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Title: Connecting Life Sciences concepts to everyday life: A learner's perspective

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Abstract

This study explores whether the understanding of Life Sciences concepts learnt in the classroom have any influence learners' daily decision-making and lifestyle within the South African Curriculum Assessment Policy Statements (CAPS). Basic Life Science knowledge should not only be acquired as head knowledge, but learners should also be able to put to use the scientific concepts and content knowledge in their daily life, especially when it comes to decision making and problem solving. In this qualitative case study, semi-structured interviews were conducted with 60 learners (n = 60) from Grades 8 to 12 in a High school with modern laboratory and educational technology facilities. Data collected were analysed using the constant comparative method. The findings revealed that learners viewed Life Sciences knowledge as being for academic and promotion purposes only learners are not aware of how knowledge acquired in the classroom can be transferred so as to be useful in their daily lives as their learning experience is in the traditional way. **We suggest that authentic and real-life learning approach instead. Thus, promoting learner's personal knowledge construction as a result empowering learner with the ability to link the classroom knowledge to their everyday life.**

Key words: Experiential learning, Life Sciences, outdoor learning, problem-solving, powerful knowledge, scientific literacy

INTRODUCTION

With the inception of civilisation and, later, of technology, came the vast circulation of information and knowledge. Knowledge acquired at school is a basic necessity and should find its application in learners' everyday lives (Harlen et al., 2015). In traditional schools, learning is assumed to occur only within the classroom without the involvement of outdoor activities. With this kind of learning strategy, restrictions are imposed on learning directly from nature, consequently inhibiting opportunities to link activities in the real world to the contents learnt in school. The reality is quite the reverse: outdoor learning exposes learners to the natural world, where they experiment and discover nature in an authentic manner (Institute for Outdoor Learning, 2018). Informal learning has been identified as one of the ways to bridge the gap between subject content and learners' everyday lives (Dohn & Dohn, 2017)

Currently in education, the idea of embracing authentic and real-life-based learning activities is on the increase. Life Sciences epitomises the dynamic interplay between human and non-human elements in the ecosystem (Sillick, 2013). In contrast to this fact, learners assume that science is irrelevant in their daily lives (Dohn & Dohn, 2017:1305). From the classical greats through to today, what science typifies has not changed much except that it may occur much quicker and happens unanticipated. Life Sciences is no exception. Life Sciences knowledge is fundamentally acquired in the study of nature and in a real-life context. It is the systematic study of nature and the documentation of the understanding acquired through such studies. This knowledge is in turn applied to improving human life. The study of Life Sciences is the study of nature and is rooted in observation and inquiry about nature. In essence, meaningful learning can only occur when Life Sciences concepts are taught and experienced within nature in real life

The inconsistency between learners' ability to relate the relevance of science to their personal lives is suggested to be the root cause of the lack of interest in science content (Dohn & Dohn, 2017; Harlen et al., 2015). Improved interest can be accentuated by finding solutions to the disparity between science content and its day-to-day application in real life (Zhan, So & Cheng, 2017). Linking Life Sciences topics and concepts to learners' everyday activities enhances quality learning (Hwang, Chen, Chen, Lin & Chen, 2018). However, the inclusion of learners' realities and experiences is often not considered during curriculum development.

In the past few years, the South African Life Sciences curriculum has undergone a series of improvements aimed at ensuring that the subject content is useful and applicable to learners' everyday life (DBE, 2011). While various studies

have researched the perception of the curriculum from the teachers' point of view, the aim of this study is to explore whether this curriculum is perceived as applicable to everyday life by the learners who are the supposed beneficiaries of the curriculum.

The relevance of powerful knowledge

The intention of curricula is to equip learners with "powerful knowledge" that enables them to harness their existing knowledge in the production of new knowledge (Young, 2010:4). Powerful knowledge is described as knowledge that is acquired for the purpose of application and not for mere acquisition or to fulfil the requirements prescribed by curriculum developers (Young, 2010). Having to learn purposely for knowledge application has been known to improve understanding and to facilitate deep and creative thinking. However, when scientific knowledge is acquired without being engrained in what learners can relate to in real life, its relevance for learners is often obscured.

The challenge of connecting school subject content to learners' daily lives is one of the topmost concerns for education researchers (Martin et al., 2016:1364). Learners perceive science as a difficult subject, and this has led to less motivated learners. The decrease in learners' motivation and interest in science as a subject could possibly negate the future impact of having learners pursuing the sciences at tertiary levels (Čipková, Karolčík, Dudová, & Nagyová, 2018).

Science with its ubiquitous nature spans all human activities (Harman & Dietrich, 2013:8) and the extent to which learners find science relevant to their daily lives is important for daily decision making (Martin et al., 2016). Building a curriculum that will address learners' needs and stimulate interest is, therefore, crucial in curriculum and instructional design.

Curriculum development

Curriculum may be defined as the sum total of all learning programmes available to the learners (Kamunge, 1988). When we talk about the relevance of the curriculum for learners, it should be that which is within the confines of what learners can relate to. Some high school curricula consist of topics that are difficult for learners to understand and, as such, the topics prove difficult to relate to (Menjo, 2013). In the context of our ever-dynamic world, rigid or 'pass-on content knowledge' curricula will not meet the demands of our future. Rather, a curriculum that is flexible and much adapted to real life is required in order to meet the dynamics of our socioeconomic world. Such a curriculum embraces the continuous construction and socio-construction of knowledge as a culture (Young, 2011:267). Young (2011) called such a curriculum a curriculum for the "future 2". The future requires individuals who are empowered to construct meaningful knowledge from their experiences of real life and, of course, in the company of other co-constructors.

