability to use these to support their independent learning. Arguably, this is perhaps the most significant drawback to this approach as a lack of resources or ability on the part of the learner may prevent this approach being used in the classroom.

In order for flip classroom pedagogy to be successful, it is heavily reliant on learner motivation and engagement with the process (Shi-Chun et al, 2014). Knowles (1998) asserts that learners must be familiar and comfortable with student-led learning prior to it being rolled out and this is supported by research from Levett-Jones (2005) who documents that a lack of

familiarisation in the process would lead to disengagement and discontentment amongst learners. Within a learning environment, there may be some learners who lack the self-regulation skills which are required to engage in flip classroom, and therefore the teacher must endeavour to engage such learners in the learning process. Researchers have found that it is possible to fashion self-regulated learners, but the learner first must possess an intrinsic willingness to improve (Harris, 1990; Graham et al, 1992; Zimmerman, 2002; Lewis & Vialleton, 2011). GTCS (2012b) further documents the responsibility of teachers to motivate and engage learners using a wide variety of innovative resources and teaching approaches whilst promoting independent learning.

2.4 Is flip classroom pedagogy effective in the development of transferrable skills within learners?

2.4.1 Chapter Context: Exploring flip classroom pedagogy to effectively develop skills within learners

This chapter seeks to explore the effectiveness of flip classroom pedagogy in the development of transferrable skills within learners. Specifically, this chapter seeks to identify the skills that learners develop when taught using the traditional transmission model in comparison to a student-led approach, in order to investigate if flip classroom pedagogy is more effective in providing learners with the opportunity to develop key transferrable skills. In order to gather findings, an extended literature review has been undertaken.

2.4.2 Teaching models utilised in Scottish education and the link to skills development

The requirement for the archaic transmission model of education currently used across Scotland to transition to a more innovative and effective teaching strategy suitable for twenty-first century learning has been documented by a number of researchers (Luna Scott, 2015; Marvel et al, 2013; Hoogenes et al, 2015; Smith, 2017; OECD, 2009; Barr & Tagg, 1995). Yet, whilst the need to adopt a more suitable pedagogical approach has been widely recognised, education systems continue to use the longstanding, traditional transmission model which has proved ineffective in teaching pupils the key skills and competencies

required for modern learning (Luna Scott, 2015; Saavedra & Opfer, 2012). Luna Scott (2015) notes a global agreement that learners need to be innovative as well as possess critical thinking, communication and problem solving skills in order to be prepared for life in the twenty-first century. Despite this acknowledgement, the traditional lecture model remains the most dominant and consistently used pedagogical approach across the globe, often leading learners to a sense of indifference or boredom in their learning (Saavedra & Opfer, 2012). A more appropriate learning environment would allow learners to take responsibility for their learning, develop contextualisation and solve complex problems with the knowledge and experience they have gained.

Traditional approaches to learning and teaching, such as the transmission model, emphasise the memorisation of knowledge and does not encourage learners to apply higher order critical thinking skills (Luna Scott, 2015). This model allows a teacher to transmit knowledge through verbal cues which are received by the learner (Kaur, 2011). In this environment, learners gain little depth to their knowledge and lack the ability to utilise and connect what has been learnt in a wider context. Barron & Darling-Hammond (2008) note the requirement for teachers to engage pupils in the learning process and provide learners with opportunities to work independently and collaboratively with others to construct knowledge, which is not available in the transmission teaching approach. Teachers have a duty to engage all learners in the curriculum, and this presents a challenge in terms of adapting teaching practice to meet the needs of all learners. Pupils learn using a variety of methods and it is the responsibility of the teacher to identify the most effective and suitable method(s) of teaching for the pupils within the class (Luna Scott, 2015; GTCS, 2012a).

2.4.3 The need to change to a flip classroom approach to better support learners in skills development

Leadbeater (2008) argues that teaching strategies should be reviewed to allow learners to be active in their learning, rather than mere spectators. McLoughlin & Lee (2008) offer a framework for active learning comprising of three principles: personalisation, participation and productivity. This framework provides learners with the creativity to take responsibility

and personalise their own learning experience, offering real life contextualisation to learning and further providing leadership, collaboration and problem solving skills development opportunities. Utilising an active learning teaching strategy allows learners to adapt the new knowledge that they have learned and integrate it with their existing conceptual framework. Therefore, this allows learners to establish new cognitive behaviours and develop a deeper understanding of the topic through employing higher order thinking skills (Lai & Hwang, 2016).

Pupils should be provided with the opportunities to apply what has been learned and practice the skills they have developed in different contexts and situations. This allows the teacher to assess the skills and knowledge the learner has been acquired before continuing to teach the curriculum, apply new learning or review what has been learnt to ensure understanding (Luna Scott, 2015). However, this process represents a significant shift in pedagogy. The transmission model, typically, uses formative assessment to evaluate the memorisation of knowledge, whereas the flip classroom approach allows teachers to assess a learner's ability to apply what has been learnt to different contexts and provides learners with the opportunity to develop a range of skills and competencies, rather than memorisation techniques. However, teachers may find this approach challenging as learners may grasp an understanding of the topic and development of skills or competencies at different rates. It is therefore imperative that, in adopting a flip classroom based model, teachers adapt tasks and provide flexible learning experiences in order to ensure that each learner is able to continue along their learning journey. This is also an expectation of teachers in Scotland and documented by the GTCS (2012a). It is vitally important that teachers recognise their duty to instil key transferrable skills within all learners and action this duty, at their discretion, within the classroom (GTCS, 2012a).

Roehl et al (2013) advocates that switching from a lecture based learning environment to a flip classroom teaching approach provides greater opportunities for teacher to pupil mentoring, peer-to-peer collaboration and cross-disciplinary engagement. Prensky (2001) notes that twenty-first century learners have matured in the way they think and process

knowledge in a way which is fundamentally different to their ancestors. Learners now have greater access to technology and the internet, and appropriate technology should be integrated into the learning process to ensure pupil participation and engagement. Flip classroom pedagogy facilitates the use of technology with lessons.

The benefits of using flip classroom pedagogy to support skills development has been widely documented across academic circles. Klegeris, Bahniwal & Hurren (2013) record that learners display an increase in problem solving abilities as a result of student-led, active learning. Huba & Freed (2000) document an increase in communication and social skills from learners, identifying that in using this pedagogy, learners were more inclined to engage in conversation with each other and the teacher. This allows learners to strengthen their understanding of a topic through conversing with the teacher and peers (Lax, Morris & Kolber, 2017). Whilst, arguably, learners could participate in dialogue with the teacher in the transmission model, Huba & Freed (2000) and Hamdan et al (2013) note an increase in learner engagement and dialogue as a result of using a flip classroom approach. Therefore, through utilising this approach, it not only increases learner engagement, but strengthens communication and social skills within learners.

Norcini et al (2011) and Bishop & Verleger (2013) record that for flip classroom to be successful in instilling key skills, learners must be aware of the skill(s) which are being developed in the learning process. Moreover, if the goal of teaching using flip classroom pedagogy is for learners to develop a specific skill(s), the final examination should be adjusted to assess the extent to which the skill has been established (Norcini et al, 2011). Indeed, pupils should be aware of the skills they are developing through using this pedagogy, and a lack of awareness in this regard may be detrimental to the pupil's learning (Norcini et al, 2011). In addition, creating clear learning expectations has been shown to increase student engagement and fashion learners who are able to reflect upon their learning experience in order to identify whether they have met their learning objectives (Zepke & Leach, 2010). This is supported by Cavilla (2017) who notes that a learner's ability to reflect and evaluate their learning experience can result in higher engagement and an increased ability to meet their

learning objectives. Moreover, this illustrates that, when used effectively, flip classroom increases learner engagement and can assist in the development of leadership, reflection and evaluation skills and inspire learners to take responsibility for their learning experience. The success of this teaching strategy relies on both the teacher and learner having a firm understanding of the pedagogy and effective and successful implementation of the strategy by the teacher.