Experiential learning

Rather than the classic, traditional way of learning, many writers and researchers advocate contextual learning, experiential learning and problem-solving as effective learning strategies. Contextualisation refers to bridging the gap between content knowledge taught in classrooms and real-life situations (Valenzuela 2018). Classical educationists like John Dewey, Howard Gardener and Benjamin Bloom emphasised the value of learning by doing. This kind of learning presents an authentic and experiential base for connecting with the realities of what learners are learning. Forms of instruction such as lectures, and the use of videos and the internet, have been introduced into schools in recent times; however, connecting learners to the practicality of what they are learning is still missing. As good as technology integrated learning is, unless it is accompanied by *"more powerful pedagogy, more valid assessments, and links between in-and out-of-classroom learning"* (Dede, 2014:6), it will remain merely another means of disseminating information visually.

Experiential learning connects learners to reality where they may be exposed to tangible, hands-on and meaningful educational experiences (Ezezika, 2019). With experiential learning, there is the breaking of the boundaries of individuality and in uniform subjects. It promotes interdisciplinary and transdisciplinary approaches to knowledge construction (Young, 2011:267).

To ensure a link between what is learnt in the classroom and real-life experiences, an interdisciplinary or integrated curriculum plays a vital role. Integrated learning has been reported to be effective in empowering learners with holistic knowledge rather than fragmented knowledge (Irvin, 1997). Integration encourages relevance in classroom learning by making the curriculum more meaningful in students' lives. In addition, integration is central to the experiential learning process.

Implementing curriculum with interdisciplinary unit planning empowers teachers to move beyond content areas only, to more relevant learning experiences (Stolle & Frambaugh-Kritzer, 2014). Furthermore, instructional methods used by teachers in classrooms are usually the consequences of teachers' perception of the demands of the curriculum (Harlen, 2010). The value of learning is accentuated when concepts learnt are sufficiently relevant to link learners' knowledge acquired in the classroom to their outside world experiences.

METHODOLOGY

This research was an explorative qualitative case study conducted at a high school in Pretoria, Gauteng province, South Africa. The school is situated in an urban area with modern facilities such as a well-equipped laboratory and internet connection. The total sample population was 60, with all participants being Life Sciences learners from Grades 8 to 12. Participants' selection was not based on their future career choice, since it is expected that any learning is for the purpose of application in real life.

Data collection instrument

Data were collected using semi-structured interviews and open-ended questionnaires as the primary data sources. Semi-structured interviews were used as an instrument to explore participants' views on how their learning has influenced the application of knowledge of Life Sciences in their everyday lives. An open-ended questionnaire was used as a follow-up data gathering instrument to ensure consistency and validate participants' views on their learning experiences. All ethical procedures were adhered to before, during and after the study. Participants were identified using pseudonyms to ensure anonymity in adherence with the ethical requirements.

Data analysis

Data from the semi-structured interviews and open-ended questionnaires were analysed separately, using Charmaz's (2006) constant comparative analytical method. Coded data were constantly compared with one another and, from this comparison, more focused codes emerged which were also constantly compared with other codes. This process led to the emergence of the sub-themes and themes.

Themes from the semi-structured interviews and the open-ended questionnaires were compared to ensure that all the themes that emerged from both data sets were adequately considered so as to validate the findings.

Ethics

All ethical protocols were observed. Ethical clearance from the University of Pretoria and Provincial Departments of Education were obtained.

FINDINGS

Careless attitude

This study revealed a careless attitude on the part of learners in studying Life Sciences. Learners had developed apathy towards the subject due to the fact that they perceived Life Sciences merely as "one" of the subjects in the secondary school curriculum that they needed to pass and nothing beyond that, especially if they were not going to need it as prerequisite for university entry or as a career.

Learners in the lower grades (8-9) felt that they were given no choice in choosing their subjects at this stage of their academics, therefore, they attached no importance to studying the subject. This attitude shows how undervalued Life Sciences is to the learners at this stage. **This attitude, I suggest, was fundamentally because of the instructional approach and the kind of tests and examinations learners are required to undergo. Nil (Gr.8) said that "the most important thing about learning Life science is to know the work [content], to pass the test and exam".** For most of the learners in this grade level, Life Sciences is about the work and the content. Their ultimate purpose is to pass their tests. The disadvantage of this practice is that since learning is centred on paper based tests and contents, learners who are differently talented in terms of creativity and skill are considered failures if unable to meet the demands of writing paper-based tests. Learners are frustrated by the difficulty involved in passing tests, especially those that involve writing essays, and consequently are demotivated. Such demotivation leads to a nonchalant attitude

towards learning the subject, especially in learners who are not considering the Life Sciences as a career. Participants' lack of choice in choosing their subjects at the lower grades also creates boredom in the classroom. **This study indicates that learners are not really learning what they feel is important to them. Complexity and novelty are vital components of the learning process in facilitating learning and retention of what is learnt. By contrast, Life Sciences learning experience for all the participants was one of direct acquisition of knowledge, finding it as a repetitive process. Learners consequently assumed that evidence of successful learning would be to pass their exams, and this would happen, through repetitive studying and going over the content given by the teacher. Learners fail to appreciate the significance of what is learnt in the classroom as it relates to their daily life; nor could they link this knowledge to their everyday experiences. Nil (Gr. 8), for example, said she did not like "learning about cells because it is not very important. It is like, I think that they are just tiny little things in the body."** Calling cells things of little significance to be learnt revealed just how inconsequential she considered learning about cells to be. It could also mean that she was unable to attach any relevance to the study of cells. Learning and acquiring understanding about Life science concepts that differs from human physiological structures had not been proven to be useful to the learners as such, and it was therefore not important to learn about them.

Since instruction is done by means of a direct teaching method, it appears to learners as to be a process that entails the mere acquisition of facts and information which are necessarily not relevant to their day to day lives.

Missing the real-life connection

The ability to link Life Sciences content to real-life situations is one of the important aims of the sciences (Çibik, 2016:454). In this study, learners commented that although they were taught Life Sciences concepts in the classroom, they were not given an opportunity to understand how the concepts learnt can be applied to their daily life. Having assumed that the learning of a subject is for future career purposes, most participants queried the importance of some of the topics for their personal lives, especially when it comes to learning about the plants. Even with regard to the animal sciences or Human anatomy and physiology, such topics are only appreciated for the understanding they gain about their physiological bodies, which was good, but this do not equip them for decision making in their everyday lives. When participants were asked about the most important things to them in their Life Science learning experiences, they recounted the topics and concepts they had been taught. Naturally, learning new concepts is wonderful however, constructing one's personal knowledge from what has been learned is more satisfying. Such knowledge has been proven to be easily accessible for use in the later years.

Advocating for the real-life application of Life Sciences knowledge

In the study, as it was evident that participants found it hard to link what they learnt in the classroom to their personal lives, they advocate for real life application of the concept that were learned in the classroom. The absence of this crucial part of learning was obvious to learners even though they could not understand what this missing link is. Their responses indicated that they really wanted an experience that could help them to understand how the concepts learnt in the classroom could be applicable to their everyday lives. One participant, in confusion said: *"It doesn't really make sense to me."* The essence of learning is to make meaning of what is learned and to constructs knowledge that can be useful for personal purpose in various situations. The study also showed that Life Science classes, which are supposed to be exciting and filled with creativity and unusual adventures, did not possess these qualities. Authentic learning is experienced when one feels in touch with reality. The study revealed that learners did not grasp the reality of what they learnt in the classroom. Learners described Life Science concepts as irrelevant, and Plant Science in particular as one of the most unpleasant aspects of their learning experiences in the Life Sciences classroom. Even though the importance of plants in our everyday life is everywhere, participants were unable to link this importance to their everyday existence or to real-world issues. In their answers to follow-up questions in the questionnaire, participants suggested a classroom that allowed hands-on activities and used multiple instructional strategies such as visuals and technologies, especially those that promote interaction. Although, the school is well equipped with these technologies and are used whenever the teacher deemed it fit, participants were still not satisfied

with the result of the process. The study revealed that the lack of adequate and sufficient practical sessions compounded the vagueness of concepts. Participants suggested more practical sessions to consolidate learning and to bring concepts to life. The study showed that participants wanted to know more about how the concepts they learnt can be applied rather than being lectured to. Lectures, they stated, caused boredom. The participants suggested interactive sessions, which they believed would heighten their interest and reduce boredom.

In addition, this study revealed that participants had little or no mental engagement with the practicals they were involved in. Practical manuals are memorised; therefore, critical thinking and scientific creativity are hindered. It is evident that during practical sessions, participants were exposed to basic scientific methods with few opportunities to foster critical thinking and the imagination. From the perception of the learners, it was evident that participants' investigative skills were not being explored.

Discussion

In exploring the perception of learner's Life Sciences learning experiences as fundamental to their daily decision-making and lifestyle, it was revealed that learners' experiences did not prove so. Rather it was a one-way transference of knowledge. **The curriculum of the future is not meant to be about teachers teaching content in a confined classroom; on the contrary, it must empower young minds to be lateral thinkers and to be able to construct knowledge socially. By so doing, they can become solution provider and not just a consumer. Most of our education system trains our learner to have a consumer's mentality rather than producers.**

Critical reasoning and extrapolations of knowledge acquired or better said, constructed and co-constructed in the classroom to instances in real life is crucial to the development of citizenry later in life. Learner's engagement in real life learning as opposed to the direct instruction has the potential of linking learners with realities of what they are learning or studying. Teachers are meant to be facilitators of knowledge and co-constructors of knowledge with the learners. The learners need to own the knowledge they construct and not to have them only as information.

Furthermore, to ensure motivation, appreciating the underlying concepts of Life Sciences, its principles and its connection to everyday decisions is non-negotiable. The notion that Life Sciences knowledge is useful only in the classroom or to those who are taking up career in the Life Sciences field alone is unimaginable.

Scientific inquiry seeks to proffer solutions to problems; a desirable quality that education needs to deliver its role in the society. Scientific inquiry method of instruction promises to provide the missing link between real-life experience of Life Sciences and the classroom experience. This link is important in that it serves as a way to empower learners with the ability required to translate learnt concepts into what is applicable to their daily life. Learning ingrained in reality is an inevitable component of human life and fundamental to problem solving. Problem solving cuts across all sectors of life, considering our vast environmental and socioeconomic problems, whether it be in our personal lives, scientific fields or the workplace, Since problems are dynamically interconnected complex situations, operational intelligence is required in addition to mental knowledge acquired through content (Funke & Greiff, 2017). If learners were to experience a deep understanding of Life Science concepts, drastic changes in the conceptualisation of what learning is, is urgently needed (Antink & Lederman, 2015).

Furthermore, informal learning opportunities, where learners are exposed to direct engagement with real-life issues, exploring their inherent complexities as learning opportunities, presents no boundaries in breeding scientifically literate and problem-solving citizens (Lin & Schunn, 2016:2–3). Since scientific methods learnt in school laboratories or classrooms are only a part of scientific inquiry (Lederman, Antink & Bartos, 2014:290), it follows then that scientific methods in schools may not be an adequate substitute for scientific inquiry, as they involve only a few scientific process skills and, in most cases, only the basic process skills are used (Ozdemir & Dikici, 2017:53).

Superficial learning and content memorisation are known to result in scientifically illiterate citizens and stand to hinder the quality and quantity of scientists produced in society (Langer, 2016). By contrast, real-life learning

hones learners' cognitive reasoning as they grapple with concrete issues and, in so doing, engages learners in reflective action upon their learning processes. This process enhances learners' critical and creative abilities. In our globalised world, learners' understanding of Life Sciences beyond the classroom is important in raising responsible citizens, and this can only be achieved through a deep understanding of Life Sciences knowledge. Scientific illiteracy generally predisposes humans to having careless attitudes towards nature and the environment and some of these attitudes are consequences of our school curriculum and instructional methods (Lelliott, 2014:311). Conversely, scientifically literate citizens are usually careful to make choices that are beneficial for the mutual existence of all living organisms in their milieu (Lederman, 2019). Addressing this prevailing careless attitude of humans towards the environment, Hawken (2009) declared the world as being in its declining state, demanding a quick reaction from all its inhabitants.