3.0 Methodology

3.1 Introduction

The methodological approach to this investigation will use a Critical Discourse Analysis strategy. According to Roger et al (2005) Critical Discourse Analysis (CDA) seeks to describe, interpret and explain the construction and reconstruction of societal norms through the use of language. Van Dijk (1995) goes further, arguing that CDA has become a well-used academic approach to investigate the linguistic features of literature, and is traditionally used from an oppositional investigative perspective. This methodological approach involves working in a transdisciplinary way through dialogue with other disciplines, agencies or theories which are addressing modern developments of social change (Fairclough, 2013). Furthermore, Fairclough (2013) stresses that the foremost objective of CDA is to provide detailed, accurate accounts of the changes in social trends and the way in which this amounts to changes in discourse and a reconstruction of social life in courses of change. This chapter documents why CDA was chosen to explore the effectiveness of flip classroom pedagogy in the development of transferable skills within learners and further explores the national discourse on the implementation of flip classroom and the role and responsibility of educators.

This research will seek to analyse grey literature and policy documentation. Grey literature refers to government reports, policy statements or unpublished studies (Van Cauwenberghe et al, 2010). It is important to explore grey literature relevant to flip classroom and student-led learning in Scotland in order to include all available evidence and identify findings from such research (McAuley et al, 2000). Moreover, conducting an exploration of grey literature investigates a wider range of discourse and therefore limits researcher bias. In addition, consulting a wider range of literature should provide greater depth and validity to the study.

Finally, for the purposes of this research, it is necessary to conduct a systematic analysis of the available discourse in order to produce an extended literature review which seeks to answer the research objectives. Systematic reviews will allow for the large quantity of

available literature to be refined to a relevant and more manageable quantity (Hopewell et al, 2005). This will be utilised in conjunction with the CDA approach and seek to analyse the language used within literature. Specifically, the study of linguistics allows for the frequency of words and language patterns to be analysed in order to identify how language has evolved over time and how it varies between different organisations or situations (De Saussure, 2011).

3.2 Study Context: Flip classroom pedagogy in secondary education

I have successfully used flip classroom pedagogy with senior phase pupils and wish to identify the effectiveness of this pedagogy in developing transferrable skills for secondary education learners. This is, therefore, the foundation of this research.

The Coronavirus pandemic triggered the closure of all education establishments across Scotland in March 2020 and, as such, it was necessary to change the context of this study to a desk based approach. I had, however, initially intended to conduct a field based research with an S3 Business Management class consisting of 18 pupils, evaluating the effectiveness of flip learning pedagogy in the development of transferrable skills. Ethical approval for this study had been obtained from the University of Glasgow and the school management team, and a copy of the Plain Language Statement issued to parents and pupils can be found in Appendix 1. The participants belonged to a large, non-denominational secondary school based in central Scotland. The timeframe for gathering the research evidence was 1 week. Initially, as homework, pupils would be asked to read and take notes from a Microsoft PowerPoint presentation and this would form the foundation of their understanding. Once this had been completed, pupils would have arrived at class with this foundation knowledge and be prepared to engage in tasks which would strengthen their understanding of the topic. Thus, all learners would have engaged in the flip classroom process and, over the course of the week, developed a responsibility for their own learning and developed leadership, communication and organisational skills. Moreover, I intended to profile all participants against SIMD, Free Meal Entitlement (FME) and socio-economic status in order to identify learners who may struggle with this pedagogy due to their background. This would allow for

clear, accurate evidence to be presented and may have identified a discrepancy in the effectiveness of flip classroom pedagogy in developing transferrable skills in some learners due to their background.

Although it was necessary to change the nature of the study to a desk based approach, it was still important to explore the aim and objectives of this study to evaluate the effectiveness of this pedagogy in instilling transferrable skills within learners. CDA was identified as the most suitable method in order to explore the range of literature available in order to answer the research objectives. Fairclough (2001) records a three-stage model for using CDA; namely “description, interpretation and explanation”. It is therefore imperative to begin with open ended research questions in order to develop a thorough and critical exploration of discourse (Carter & Little, 2007). Furthermore, Carter & Little (2007) document the requirement to conduct a comprehensive exploration of literature in this approach to research; instead of identifying predictions or hypotheses which may guide the research.

3.3 Critical Discourse Analysis (CDA)

The literature review (discussed earlier) provides a comprehensive theoretical background to legislation, student-led learning and flip classroom pedagogy within a Scottish education context. Okoli & Schabram (2010) report that literature reviews should provide the reader with a theoretical grounding for subsequent research and offer an understanding as to the breadth of research on the given topic. Moreover, a systematic literature review should be explicit and comprehensive in the inclusion of all relevant discourse and reproducible by others who would follow a similar approach when reviewing literature (Fink, 2005). The systematic literature review provided supports the CDA approach in exploring literature relevant to the research aims and objectives. CDA seeks to explore the relationship between language and society in order to make sense of social events. Therefore, CDA is an appropriate means to seek to make sense of the ways in which people find meaning within an education context (Rogers et al, 2005).

CDA has been described as a problem-orientated interdisciplinary research movement which seeks to explore the semiotic dimensions of power, abuse or cultural change in society (Fairclough & Wodak, 1997). 'Discourse' refers to the array of literature which is available and must be sifted through in order to distinguish different representations of social life. Discourse suggests a dialectical relationship between a particular discursive event and the institutions or social structures which frame it. Furthermore, Fairclough & Wodak (1997) explore the meaning of a dialectical relationship; namely, a discursive event is shaped by institutions or social structures, but further, a situation, institution or social structure may also shape a discursive event.

Henderson (2005) stresses the social influence that discourse may have on societal norms, and notes the impact it can have on semiotic dimension of power. Exploring the ideological effects of discourse practices on society, Van Dijk (2001) documents that discourse can create unequal power relations; for example, the way in which it portrays the relationship between men and women or different social classes. Therefore, discourse could, theoretically, be used to present a false assumption of any aspect of social life as common sense. A significant level of care has been taken within this study to gain a thorough understanding of the literature analysed and thus present accurate and relevant findings.

The term 'critical', although appearing as somewhat self-evident, may have contrasting interpretations depending upon the cultural context. The term 'critical', when used in CDA, is derived from Marxist theory and uses critique as a tool for both exploring social phenomena and changing them (Blommaert & Bulcaen, 2000). A critical approach to research may, typically, imply a particular view of methodology. However, CDA does not start with a grounded theoretical framework, rather the process of CDA begins with a research topic; for example, politics, workplace literacy, consumer cultures and so forth (Fairclough, 2013). The critical process allows a topic or research questions to be refined or developed through an understanding of informed theory.

CDA also provides the researcher with different methods of analysis which can be used depending upon the topic and nature of research. A diversity of approaches is promoted in CDA research and researchers are encouraged to draw upon different linguistic analytical practises and theories, and importantly, conduct a close and / or multi-modal analysis of discourse (Fairclough, 2013). Fairclough (2013) recognises the importance of developing a connection with theory and literature which provides the analysis with significance and meaning. The issue of coherent literature is raised by Rogers (2011) who highlights the necessity for there to be a clear link between social theory, the area of research and the language used in order to conduct a succinct analysis.

Fairclough (1995) proposes a three stage model for using a CDA approach in research, namely; text, discursive practice and social practice. This correlates with the three stages of discourse analysis: describe; interpret; and explain. Fairclough (1995) further recognises that every communicative event comprises of these three dimensions. The three steps identified in Fairclough's model are intertwined and closely related, and it is therefore not possible to focus on one dimension in isolation, without considering the others.