The nature of science seems not to be emphasised in learners' Life Science learning experiences. Curiosity is an important part of the nature of Life Sciences knowledge, which needs to be encouraged and not only that, should be emphasized during learners' learning experiences. Investigative learning which is fundamental to the real-life learning process emphasizes on the nature of Life Sciences, propagates integrity, dedication, curiosity and a sense of purpose (Reed & Pease, 2017:56). Although understanding Life Sciences contents in high school is important, it is equally important to know that understanding is a product of active engagement in an experiential and investigative learning environment. In agreement with Kuhn (2007), we support the notion that science is a way of knowing; therefore, as revealed by this study, real-life learning is mandatory in enhancing scientific understanding that links Life Sciences classroom knowledge to the real life rather than the direct instructional method.

Conclusion

Scientific knowledge refers not only to know or to do science; rather, it goes beyond the two. According to Lederman (2019), scientific knowledge is essential to equip learners in becoming scientifically literate individuals who are capable of making informed decisions on issues that relate to their personal lives, society and the world at large. The everyday necessity of science and its applicability to every decision that is taken in society cannot be overemphasised. One of the reasons learners are taught science in the classroom and are still unable to apply the scientific knowledge is fundamentally an issue of scientific illiteracy. This will only be addressed when science is taught not in order to master content but to understand its application, value and its relationship with societal wellbeing.

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Implementation Of Blackboard Tools In Teaching During Covid19

Amera Abdulrazzaq

ABSTRACT

With the disruption to social gatherings presented by the corona virus, University of Bahrain as other Universities and educational institutions started the use of online learning as an instructional continuity plan for tools instructors used to deliver live lectures, so students don't miss a lecture or classes through Team or Blackboard platforms as well as other functions and processes. The Online Learning management system (Blackboard) is used as a learning mode to deliver a Second year, IS course at the above mentioned University.

This “descriptive, analytical study highlights the available tools and facilities of the learning management system (Blackboard) which was implemented and, lead to a successful fulfillment of the requirements of a Data Base Management systems Course. The practiced (Blackboard) features that facilitate the interactions, communications, collaborations and, completion of the requirements include virtual Lecturing, discussion forums, and other, while conducting (Assignments, Tests, Project development, Lab Exercises) by the students. Regarding Instructor’s Practices and Findings the study covered a period of 2nd semester 2020 as a result of the quarantine imposed after the spread of Covid19 pandemic, whereas regarding the instructor’s perspective positive experience faced during the months of use of the platform are analyzed and discusses. Main finding was the positive and satisfied implementation of the Blackboard tools reflected in the positive benefits on the performance of the students.

Keywords: E-learning, Database management Systems, Blackboard, learning management systems

INTRODUCTION

The available course management systems, such as Blackboard, Blackboard Vista (formerly WebCT), Desire2Learn, Question Mark Perception, Moodle, and Team, Combine functions; distribute information to learners; enable communication with the learners via discussions, announcements, emails, real-time chat sessions, and an interactive whiteboard; Enable online assessment (evaluation of the students by means of quizzes, assignments, projects, and lab exercises), Progress tracking; tracking of students' use of the learning materials, and facilitating course administration. In this study the tendency to use BB in delivering the Data Base Management system course by the instructor was according to:

- a. The Previous awareness and familiarity with this online learning management systems as how to deliver contents, to communicate with the students, how to record lectures of the live sessions to make them available online, and any associated handouts for an assignment, set due dates, attach files and write a description for assignments to provide students guidance, record any live sessions and make those recordings available or use methods that allow students to reach the instructor by phone and email, not just by video chat, Use of Headsets to eliminate audio feedback loops, background noises, and other disruptions
- b. The availability of Basic Student’s needs of such as to access readings and course materials, and a way to submit assignments and receive feedback on their work, the way to answer the tests, (quizzes, ... etc.) the way of communicate, collaborate and present (BB announcement tool that allow instruction delivered to students in what to do, how to do, and when and how the instructor will respond.
- c. Using the platform students’ were ready to use the BB technology. Students didn’t show hesitation to use the platform with several possible reasons. The fundamental reason may be a pragmatic one related to the fact that Instructor and students already familiar with BB and most of the course material had been already available on BB, also updated virtual workshops reached by all through the university site.
- d. Covid19 means quarantine and no more face to face lectures and attending classes.
- e. The instructor chose BB rather than Team as the material of the course, such as (syllables, PP slides, and examples) were already on BB.

In this study, a short literature review of recently published is presented in section II while the objectives of the study are expounded, in section III. The study method, and hypotheses, and the model is given in section IV, analytical investigation taking in to account the (the study population) who are actively involved in the course submitted through BB. The analyses, hypotheses, and results are covered in sections V while conclusions are provided in section VI.

RECENT PREVIOUS STUDIES

During the period of Covid19 all educational institutions: Schools, Colleges and Universities shifted their educational programs and courses completely to Different E- learning management systems. With such rapid growth and adoption in the use of these systems, it is important to understand how these technologies were being used and how they impact on users. Many studies were handling these systems from Designing or Comparing or Dealing or Developing with users’ perspectives the One of these adopted systems is Blackboard, Uziak et al (2018) studied the challenges, the application of the learning platform and the development of its material which was considered a positive experience for the instructor and well received by the students. The evidence showed that lecturers are using Blackboard in different ways for different reasons. The tool was used for enhancement purposes, but not at an advanced level that requires a transformation of teaching and learning methods and tasks (Nkonki & Ntlabathi 2016). To answer the question concerned how effective is this Blackboard system. Alokluk (2018) explored, how blackboard is designed as suitable learning models in terms of learner cognitive engagement and constructivist perspective, resulting in the effective Blackboard system.

Identifying the obstacles facing faculty member in using Blackboard as a blended learning system. Zaki & El Zawaidy (2014) recognized the perceptions of faculty members who involved in e-learning programs and trained to use the blackboard in Education. The main obstacles found were: Lack of needed training and experience in using ICT (Information & Communication Technology) – lack of internet signal that interrupts continuous connection and smooth communication and lack of encouragement and restricted rules that oblige faculty members to develop their technological skills, the experience in using ICT especially in producing electronic materials. Romi (2017) concluded after achieving the best fit and hence, the success of e learning systems is determined by a set of determinants, mainly individual, institutional, and environmental determinants. Exploring the characteristics, habits and learning motivation of successful students learning in a higher education institution that applies an Open and Distance Learning system, the institution could plan the best strategy to increase the student persistence rate in this system. (PUSPITASARI & OETOYO 2018).

Implementing TAM and Other Models used for the adoption of ICT, and the results based on the extended TAM, Honglei Li1 & Jiuhong Yu2 (2020) in their study, Showed that the learners' intention to return to the electronic learning environment was highly associated with their attitude towards the electronic learning tool and the affection associated with the tool.

In the study to uncover factors influencing faculty members' acceptance of LMS Bousbahi & Alrazgan (2015) showed that personal factors such as motivation, load anxiety, and organizational support play important roles in the perception of the usefulness of LMS among IT faculty members. The Overall of the study show that LMS is used essentially as an administrative tool rather than a teaching or learning tool. Amin, et al (2016) Explored

Students' acceptance of e-learning platforms in the private universities of Bangladesh by applying the Technology Acceptance Model (TAM), and employing Partial Least Squares Structural Equation modeling (PLS-SEM) tool to analyze data.

Studies Concerning Designing and Developing Software Deng et al (2020) developed and validated a MOOC engagement scale (MES) to measure learner engagements a contribution to a better understanding of the complexity of conceptualizing and measuring learner engagement in Massive Open Online Courses (MOOCs). Ekwonwune & Edebatu (2019) developed an adaptive e-Learning Software to enable the learner answer questions or solve problems based on his/her ability.

STUDY OBJECTIVES

The study covers the following main objectives:

1. Investigate the factors that helped and Leeds to fulfilling the requirements of the students enrolled in the database management system course during Covid19 pandemic period.
2. Highlights the BB tools and features directly impacted Students achievements and Benefits.
3. Identify and Investigate the Students' involvement factors; (Access, attendance, experience communication, Collaboration, and Flexible reaction of the students) that accomplished students' performance, achievements, and gained benefits.
4. Confirm the coverage of the three levels of learning (receive, learn, and apply) while the Implementation and application of BB tools in the coverage of the course given materials?

STUDY METHOD, MODEL, AND HYPOTHESES:

The purpose of this study is to investigate issues or factors that led to the positive fulfillment of course requirements by B.Sc. Students through the extensive implementation of BB platform in the delivering of Data Base Management system course over the period of 5 months (Whole Semester). The issues or factors were (Students involvements; Access, attendance, experience, communication, Collaboration, and Flexible reaction of the students), in which some have been studied and reported upon by several authors (Alshammari, Ali & Rosli, 2016).

The study was conducted between February and July 2020 and the coverage is based on factors to incorporate, depict the above Involvements in fulfilling's course requirements which lead to a positive benefits through the learning Management System, Figure1 below demonstrate the different factors. These were used to study and investigate the effect and the relationships which, consequently, resolve the study objectives. The Figure contains two main sections. The first section is the factors (independent variables): (Students involvements; attendance, Access, experience, communication, Collaboration, and Flexible reaction of the students) that lead to the course fulfillment requirements and benefits. Second is the achieved (dependent variables): (Receive, Learn, and Apply) which was achieved while covering course materials.

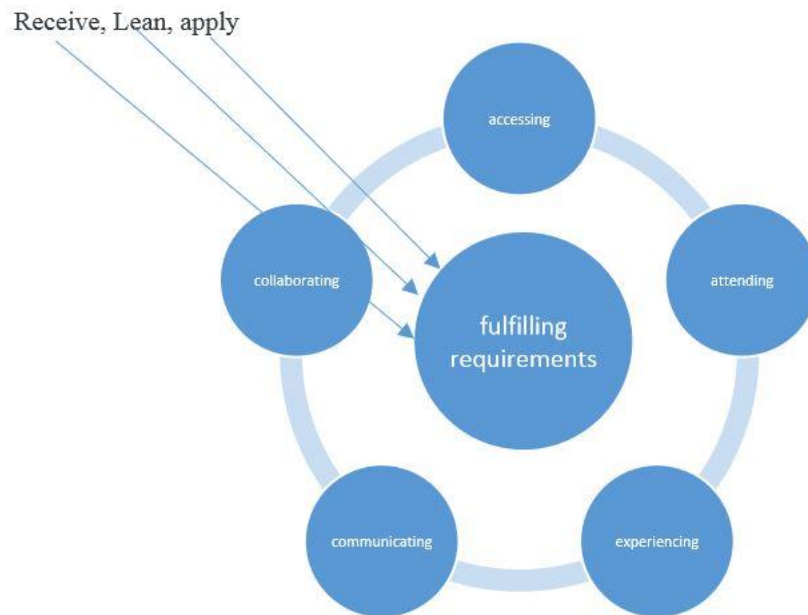


Figure 1. Students' involvements, factors and the benefits of using the BB platform

In accordance with the objectives discussed above, the purpose of investigating the above factors, and the Instructor actual experience, this study tested the following hypotheses to be analyzed and confirmed.