The first section of Fairclough's (2013) model recognises the requirement to concentrate on linguistic features of text including vocabulary, grammar and language structure. More specifically, it is the transitivity, wording and thematic choice of language that should be methodically analysed (Fairclough, 2013). Henderson (2005) document that language is ingrained in society and is underpinned by linguistic practices. The descriptive section of Fairclough's framework is concerned with the properties of language and linguistic features, and focusing upon text as the object. Moreover, Clark et al (1990) highlight that linguistic practices are formed by, and form, social relationships and relationships of power. Therefore, it is important to analyse the application of language within discourse and examine the power or influence this can have within society.

The second stage of Fairclough's (2013) model for CDA is discursive practice which focuses upon the interpretation of text. This dimension of the model explores the relationship of discourse, its construction and distribution and how this is interpreted. The interpretation stage emphasises that, as well as analysing linguistic features and language structure, focus should also be given to intertextuality and linking literature to its context. Intertextuality refers to the relationship between text, discourse or setting (Worton & Still, 1991). Discursive practice further refers to the way in which literature is produced and interpreted and its connection or relationship to other literature (Fairclough, 1995).

The final dimension of Fairclough (2013) model for CDA is social practice which seeks to provide an explanation between interaction and social context. In this stage, factors such as power or ideology are considered in order to provide a full explanation of the interaction between socio-cultural context and the construction, consumption and reconstruction of text (Fairclough & Wodak, 1997). Therefore, it is important to explore the cultural and social context of text which forms the social practice.

3.3.1 Limitations of Critical Discourse Analysis (CDA)

It is important to consider the limitations of any research methodology. Fairclough (2013) documents that the framework for CDA should be considered a 'guide not a blueprint' and that the model is not prescriptive. Fairclough (2001) highlights that the theory of CDA should be considered implicit rather than explicit. Therefore, this provides scope within this methodological approach to open the discourse to interpretation.

A further limitation of this approach to research lies in its subjective nature and may open the researcher to bias (Fairclough, 2001). It is therefore important to realise the subjective nature of this research, and thus the subjective interpretation of any findings. In addition, it should be noted that if this research were to be repeated by another researcher investigating the same literature and using the same process, it may be possible to draw different findings. However, it is possible to limit researcher bias if explicit processes are adopted (Bryman,

Becker & Sempik, 2008). Therefore, the following section of this report documents the search strategies that have been utilised to select articles for inclusion within this study.

3.4 Search Strategy 1: Student-led learning

In order to undertake this research, several search strategies have been used. Many academics have researched the use of student-led learning and highlighted both the positive and negative outcomes of using this pedagogical approach within the classroom. The extent of this research was first identified during an initial database search using Google Scholar (Figure 2). This search was then refined using different terminology to gather more relevant results (Figure 3). However, research highlighting the effectiveness of student-led learning in secondary education in Scotland was limited. Although this search strategy produced a large volume of results, it should be noted that the search did not necessarily produce results which were relevant to the study. Therefore, the value of this search was perhaps limited. The results referred to student-led learning across the education sector and the majority of results identified the use of this pedagogy within the medical field. In addition, although the geographical location of Scotland was specified in the search strategy, a lack of research relating to Scotland was produced. Finally, although this search strategy discovered an array of academic research, it may have omitted some research which would have been relevant to this study. Notwithstanding the lack of specific insights pertaining to secondary education, the literature identified provides useful insights for understanding the student-led learning approach on a more general level.

Figure 2: Database Results (Google Scholar)

<u>Number of results</u>	<u>Database Search</u>
38,200	Evaluation of student-led learning
27,100	Student-led learning in secondary education
4,810	Student-led learning in secondary education in Scotland

4,500	An evaluation of student-led learning in secondary education in Scotland
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Figure 3: Search Strategy

Search Concept 1	Search Concept 2	Search Concept 3	Search Concept 4
Student-led learning	Secondary	Education	Scotland
Student-led	High school		
	Secondary school		

Once the preliminary searches had been completed, ‘citation chaining’ was then used to detect other relevant studies which were not identified during the initial searches. Citation chaining has been described as the process of exploring other academic literature which is pertinent to the study (Cribbon, 2011). Cribbon (2011, p.2149) states that:

“Starting from just one or two known relevant items, a naïve researcher can cycle backwards and forwards through the citation graph to generate a rich overview of key works, authors and journals relating to their topic.”

This allowed additional research to be identified which may not have been found using the initial search strategies. Furthermore, citation chaining proved useful in identifying a broader range of narratives which could be considered relevant to the context of the study.

3.5 Search Strategy 2: Flipped Classroom

The tables below evidence a wider variety of academic literature available on the subject of flip classroom as opposed to the umbrella term ‘student-led learning’ as documented in Figure 2. Furthermore, citation chaining was again employed to identify other material which may not have been included in this search strategy but relevant to the study (Cribbon, 2011), therefore allowing these results to be included within this research.

Figure 4: Database Results (Google Scholar)

<u>Number of results</u>	<u>Database Search</u>
16,800	Evaluation of flip classroom + transferrable skills
16,700	Flip classroom learning in secondary education + transferrable skills
2,300	Flip classroom learning in secondary education in Scotland + transferrable skills
17,000	Evaluation of flip classroom learning in secondary education in Scotland + skills development

Figure 5: Search Strategy

Search Concept 1	Search Concept 2	Search Concept 3	Search Concept 4	Search Concept 5
Flip classroom learning	Secondary	Education	Scotland	Skills
Flip classroom	High school			Transferrable skills
	Secondary school			Skill development

3.6 Policy and Legislation Search Strategy

It is necessary to conduct a review of Scottish education legislation produced by the Scottish Government. Furthermore, policy from Education Scotland, the GTCS and Skills Development Scotland (SDS) will also be consulted in order to identify the duty of the teacher in the development of skills within pupils and equipping pupils with the necessary skills required for success in learning, life and work. Moreover, it is also necessary to investigate the extent to which the legislation and policy produced by different bodies surrounding Scottish education

relate and are connected. In order to collate this information, Education Scotland, Scottish Government, SDS and the GTCS websites will be consulted. This literature will then be analysed using the CDA format.

3.7 Analysis and discussion

Fairclough's (2001) model for conducting critical discourse analysis, as explored earlier, will be used to conduct an analysis of the appropriate texts, exploring answers to the research objectives. The use of CDA will allow for a systematic and orderly analysis of texts. However, it should be noted that it would be impossible to obtain a complete knowledge of all texts and literature identified for the purpose of this investigation, but having a widespread understanding of the discourse will allow for connections and comparisons to be made. It should also be noted that the literature surveyed may not make explicit connections between texts, but it may be possible to identify implicit references to them.

According to Cohen et al (2013) researchers cannot claim neutrality when conducting critical educational research. This is echoed by Van Dijk (1993, p. 270) who states that "*analysis is not – and cannot – be 'neutral'*" as language is socially shaped (Clark et al, 1990). Cohen (2013) highlights that the requirement for critical researchers to be neutral or disinterested is as value laden as the requirement for them to intrude their own standpoint.

Meyer (2001) documents that the selection of literature and discourse is dependent upon the research questions. Carter & Little (2007) highlight the necessity to prepare open questions which, in turn, allows the researcher to analytically explore the broad range of available literature to discover possible answers. The research questions and objectives posed in this investigation are open and broad and it is therefore necessary to review and analyse the literature identified, using the CDA approach, to provide an informed, balanced and truthful answer to the questions posed.

Using a mixed research approach consisting of CDA and a systematic review of the wide-range of literature which is available will allow for comprehensive research to be conducted. Moreover, analysing the use of language within grey literature may highlight underlying themes or contexts, and show how policy and ideology has changed over time (De Saussure, 2011). Analysing the use of linguistics, frequency of words and the context in which language is displayed can identify social or political viewpoints at the time in which it was presented, and therefore be used to identify context or underlying themes to literature (Hart et al, 2005).