H1: The less attendance to the live lecture by students, will significantly decrease their test and assignments performance. (There is a significant relation between students' attendance of live lectures and the fulfillment of the requirements)

H2: Working individually has a positive impact on grades

H3: Time has a significant impact on grades in an online exam on BB

ANALYSES AND RESULTS

Data was collected over a period of five months of the second semester of the year2020 from the students registered for a course on Database management system offered in the Year 2, semester 2 of the Bachelors of Information Systems Program at the University of Bahrain. The total number of students enrolled on the course was (76 students). The course was delivered using Blackboard, which was implemented for all elements of teaching, including provision of teaching materials and communication with students. It was also used by the students to submit all (apart from the final test) elements, and the requirements of the course assessment (assignments, quizzes, projects, lab tests and exercises).

The materials for students were grouped in topics as per lecture delivered under the BB feature (contents). Each lecture Material included PowerPoint Presentation (Life then recorded at the time of the lecture), examples with solutions, and in the majority of topics extra material was provided, such as video clips from software on performance or behavior of database materials (video Clips for more explanations of the lecture on certain subjects). Access to the course' material was monitored as a list in the content and in the uploaded syllables sheet while constantly updated and improved. The announcements are one of the fundamental uses of the platform in which the instructor communicate with the students regarding assigning dates of the tests, assignments, and presentations, due dates for the submission of required assignments course, reminding of the important events.

It's really important for the instructor the students' attendance of live lectures and the attendance was taken usually at the already fixed time, according to the time table delivered to the students and lecturers by the registration office and uploaded through BB within the course syllabus form. Table 1 illustrates the Topics covered and those practiced in the laboratory classes, denoted by a "Lab Activities", and Assignments of both (see Table 1).

At the beginning some Students were not always attending the live lecture given by the instructor as it was scheduled, but the percentage of them steadily increased from 34.8% to 87.0% through the semester (table 1a). However, there was a few of students, who didn't attend the live lectures and only 0.38% were dropping from the course. The consideration of recording all lectures to enable students listen to on their own time, also the set up periodic live

sessions throughout the week when students can join for virtual office hours to ask questions and get further guidance and support.

Closely associated with issue of access was the perception that using Blackboard saved students some time regarding less need for travel to university and minimized the need for face-to-face contact. The ease of access helped students to meet deadlines and be more time efficient.

No difficulty from the students while accessing the course through BB, this is attributed to students' prior experience, because they already have entered workshops of how to use, and how to deal with its' tools, at the same time as soon as the decision was taken to transfer to online teaching, the IT center upload more advanced training workshops to the students as well as to faculty members. Another Justification to the access of the BB is the students are from Information systems background.

Table1. Subject-Specific covered Lectures / Lab timing

Course Weekly Breakdown					
Week	Date	Topics Covered	Lectures/Lab Timing & CILO(s)	Lab Activities	Assessment
1	11/2	- Introduction to the Course Ch. 1 Introduction to DBs Introduction, Traditional File-Based Systems	UH: 8:00 – 8:50 1,5		
2	16/2	Ch. 1 (Cont.) DB Approach, Advantages & Disadvantages of DBMSs	T: 12:00 – 13:40 1,5	SQL	
3	23/2	Ch. 2 Database Environment The Three-Level ANSI-SPARC Architecture, DB Languages	1,5	SQL	
4	1/3	Ch. 2 (Cont.) Data Models and Conceptual Modeling, Functions of a DBMS	1,5	SQL	Assignment1
5	8/3	Ch. 4 The Relational Model Terminology, Integrity Constraints, Views	2,5	SQL Lab Assign 1	
6	15/3	Ch. 12 Entity-Relationship Modeling	2,5	SQL	

		Entity Types, Relationship Types, Attributes, Strong and Weak Entity Types, Attributes on Relationships			
7	22/3	Ch. 12 (Cont.) Structural Constraints, Problems with ER Models	3,5	SQL	Assignment 2
8	29/3	Ch. 13 Enhanced Entity-Relationship Modeling Specialization/Generalization	3,5	SQL Lab Assign 2	
9	5/4	Students' Midterm Break			
10	12/4	Ch. 13 (Cont.) Aggregation, Composition	3,5	SQL	
11	19/4	Ch. 14 Normalization The purpose of Normalization, How Normalization Supports DB Design, Data Redundancy and Update Anomalies	3,5	SQL	
12	26/4	Ch. 14 (Cont.) Functional Dependencies	4,5	SQL	
13	4/5	Ch. 14 (Cont.) The process of Normalization (1NF, 2NF, and 3NF)	4,5	SQL Lab Assign 3	
14	10/5	Ch. 3 Database Architectures and the Web <ul style="list-style-type: none"> • Web Services and Service-Oriented Architectures • Distributed DBMSs • Cloud Computing 	1, 5	SQL	Assignment3
15	17/5	Ch. 3 (Cont.)	1, 5	SQL	
16	24/5	Revision and Students' Presentations			

Table 1a. Increasing attendance Percentage

Period	Percent%	Percentage % of withdrawal from the course
Week 1,2,3	34,8	0.38%
Week,4,5	43.5	
Week 6,7	52.2	
Week 8,9	52.2	
Week 10,11	65.7	
Week 12,13	87.0	
Week 14,15	87.0	

It is not difficult to see the relation between attendance of the students, and their Accomplishments of the requirements, (see table2). This supported H1 hypotheses and yes, there is a relationship between attendance and accomplishing the requirements

Table2. There is a relation between attendance and the accomplished requirements

HO: There is significant relation between attending of live sessions and fulfilling course requirements

H1: There is no significant relation between attending of life sessions and fulfilling course requirements

F-Test Two-Sample for variances

	# of Students	Total
Mean	12.5	23.08333333
Variance	13.1	12.64166667
Observations	6	6
df	5	5
F	1.036255768	
P(F<=f) one-tail	0.484888945	
F Critical one-tail	5.050329058	

Since $F < F$ critical one-tail, accept HO

The blackboard grading system is linked to the student record system or the academic student administration system, which is linked to the database of Blackboard, this creates no trouble or requires a time consuming actions in the

entering of marks as it is automatic and registering students into the platform. It is done, by platform administrators on the basis of automatic synchronization of Blackboard with the student administration system is a vital obstruction. The platform was not only to help in the course administration, but also helped to improve the communication with the students.

Communications was one of the factors of the instructor's motivation in administration of the course proved a success and never constitutes problem since it was limited to interactions related to groups' assessments within the course, delivering live lectures and, the virtual office hours for guidance and support.

The idea of discussion forums and team work practiced and liked by the instructor since it helped brainstorm, collaboration and assistance also helped if students did not understand something they could seek answers from their instructor and peers. Although Discussion forums was available students also have exchanged ideas and opinions among themselves using Blackboard mail and other media such as WhatsApp. As Project-based learning in the database area, mainly empower skills related to a global understanding of database design and other advanced database topics Marti'n et al (2013) and as a practice in development a real world Database, hence the application of collaborative learning technique helped students practice the steps of the development of a real world DB, encouraged the integration of different teamwork abilities, and the effective implementation of the three educational levels.

The collaborative learning technique was implemented to assess teams after developing their database project, which was selected from a list of titles delivered at the beginning of the course and the groups were formulated while having virtual office hours.

The teams were composed of three to four students. Having a lower number of students per team was not rejected, although it's implied many teams per section since few students who were late to fit themselves with others, and having more students per team was rejected since, it would increase the chance that some students would not work enough. Furthermore, the composition of teams was decided to be elective generated, establishing constraints to avoid having conflicts or nonconformity and mismatch in moods, experience, and personality in the same team. Through the Blackboard Collaborative Ultra feature each group allowed to enter as a presenter and share their projects, as it was essential to increase the students' participation during the electronic learning implementation process.

Databases and their applications are courses in which theory and practice must be combined

1. Understanding the SQL structure and the ability to build SQL queries are considered integral in database learning (Mason, et. al. 2016) and has become a major focus in course materials and activities. The developed projects by the students, covered in general:
 - a) Introduction, Background, Problem Description, Data Collection (if any), User Requirements, Entities and Relationships and their Types, Keys, All Diagrams including ER and EER, Connection traps, Normalization up to 3NF, Creation of Tables, SQL, References.
 - b) Development of at least 15 different queries (The queries would show the followings: The use of natural language to describe what each SQL query does. The 15 queries include an assortment of SQL commands learnt from the lab.(Multiple table join; Use sub-queries; Group data using GROUP BY; Sort query results using ORDER BY; IN or NOT IN; LIKE; Views; Aggregate functions or calculated fields).

The collaborative learning technique applied in the lab exercises is an adaptation of the Structured-Problem-Solving technique. (See the included in Table5 aims to assess the students' knowledge level in relational database design) that are based on the same database schema. Students solve the exercises jointly with their teammates. The assigned time depends on the complexity, but mostly during lab time, which is an hour and a half. Instructor answer questions and gives feedback to students during this part of the activity. Assignments delivered were also aimed to make evident that content explained in theory/exercises, lectures is close to that provided in laboratory practices. Figure2 a & b are examples of exercises given to the students

Staff

St_No	St_Name	DOB	Salary	Br_No
0123	Ahmed Jassim	12 Jan 1979	2500	B001
0124	Ali Anwar	25 Jun 1988	1800	B011
	Mariam Hasan	17 Apr 1991	800	B099

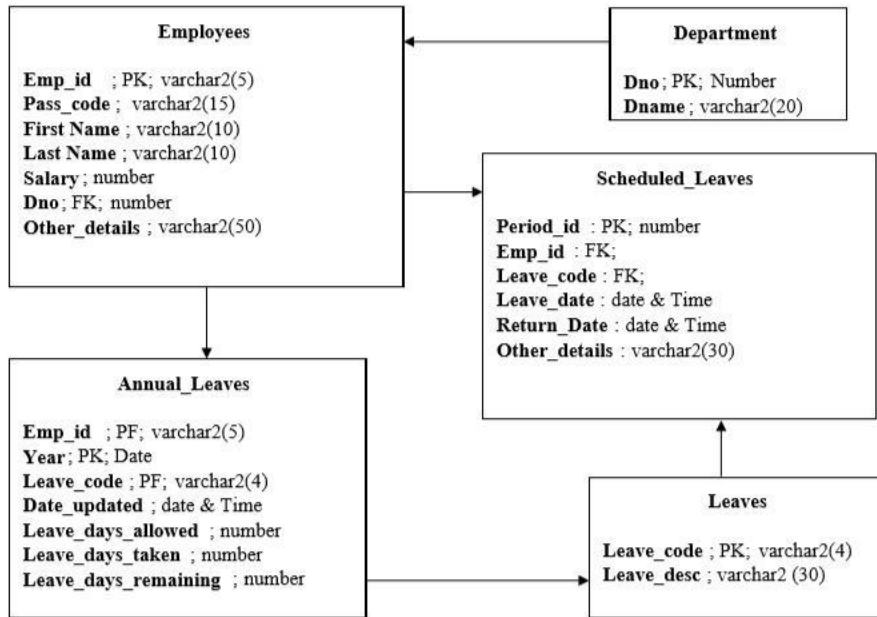
Branch

Br_No	Br_Address
B001	Manama
B011	Adleya, P.O Box 135
B012	Muharraq, P.O.Box 456

- (a) List the three problems that exist.
- (b) Convert each relation into its relational schema representation.
- (c) Give *one example* of views that can be derived from **Staff** relation.