The literature selected for review within this study will be analysed using an interpretivist research paradigm. The interpretivist approach explores literature in order to gain an understanding of the world from the subjective experience of the author (Antwi & Hamza, 2015). Yanow & Schwartz-Shea (2015) explain that interpretivism allows the researcher to 'make sense' of a situation, rather than hypothesise. Moreover, this approach allows the researcher to identify inferences within literature and understand the context in which the literature is presented (Antwi & Hamza, 2015). As such, it is appropriate to analyse the literature selected for use within this study from an interpretivist perspective in order to make sense of Scottish education literature and identify implicit or explicit inferences to pedagogy.

3.8 Ethical considerations pertinent to social research and investigating literature

Ethics is concerned with one's morals, and focuses on the 'right' thing to do, or rather, what ought (or ought not) to be done. The deontological theory of ethics is a normative approach that considers the morality of an action should be based on whether the action itself is right or wrong, rather than the consequences of an action (Fairclough & Fairclough, 2018). In a utilitarian or consequentialist approach to ethics, decisions are formed based on which choice provides the greatest benefit to the greatest number of individuals (Fairclough & Fairclough, 2013). A utilitarian approach can counter a deontological perspective and the ethical and moral dilemmas that come with it (Mandal et al, 2016). Both deontological and utilitarian stems of ethics weigh their own significance and it is therefore important that both outcomes are considered in this investigation.

Fairclough & Fairclough (2018) focuses on the relationship between discourse and other characteristics of social life. Ethical analysis is primarily a critique of actions, but actions are conditioned and constrained by the social practises or institutions which surround them and therefore, by extension, this critique must also be extended to them (Fairclough & Fairclough, 2016). The critique of CDA is typically concerned with political values of equality, liberty or justice. Education, in a Scottish context, falls to the hands of policy and decision makers within the Scottish Government who seek to ensure that education is equal and appropriate for all children within the education system (Scottish Government, 2014).

Habermas (1986) notes that CDA concerns an emancipatory knowledge interest. Or rather, CDA looks at the 'wrongs' in society which can and essentially must be put right. Fairclough & Fairclough (2018) acknowledge that CDA often acts as an implicit advocate on the side of the people who suffer such 'wrongs', aiming to speak a truth and highlight the 'wrong' to those with the power to impose change. Moreover, although a certain element of this approach includes politics or perhaps a political perspective, a proposal to use CDA from a sincerely critical and open-minded perception, rather than a pre-determined political viewpoint, has been outlined by Fairclough & Fairclough (2018). Fairclough & Fairclough (2016) use the term 'discourse ethics', referring that an adequate framework for ethical critique must comprise of different viewpoints or arguments to form the process of deliberation. Deliberation is an abstract formulae in which alternative proposals are considered and tested (Fairclough & Fairclough, 2018). Of course, it is unlikely that this process of deliberation would show consensus and it may be problematic to present the critique of different arguments. However, this deliberation process can allow a researcher to consider the range of literature and arguments that are available, ensuring that alternative arguments are considered, thus ensuring that a quality, ethical critique of the different viewpoints are presented and analysed.

3.9 Limitations

Tröhler (2006) acknowledges that before educational theories were identified, education had become recognised as a core component of social life. However, it could be argued that education is still a key component of social life and pupils must be allowed to gain the necessary skills within education to prepare them for life beyond education (Boud, 2000). As earlier documented, a wide variety of regulated bodies, namely; Education Scotland, the Scottish Government, SDS and the GTCS, have published a large array of policies and literature surrounding the Scottish Education system, the rights of the pupil and the role and responsibilities of the teacher. It would, however, be impossible to gain a complete knowledge and understanding of all texts published by these authorities and the implicit or explicit connections between the texts.

CDA does, however, allow for a through and systematic analysis of texts pertinent to the research objective (Fairclough, 2001) and as such, has been chosen for the purposes of analysis within this investigation. Moreover, conducting a systematic literature review of grey literature, and focusing upon the use of language and linguistic styles, allows for themes and social contexts to be identified. Therefore, an exploration and understanding of the available literature will provide the researcher with a depth of understanding to be able to answer the research objectives. However, it should be noted that a different researcher may analyse the available literature and offer an alternative perspective or outcome based on the literature available (Rogers, 2004). Therefore, this is not an exhaustive study but may provide a starting point upon which future research can be based.

4.0 Analysis and Discussion

4.1 Flipped classroom and student-led learning literature within Scottish Education policy

The next chapter of this study investigates the extent to which flip classroom and student-led learning pedagogy is documented within Scottish Education policy. Scottish education literature will be analysed from a linguistic perspective using the CDA approach. As discussed within the methodology chapter, investigating the use of language within literature can identify underlying themes and provide greater context to literature (Hart et al, 2005). Grey literature was consulted to investigate this matter.

Figure 6: Language within Scottish Education Policy

Frequency of Language		
Policy	Term Searched	Frequency
Curriculum for Excellence (Education Scotland, 2006)	Flip Classroom	0
	Flip Learning	0
	Student-led	0
	Pupil-led	0
	Teacher-led	0
Scottish Attainment Challenge (Scottish Government, 2015)	Flip Classroom	0
	Flip Learning	0
	Student-led	0
	Pupil-led	0
	Teacher-led	0
'Learning Together' Action Plan 2018 – 2021 (Scottish Government, 2018)	Flip Classroom	0
	Flip Learning	0
	Student-led	0
	Pupil-led	0
	Teacher-led	0
Scotland's Education Reform: Update (Swinney, 2018)	Flip Classroom	0
	Flip Learning	0
	Student-led	0
	Pupil-led	0
	Teacher-led	2
Student Partnership in Quality Scotland (SPARQS, 2011)	Flip Classroom	0
	Flip Learning	0
	Student-led	3
	Pupil-led	0
	Teacher-led	0

Figure 6 demonstrates the frequency of flip classroom language within Scottish education policy and explores the use of a student-led or teacher-led approach to education. Scotland's Education Reform: Update (Swinney, 2018) refers to a teacher-led approach to learning on two occasions and SPARQS (2011) refer to student-led learning on three occasions. This chapter will explore each piece of legislation further in order to identify underlying contexts which may implicitly or explicitly promote a student-led or teacher-led pedagogy within Scottish education. It is, however, important to firstly note that term "flip classroom" is not documented within these policies, which initially demonstrates a lack of credence to the teaching strategy.

4.1.1 Policy Analysis

Scotland is a global innovator in education (Swinney, 2017). Scottish education has been reformed in recent years by the Scottish Government, with the review of Curriculum for Excellence; the Scottish Attainment Challenge; the 'Learning Together' Action Plan 2018 – 2021; and Scotland's Education Reform. The infrastructure surrounding the Scottish education system is designed to be progressive and adaptable, ensuring that it continues to meet the changing demands of society and learners' needs. The array of policy and legislation surrounding Scottish education certainly suggests a commitment from the Scottish Government to ensure that education is progressive and accessible to all learners, regardless of family background; geographic location or socio-economic status. However, it is important to explore this literature further to identify the extent to which flip classroom and / or student-led learning is documented within Scottish education literature.

The OECD (Organisation for Economic Co-operation and Development) (2011), in a study focusing upon the relationship between school autonomy and pupil performance, identified that schools perform at a higher standard when they are provided with autonomy and decision-making power. More specifically, OECD (2011, p2) records that "... the greater the number of schools that have the responsibility to define and elaborate their curricula and assessments, the better the performance of the entire school system..." Whilst this does,

perhaps, allow autonomy and decision-making power to schools to define their own curriculum and assessments, it may create inconsistencies between establishments and the quality of learning and teaching offered between different establishments.

The Scottish Education Reform: Update (Swinney, 2018) notes that international research suggests that education systems are successful when decisions surrounding a child's education are made by those who are closest to them. Whilst this publication does not make explicit reference to the international research informing this conclusion, it does make reference to research from the OECD and Programme for International Student Assessment (PISA). This approach provides schools, and the communities in which they serve, with a sense of empowerment to make informed decisions which affect the educational outcomes of children and young people. It does, however, beg the question: Prior to the Scottish Education Reform (Swinney, 2018), were schools unsupported in the decision making process regarding a child's educational outcomes?

Swinney (2017) highlights that whilst decisions regarding the improvement of teaching and learning lie at school level, it is the role of the entire education system to support the learning that takes place in classrooms and schools. This therefore sets out that the GTCS, Initial Teacher Education institutions, Education Scotland, Scottish Government, Scottish Qualification Authority (SQA), Her Majesty's Inspectorate for Education (HMIE) and the communities in which schools serve all play a vital role in supporting the learning that takes place in the classroom. Donaldson (2011) identifies that high quality teachers' result in higher quality outcomes for children and, as a result, more emphasis is placed on the quality of learning and teaching. Swinney (2017) documents a commitment to ensure that teachers are supported to ensure that learning and teaching is of a high quality; with teachers being leaders of learning within their classrooms; a revolutionised offer of support and improvement; greater opportunities for career development and progression; and through career-long professional learning. This also suggests that Initial Teacher Education institutions have a duty to ensure that those entering the teaching profession are adequately prepared to deliver high quality teaching within classrooms. Moreover, Swinney (2017) goes

on to recognise the role of Education Scotland and GTCS in the provision of professional learning and leadership development to teachers. Within this education reform, Swinney (2017) acknowledges the important role and responsibility of these agencies in the development of skills and provision of support for teaching staff.

Within the Scottish Education Reform (2018), it would almost appear as though student-led learning, including flip-classroom pedagogy, has been disproven or completely removed from the Scottish education agenda. The Reform documents that local authorities across Scotland extend agreement with the Scottish Government endorsing the principles of school empowerment and a teacher-led approach to education (Swinney, 2018). Whilst there is certainly an argument for a teacher-led approach to learning and teaching, Scotland's Education Reform: Update (Swinney, 2018) refers to international research which concluded that a teacher-led approach to learning and teaching results in higher level outcomes for learners. It should, however, be noted that this policy does not make reference to or identify any local research which suggests that this approach is in the best interest of learners and schools within Scotland. Moreover, the policy fails to highlight the drawbacks of a teacher-led approach. As earlier documented, a teacher-led approach may be more favourable with learners who may struggle to fully understand or engage with a student-led approach, and therefore the teacher should assume responsibility for the learning process. However, utilising a teacher-led approach with pupils who are able to take responsibility for their learning can fashion learners who lack the ability to think critically or develop problem solving skills (Trigwell et al, 1999; Prince, 2004). Furthermore, teachers have a duty to instil these transferable skills within learners (GTCS, 2012b), and it could be considered a disservice to use a teacher-led instructional approach with all pupils. This policy does, however, recognise the autonomy and decision-making power of the teacher, and the duty of the teacher to make decisions which are in the interest of the child (Swinney, 2017).

Student Partnership in Quality Scotland (SPARQS) (2011) provide a framework for student engagement within Scotland, which seeks to identify best practices and approaches for effective student engagement. This framework notes the importance of supporting learners

to take responsibility for their own education, thus enabling pupils to form their own experience and fashion the learning outcomes they wish to achieve. This initially involves the provision of support or activities for learners whilst they develop an enthusiasm or passion for the subject or topic, which holds similarities to a teacher-led approach to education. However, once this enthusiasm has been established, pupils should continue to learn through their own voluntary participation and exploration of the subject. The enthusiasm documented within this framework certainly resonates with a self-regulated learner (Harris, 1990; Graham et al, 1992; Zimmerman, 2002; Lewis and Vialleton, 2011) and, more importantly, acts as a guide as how to form self-regulated learners. Once this self-regulation has been established, learners will acknowledge that learning is something that is more than what is assessed or accredited (SPARQS, 2011). SPARQS (2011) further goes on to identify that many activities which are successful in creating engaged learners use a student-led approach. Moreover, SPARQS (2011) offers a range of activities or strategies which teachers can adopt to increase student engagement and create ambitious learners with a drive to take responsibility for the success of their own learning: opportunities for a choice of activities; pupils to lead learning; peer-led academic mentoring; and Personal Development Planning (PDP) or the development of transferable skills (SPARQS, 2011). SPARQS is a publicly-funded authority which aims to support student engagement within the university and college sector within Scotland. The agency links with key education authorities within the sector, including Education Scotland and Universities Scotland. However, although SPARQS engaged with education agencies across Scotland, the Student Engagement Framework is designed for engaging learners enrolled within higher education institutions. This framework signals a support from Education Scotland for student-led learning within higher education institutions. Nevertheless, there is an argument that the key principles outlined within this framework would be suitable for learners in secondary school establishments. Moreover, this does, perhaps, evidence a disparity in the support offered to educators. Educators within higher education institutions, as evidenced by SPARQS (2011), are supported in the promotion and engagement of learners in a student-led approach, whereas teachers of primary and secondary school establishments are supported to a greater extent in a teacher-led approach, as documented by Swinney (2018) within Scotland's Education Reform: Update. This highlights a discrepancy in the support that is offered to educators at different levels within Scottish education.

The Scottish Government documents the preference of a teacher-led approach to education. The Scottish Education Reform (2018) provides primary and secondary education establishments with the power to create their own curriculum, but enforces a teacher-led approach to learning on the grounds that this strategy leads to higher outcomes for learners. However, student-led pedagogy is effective in allowing learners to develop key skills and agency whilst taking responsibility for their own learning, as the literature review and research evidence supports. Whilst the need to support learner attainment is indisputably important, the Scottish Education Reform (Scottish Government, 2018) fails learners in their ability to progress in their agency and skills development. In addition, this reform further displays a lack of support for teachers who may wish to incorporate a student-led approach within lessons. An implicit lack of support for a student-led approach to learning is noted within Scottish education policy. Whilst this approach may be not be suitable for all pupils, perhaps a support for educators to use their professional judgement or agency with this approach at their discretion, especially with learners who possess the cognitive ability to engage in this pedagogy, may provide the appropriate challenge to these learners and result in higher learning outcomes. Moreover, this research also found a disparity in the support for student-led learning offered at different stages of education within Scotland; higher education institutions are supported in the use of student-led learning (SPARQS, 2011), whereas a teacher-led approach to teaching is preferred within a school context (Swinney, 2017). A consistent approach to teaching between schools and higher education institutions may allow for smoother transitions for learners from secondary education to higher education.

4.2 How does Education Scotland; the Scottish Government; Skills Development Scotland and the GTCS support the development of skills in learners, and how could flip classroom be used to better meet this objective?

This research has, thus far, identified a lack of documentation regarding flip classroom and student-led learning within Scottish Education policy. It is important to explore the importance such agencies place on the development of key skills within learners, and the role

of the teacher in developing pupils' skills. This research has found a lack of consideration for flip classroom and student-led learning, and an implicit ignorance to the evident benefits flip classroom pedagogy brings with regards to the development of skills within learners. As the benefits of flip classroom pedagogy appear to have been dismissed, it is worthwhile to investigate the alternative support provided to teachers by these agencies in preparing learners with the necessary skills required for success in learning, life and work and, in addition, consider how flip classroom could better meet these objectives. In order to investigate this research question, the grey literature published by these agencies has been analysed. Moreover, this discourse has been analysed from a linguistic perspective, focusing upon the words, context and frequency of language used in order to answer this research question.

Figure 7: Language within Scottish Education Policy

Frequency of Language		
Policy	Term Searched	Frequency
Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work (Scottish Government, 2009)	Skills	411
	Skills Development	26
	Learning, life and work	19
	Development	83
	Support	74
	Teachers	25
GTCS (Standards for Registration, 2012a)	Skills	9
	Skills Development	0
	Learning, life and work	2
	Development	30
	Support	19
	Teachers	58
GTCS (Career-Long Professional Learning, 2012b)	Skills	15
	Skills Development	0
	Learning, life and work	0
	Development	10
	Support	9
	Teachers	28
The Teaching Scotland's Future (Donaldson, 2011)	Skills	0
	Skills Development	0
	Learning, life and work	0
	Development	5
	Support	4
	Teachers	2

Getting it Right for Every Child (Scottish Government, 2014)	Skills	1
	Skills Development	0
	Learning, life and work	0
	Development	1
	Support	4
	Teachers	0

Figure 7 demonstrates the frequency of skills and skills development language within Scottish Education policy. The terms “support” and “teachers” were also searched for to identify the role of the teacher in developing these skills within learners. The term “learning, life and work” is recognised across the education network in Scotland, and acknowledges that learners should develop skills in school to ensure success in learning, life and work. The frequency of skills development language within these documents is varied. However, Figure 7 presents an overwhelming agreement on the importance of skills development within learners. This chapter will explore each piece of legislation further in order to explore the role of the teacher in developing skills within learners, and further identify if flip classroom or student-led learning could be incorporated in order to assist teachers in developing key transferrable skills within learners.

4.2.1 Exploring the role of the teacher in skills development

HMIE (2009) acknowledges that the role of the teacher is to plan and prepare lessons which challenge learners and contribute to the depth and progression of pupils’ understanding, and promote the development of higher order thinking skills. Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work (Scottish Government, 2009) recognises that teachers across the industry must identify learning opportunities which meet the needs of all learners, whilst challenging pupils and supporting progression. Indeed, this learning may take place across a variety of contexts and it may be necessary for teachers to incorporate different learning experiences for different learners. It is, however, crucial that teachers provide the necessary support to all learners and in all aspects of skills development. According to GTCS (2012a) teachers should use, design and adapt materials for teaching and learning that engage, assist and challenge all learners and be able to justify what is taught in relevance to the curriculum and to the needs of all learners. This is further supported by GIRFEC (Scottish

Government, 2012). Moreover, this shows unquestionable consensus across different education authorities and regulatory bodies that the duty and responsibility of the teacher is to support all learners (HMIE, 2009; GIRFEC (Scottish Government, 2012); GTCS, 2012a; Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work (Scottish Government, 2009)).

4.2.2 Analysing the position of the Scottish Government and the emphasis placed on skills development and flip classroom pedagogy

According to Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work (Scottish Government, 2009), the Scottish Government provides support to all educational partners in the promotion of effective learning which allows pupils to develop the skills required for learning, life and work. The educational partners in which this document seeks to support is extensive and includes: children; parents; local authorities; employers; social work; healthcare; police; and Skills Development Scotland (SDS). Education Scotland is a Scottish Government agency with responsibility for supporting high quality learning, teaching and assessment in Scotland. Moreover, the Scottish Government (Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work, 2009) recognises that learners can develop skills through a variety of experiences, such as work experience; Developing the Young Workforce (DYW); and out-of-school learning. However, it should be recorded that this policy does not recognise the benefit of using a suitable pedagogy, such as flip classroom, to develop skills. It is also important to note that the responsibility of skills development is therefore not the sole responsibility of the teacher, but the Scottish Government (Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work, 2009) recognises that it is the responsibility of the entire education sector to contribute to the development of skills.

This research has previously found that the Scottish Government does not recognise the benefit of developing skills through flip classroom pedagogy. However, it is also important to recognise that the Scottish Government (Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work, 2009) advocates that they promote effective learning. Whilst this document does not make explicit reference to a teacher-led approach to education, it is clear

that the underlying pedagogy is a teacher-led approach. The document does not explain what is meant by effective learning and the range of pedagogy considered in order to arrive at how this teaching technique is best suited to promote effective learning, and therefore the document is open to interpretation and scrutiny.

Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work (Scottish Government, 2009) stresses the importance of skills development and ensuring learners leave school equipped with the skills required for life and work beyond school. Moreover, the role of the teacher in education is to “plan and deliver learning” (Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work, Scottish Government, 2009. p7). Transitioning from a teacher-led approach to a student-led approach, such as flip classroom, would allow the learner to plan and self-regulate their learning experience and, in doing so, develop key planning, organisation, leadership and critical thinking skills (Zimmerman, 2002; Kong, 2015).

4.2.3 Investigating the position of the General Teaching Council for Scotland with regards to skills development and flip classroom pedagogy

The role of the GTCS is to improve the quality of learning and teaching in Scotland, and to maintain and improve the professional standards of teachers (GTCS, 2012a). According to GTCS (2012a), teachers must:

“... plan appropriately, in different contexts and over differing timescales, for effective teaching and learning in order to meet the needs of all learners, including learning in literacy, numeracy, health and wellbeing and skills for learning, life and work.”

GTCS, 2012a. p13.

Within these policies, GTCS (2012a) largely refer to the skills, attitudes, values and practices required of the teacher to make pupil-orientated decisions that are compatible with

sustainable learning. This is further reinforced by Swinney (2017) who documents the support for teacher empowerment and the ability for teachers to make pupil-orientated decisions. However, the *Standards for Registration* (GTCS, 2012a) and *Standards for Career-Long Professional Learning* (GTCS, 2012b) focus more upon the skills of teachers within their curricular area and their professional skills and abilities, rather than the way in which teachers can develop and impart these skills to pupils. The GTCS fail to document the pedagogical grounding for these statements and appear to favour a teacher-led approach to education. This study has already identified a lack of support for flip classroom pedagogy from Education Scotland, and this is resonated by GTCS.

The *Standards for Registration* (GTCS, 2012a) detail the mandatory requirements for those seeking full teacher registration and the GTCS work collaboratively with schools and Initial Teacher Education institutions to ensure this standard is achieved. The above quote is the only mention, within these publications from the GTCS, of the requirement for teachers to ensure that learners develop the necessary skills for learning, life and work. The GTCS (2012a) is explicitly clear in detailing that the duty of the teacher is to prepare pupils for success within education and equip them for life beyond education. However, the GTCS (*Standards for Registration*, 2012a; *Standards for Career-Long Professional Learning*, 2012b) fail to record the strategies or support available to educators within this expectation. This, again, echoes the framework of a teacher-led approach to education, and a lack of support for teachers who wish to utilise a student-led approach to teaching in order to develop key skills within learners.

Furthermore, the literature produced by the GTCS (*Standards for Registration*, 2012a; *Standards for Career-Long Professional Learning*, 2012b) documents the requirement for all teachers to engage in continual learning and professional development. However, GTCS (2012a; 2012b) fails to note the skills required of teachers to support the development of skills within pupils. Moreover, this literature notes that registered teachers will develop professional knowledge and pedagogical understanding as they progress throughout their career and details that the Scottish education community is committed to supporting career-

long professional learning for all teachers. However, this policy is not specific with regards to the manner in which this support is provided and relies upon teachers taking responsibility for their own professional development. This further highlights that the GTCS is limited within its approach to supporting teachers in preparing learners with essential transferrable skills. In addition, if teachers are to progress in pedagogical understanding as they progress in their career, teachers are required to engage in individual research with pedagogy to ensure current and accurate knowledge. Moreover, the GTCS cannot guarantee that all teachers within the profession will undertake this learning. The GTCS (2012a) documents a commitment from the Scottish education community to support the development of teachers. However, the vagueness of this statement indicates a lack of collegiality between GTCS and Education Scotland on this matter.

The Standards for Registration (GTCS, 2012a) and Standards for Career-Long Professional Learning (GTCS, 2012b) make numerous references to the 'skill' of teachers. Donaldson (2011) recommended that these publications should explicitly state the key skills and competencies required of teachers using clear, plain language. Whilst the GTCS publications clearly highlight the key competencies expected of teachers, these documents are, at best, vague regarding the skills expected of registered teachers. The GTCS should explicitly state the skills expected of teachers; empowering teachers to engage in pedagogy to make decisions about whether a teacher-led approach to learning is best for the pupils in their class, or if pupils are able to take autonomy for their learning and development through a student-led approach. Indeed, teachers will require a different skills set to provide a student-led approach to learning as opposed to a teacher-led approach to learning, and this should be clearly documented by the GTCS. The GTCS should explicitly state the pedagogy used in the Standards, and document the skills learners are required to develop, along with the skills required by the teacher. Without this theoretical underpinning, the Standards simply pay lip-service to the development of skills in learners.

4.2.4 Exploring the emphasis placed on skills development by Skills Development Scotland with a focus on flip classroom pedagogy

Skills Development Scotland (SDS, 2020) provide an array of activities which support teachers in making learning relevant to the wider world of work. The support offered by SDS allows teachers to make lessons relevant to future careers; allowing pupils to identify links between classroom learning and the world of work and develop career management skills within pupils. The support offered by SDS is through worksheets, classroom exercises, homework tasks and discussion topics and has been tailored to the experiences and outcomes identified in Building the Curriculum 4: Skills for Learning, Skills for Life and Skills for Work (Scottish Government, 2009). Moreover, SDS (2020) partner with Developing the Young Workforce (DYW) to provide these activities, ensuring that the resources are suitable to all learners. The resources support teachers to instil in learners the skills required for entering the world of work. The support which SDS offers is primarily based on a teacher-led approach to education. However, these resources could be easily adapted to suit a flip classroom setting. Moreover, these resources may not be widely accessible to all teachers, and teachers may not be supported or encouraged to incorporate these activities by their school. Teachers may also be unaware that these resources exist, and perhaps a greater universal promotion of these resources from national government, local authorities and schools would provide collective support to teachers in linking what is taught in the classroom to the world of work. This would, in turn, provide support to teachers through ensuring that they are equipped to develop key skills within learners. Furthermore, it would also ensure that teachers are aware of the requirements set out by Education Scotland, GTCS and Scottish Government and support teachers in achieving these standards. The resources provided by SDS could be adapted for use in a flip classroom setting and this should be promoted and encouraged by SDS.

4.2.5 Analysing Education Scotland literature with a focus on skills development and flip classroom pedagogy

Profiling Skills and Achievements in the Context of Career Education (Education Scotland, 2019) details that learners should have regular opportunities to discuss their learning and plan their next steps with those involved in their education. Education Scotland, in co-operation with SDS, have prepared this guidance to support teachers and practitioners in the profiling of skills and achievements of young people. This resonates with a student-led

approach to education and entails learners taking responsibility for their learning. Moreover, the role of the teacher, as set out by Education Scotland (2019) in this document, is to provide support to learners in the profiling of skills and achievements. Walsh (2013) recognises that teachers can shape and influence learner conversations in a positive way through the use of scaffolding, paraphrasing and reiterating. This supports learners in taking responsibility for their own learning, similarly with flipped classroom and student-led learning, and further establishes learner awareness of the knowledge and skills that have been developed. This process allows learners to develop their reflection, evaluation and self-management skills and cultivates an ability to think about career pathways which are suitable for their abilities, attributes and capabilities (Education Scotland, 2019). Moreover, Education Scotland (2019) stresses the importance of teachers reviewing and evaluating their own practice whilst using the latest guidance and tools available to ensure they are appropriately developing learners' skills. However, whilst Education Scotland (2019) documents the importance of teachers reviewing their own professional practice to ensure they are successfully developing skills within learners, the guidance on this is unclear and places the emphasis on the teacher to ensure this standard is met. Education Scotland documents a support for pupils through the profiling of skills and achievements and recognises the importance of learners being able to discuss their progress, yet there is a lack of documentation from Education Scotland regarding the way in which teachers are assisted in the provision of this support.

The Scottish education policy considered within this chapter documents the necessity for learners to develop a variety of skills in school to ensure success in learning, life and work. This policy is founded upon a teacher-led approach to learning, and furthermore the onus is upon on the teacher to ensure pupils are on a progressive course in skills development. Whilst, undoubtedly, teachers have a role to play in ensuring pupils develop essential skills within education, the Scottish Government and associated education bodies within Scotland lean upon a teacher-led approach to learning. It is difficult to appreciate the emphasis placed upon skills development within Scottish education policy when such policies dismiss the benefits of a student-led approach. As discovered, flip classroom pedagogy supports learners' skills development, and as such, education policy within Scotland would significantly benefit from recognising the advantages of this pedagogy.

5.0 Conclusion

This research critically explores flip classroom pedagogy; the place and emphasis of such pedagogy within Scottish education discourse and the benefit to young learners in developing skills through a flip classroom based learning strategy. This chapter discusses the research findings; explores the limitations of the research; provides recommendations for future research, policy and practice; and finally explores how the findings of this research could be disseminated.

5.1 Key Research Findings

CDA was used to explore the range of literature available in order to describe, interpret and explain the construction and reconstruction of societal norms through language (Roger et al, 2005). Moreover, the literature was explored from an interpretivist viewpoint in order to 'make sense' of the literature rather than hypothesise (Yanow & Schwartz-Shea, 2015). This allowed the discourse available to be analysed from a linguistic and analytical perspective in order to investigate the effectiveness of flip classroom pedagogy and skills development, and further explore the prevalence of flip classroom language within education policy.

First and foremost, this research identified a strong correlation between the use of flip classroom pedagogy and learner engagement and skills development. Moreover, this study also found that for flip classroom pedagogy to be effectively implemented, both learners and teachers should have a solid understanding of the pedagogy and expectations of one another throughout the learning process (Norcini et al, 2011; Bishop & Verleger, 2013). In addition, this learning technique should be applied at the judgement of the teacher and may not be suitable for those with additional support needs or those who are not able to engage with a student-led approach (Florian and Black-Hawkins, 2011). This research further found that despite strong academic recognition for flip classroom pedagogy and wide documentation regarding the benefit of using flip learning to teach key skills within learners, there appears

to be a strong underlying resistance to using such pedagogy within Scottish education. The use of an interpretivist research paradigm and CDA identified that key education policy and literature from the Scottish Government and Education Scotland implicitly ignores the benefits of flip classroom pedagogy in favour of a teacher-led approach to learning and teaching, even to the point of failing to refer to its existence in Government policy and teaching guidance. Finally, this study identified the need for learners to develop key skills within education to ensure success for learning, life and work, and further explored the considerable emphasis placed upon the teacher. Scottish education circles rely upon the teacher to impart key skills to learners, and provide the learner with very little responsibility for their own learning. A transition from a teacher-led approach to a student-led approach to education, such as flip classroom, would allow learners to develop key skills whilst taking additional responsibility for their own learning, which could have long reaching, even life-long, benefits for learners.

5.2 Limitations of the study

Unfortunately, whilst undertaking this study, schools were put under sudden and unexpected closure due to the worldwide Coronavirus pandemic. Prior to this, ethical approval had been granted to conduct field research in order to explore the skills which pupils developed as a result of using flip classroom pedagogy. This would have allowed the opinion of learners engaging with flip classroom pedagogy to be included in the research, and would have identified the depth to which learners developed skills whilst using the flip classroom approach. However, as this research had not been conducted prior to school closures, it was necessary to change the nature of this research from a field-based approach to a desk-based approach. The sudden closure of schools meant there was no opportunity to plan remote research and discuss this with learners prior to national lockdown by the Scottish and UK Governments. Therefore, perhaps the largest limitation of this study remains that primary data was unable to be obtained.

This study considered a range of literature across the breadth of the Scottish education system. Whilst it was not possible to gain a complete understanding of the large volume of literature, the critical interpretivist approach used in this research allowed for key themes to be identified and analysed. However, the findings identified in this study were found by the researcher, and another researcher conducting the same research may have interpreted this literature differently and thus concluded different findings.

Finally, the literature explored in this study was free to obtain and, as a result, this research was relatively cheap to produce. However, had funding been available to conduct this research on a larger scale, possibly with additional researchers who were able to explore a larger variety of literature to a greater degree and over an extended period of time, it may have been possible to deduce more detailed findings.

5.3 Recommendations for future research, policy and practice

The Coronavirus pandemic triggered an overnight switch to student-led study with very little warning for learners or teachers to prepare. Teachers were unfamiliar with asynchronous learning methods which they were suddenly expected to use as their main resource for teaching. Support mechanisms were non-existent which led to many teachers being unable and ill-equipped for this remote learning methodology. Learners too were expected to use unfamiliar learning platforms and many learners struggled with the sudden change from a teacher-led approach to learning to a student-led approach. Furthermore, as students return to full time education in August 2020, it is clear that many learners have struggled with the process of student-led learning and some learners have missed out on 4 months of education. It is therefore clear that, had student-led learning and flip classroom pedagogy been embedded in Scotland at the point of the pandemic school closures, teachers would have been better prepared in providing resources to learners for self-directed study and many learners would have fared better in having responsibility and motivation for their own learning. Similarly, the Scottish Government and education authorities would have been able to provide comprehensive and clear support for both teachers and learners. It is therefore

recommended that the Scottish Government reviews education policy to reflect student-led learning and flip classroom pedagogy. An urgent review may allow learners and teachers to be better supported in the instance of a second wave of Coronavirus.

Future research should seek to conduct a field based study which includes learners as the participants of research. This will allow the results of this study to be authenticated, but further expanded to include the viewpoint of learners. Learner engagement in flip classroom pedagogy is essential to its success. Moreover, should the result of such research prove conclusive, the effect of this research could have extensive ramifications for education in Scotland, and indeed, far beyond.

Finally, it is recommended that flip classroom pedagogy should be incorporated into secondary education establishments across Scotland. This pedagogy should be used at the discretion of the teacher with learners who are able to engage and take responsibility for their own learning, thus allowing learners to develop key, life-long skills. Moreover, it is recommended that GTCS, Education Scotland, Scottish Government and SDS provide support to teachers who wish to use this pedagogy with learners.

5.4 Dissemination Strategies: The impact of this research

Dissemination refers to the application of a piece of research to a broader scale than the setting upon which the research was initially applied (The Norwegian National Committees for Research Ethics, 2016). A dissemination strategy is the identification of potential adopters of research outcomes and the assessment of whether the environment is suitable and ready for change (Hinton et al, 2011). This study sought to evaluate the effectiveness of flip classroom pedagogy in the development of transferrable skills within learners, and moreover proved successful in identifying that, when used appropriately and effectively at the discretion of the teacher, flip classroom and student-led pedagogy is successful in allowing learners to develop transferrable, life-long skills.

The need for pupils to develop and learn a variety of skills has been recognised by Scottish authorities (GTCS, 2012a; SDS, 2020; Education Scotland, 2019) along with the role of the teacher in instilling these skills (GTCS, 2012a; SDS, 2020). Should additional research, as recommended above, offer consistent and conclusive outcomes, the results should be shared across education communities, including the GTCS and Education Scotland. This research has the ability to change the teacher-led approach to learning currently favoured in Scotland (Swinney, 2018) to a student-led approach which would see learners better develop transferrable skills within the classroom. Moreover, should the benefits of using a student-led approach be recognised and adopted by Scottish Government and education authorities, the ramifications of this research could be reverberated far beyond the Scottish education system. Furthermore, should a student-led approach be adopted and implemented, it is recommended that teachers are provided with the necessary support to effectively incorporate a student-led teaching approach within the classroom. This support should provide training to teachers, and form a consistent approach across different education agencies, including the GTCS, Education Scotland, SDS and the Scottish Government.

I intend to share the key outcomes of this research, along with a copy of this paper, with education departments across Scotland and the Scottish Government. If the Scottish Government and the Scottish education system are able to recognise the benefits of flip classroom pedagogy in supporting learners in skills development, and amend education policy to reflect this, this research could provide a transformational foundation of change to ensure education systems across the globe meet the demands of twenty-first century learning. In order to ensure that this research is heard across the globe, I intend to seek permission to share the findings of this research with the European Conference on Education (ECE) in London in 2021 and the International Finance Cooperation (IFC) 9th Global Education Conference in Mexico in 2021. The IFC Global Education Conference focuses upon ensuring education systems are suitable for a changing world (IFC, 2020), and the findings of this research certainly exposes the need to change education in Scotland in order to better serve learners in an ever-changing world.

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Appendix 1: Plain Language Statement



Plain Language Statement

Researcher: *(Removed for submission)*

Supervisor: *Dr R. Dunkley*

Programme: *Master of Education (M'ED)*

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide if you wish to take part or not.

Thank you for reading this.

What is the purpose of the study?

To assess the effectiveness of flip classroom learning in building transferable skills in an S3 Business Education classroom. “Flip Classroom” is when pupils learn knowledge before class through the use of an instructional video / recording prepared by the teacher. “Transferrable skills” are a range of skills that may be useful to use in different jobs, industries or education. For example; organisation or teamwork skills could be used in both education and future employment.

Why have I been chosen?

Every member of the S3 Business Management class has the opportunity to take part in the study.

Do I have to take part?

You do not have to take part and neither will your participation or non-participation impact on your grades in any way. You are also free to withdraw from the study at any point and without reason. All data relating to you will be destroyed, if you do decide to withdraw from the study.

What will happen if I do take part?

You would come to class having watched an instructional video / recording / PowerPoint, prepared by the researcher, on the National 5 curriculum. You would take notes on this in your jotter, and come to class with these notes. This means that pupils would come to class prepared, and then take part in activities during class time to support and reinforce the knowledge that was gained at home. You will be asked to identify what transferable skills, you believe, were used in this learning and teaching strategy. This survey will be conducted on the Internet, using a secure platform to store this information. Information will be held anonymously. The research will only take place once.

At the end of the research period, you will complete a survey to identify the impact of flip classroom on your learning and what transferable skills were developed during this time.

Will my taking part in this study be kept confidential?

Yes, confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies. Research data provided by participants will be held securely on Google Forms. This is password protected and can only be accessed by the researcher. This data will be destroyed after the research is complete. Data will also be anonymised for the purpose of publishing the results.

What will happen to the results of the research study?

- 1 The CPD pack may be published online for all staff and students in the School of Education;
- 2 The work may form the basis of conference presentations;
- 3 The project may be presented at for a such as the Learning and Teaching committee and/or RTG groups;
- 4 The project may be presented to the school and local authority;
- 5 The results of the project will be shared with the pupils as participants of the research;
- 6 The results will not be shared with parents, unless requested;
- 7 The data will be destroyed once the project is complete.

Who has reviewed the study?

The study has been granted ethical approval by the School of Education Ethics committee, Local Council and High School (*Name of council & school removed for submission*).

Contact for Further Information

Researcher: *(Removed for Submission)*

Supervisor: **Dr Ria Dunkley**. Email: Ria.Dunkley@glasgow.sch.uk

If you have any concerns regarding the conduct of this research project, you can contact the School of Social Sciences Ethics Officer, Barbara Read at email:barbara.read@glasgow.ac.uk