Figure2a. (Example 1) questions on relational DB

Data Model for Annual Leaves DB:



Complete the Following Using the above Model

1. Create the Scheduled_Leaves table
 - a. Period_id is the primary key
 - b. Emp_id is foreign key from table employees, and leave_code is another foreign key from table leaves.
 - c. Default value for (other details) is "Not Available"
2. Insert the following into the Annual_Leaves table

emp_id	Year	leave_code	Date_updated	leave_days_allowed	leave_days_taken	leave_days_remaining
E113	2011	LC115	8- OCT-2010	30	2	28

3. Display employee id , leave date, and return date for employees who had leaves taken on July 2010 in descending order of return date
4. List all leaves description that starts by "M" letter. (e.g. Marriage)
5. How many employees did not finish their leave credit in 2010

Figure 2b. (Example 2) Annual Leaves DB

In terms of assessments, the test feature of Blackboard That automatically corrected and delivered to the students, was implemented to ensure students reviewed their grades and instructor comments. Such online assessment activities were perceived to enhance the overall learning experience and a replacement to traditional assessment formats. The Assignments and Lab quizzes delivered to the students, had to be solved individually to ensure equality and avoid reliability on others and to examine individual capability. Those with a form of a (T/F& M/C) a database of questions was formulated in a form of pools from each pool each student select one question, the second question from the second pool and so on (question after the other). Each question should be answered and not all questions answered at one time at the same time no way of returning back to the answered question. The grades obtained were not very promising, but it was considered that this was due to practicing the individual learning techniques used for each Lab quiz and the assignments while the Collaborative learning technique implemented on the Project development and the grades were promising. Table3 below indicates that assignments and lab quizzes when done individually didn't end with a better performance, and is therefore hypotheses 2 was rejected.

Table3. Working individually in completion of required tests lead to better grades

HO: Working individually has a positive impact on grades.
H1: Working individually has a negative impact on grades.

F-Test Two-Sample for Variances

	<i>LabQ1</i>	<i>Ass3</i>
Mean	2.456349	2.77381
Variance	0.63168	0.249405
Observations	21	21
df	20	20
F	2.53275	
P(F<=f) one-tail	0.021827	
F Critical one-tail	2.124155	

Since $F > F$ critical one-tail, we reject HO

Also the instructor, practiced the timing setting enforcement on the tests and other assignments. The fixed time of the required duties, for instance a quiz to be solved within 10 minutes supported the third hypotheses H3 which tell that the time provided to the students to perform tests has an impact on the grades Table4

Table 4. Timing Facility feature has an impact on the test results

HO: Time has a significant impact on grades in an online exam on BB

H1: Time has no significant impact on grades in an online exam on BB

F-Test Two-Sample for Variances

	<i>Marks10%</i>	<i>Time</i>
Mean	8.277778	10.735
Variance	0.918301	13.14665
Observations	18	18
df	17	17
F	0.069851	
P(F<=f) one-tail	6.72E-07	
F Critical one-tail	0.440162	

Since $F < F$ critical one-tail, accept HO

CONCLUSIONS

This study identified and experienced various factors that contribute to the implementation of BB features in teaching BSc students at the University of Bahrain which ended to a successful fulfillment of the course requirements during

covid19 pandemic. The analysis revealed that the above factors influenced and affected in the fulfillment of the requirements of the course which directly correlated to the actual involvements by the students and instructor. Meanwhile, the three controlled variables, receive, learn, and apply, had an indirect effect. The results also showed that, Students involvements in all required activities were high and led to the Benefit from the course, and pass the success criteria. Therefore, it is concluded that these students had experienced the three levels of education receive, learn, and apply while Most BB facility features and tools were implemented to help delivering well organized DB course requirements. Methods for assessing students that automatically corrects and gives feedback were available through the feature (Blackboard collaborative ultra) which was a good support and benefits for both instructor and students. The three hypotheses tested the effect and relationship between students' attendance, grading performance, and individual / collaborative contributions of the students, two were accepted and one rejected. It is recommend instructors implement all BB supportive features which lead to more complex interactive learning experience not only audio, video interaction but a simulation, scenario based questions. Implementing virtual reality and AI is another option to enable tracking progress, attendance....etc.

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The Influence Of Cultural Organizations On The College Experience Of International Students

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Abstract

Multicultural campuses are not necessarily exempt from social divisions between international students and domestic students. To the extent such divisions operate, the potential benefits of multicultural learning will be underutilized. I present data and analyses from a study examining the influence of international student cultural organizations on self-segregation. The research investigates the prevalence of intercultural competency in the attitudes of international students affiliated and unaffiliated with cultural groups and attempts to explain why differences exist. I analyze surveys (n=36) and interview (n=5) data with international students at Augustana College. Findings suggest that despite the necessary benefits cultural groups provide its international student members, the groups inadvertently promote self-segregation where members interact more with those similar to them. If cultural groups don't intentionally promote significant cross-cultural interaction, this research suggests they will unintentionally increase self-segregation. This self-segregation is detrimental to the practicing and developing of intercultural competence skills as members have shown lower confidence in their intercultural competency than non-members. I explore factors that nurture cross-cultural interaction to spur intercultural learning under two related concepts: a) Interculturalization of cultural groups: domestic students inclusion, b) Interculturalization of campus: international students inclusion.

The Most Common Types of Errors in Spoken English among EFL Israeli Arab Students

Iman Garra-Alloush

Wisam Chaleila

Abstract

The current study examined the most common types of spoken English and the causes of such errors made by 20 tertiary EFL Arab students in Israel. Data were collected based on in-class oral presentations made by English department freshman students, as well as observations of 15 English lessons taught by 6 junior students. Errors were documented by the instructor/mentor. Results and findings revealed that students made a substantial number of errors in both contexts. The documentation included 1136 errors. There is a paucity of research with empirical data documenting learners' errors while speaking English as EFL, specifically in higher education. The findings of the current research indicate that the most frequent errors made by the subjects of the study fall under four main categories, including grammar and syntax, pronunciation, and vocabulary choice. In general, the errors can be explained by interference and effect of L1.

Keywords: undergraduates, EFL, spoken errors, tertiary level, vernacular, oral presentations, oral proficiency.

Business Students' Preferences and Attitudes Toward Multiple-Choice Questions as Exam Form. Does the Big Five Matter?

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Abstract

Traditionally, the exam form in Norway has been a 4-hour exam with constructed response (CR) questions. There is currently a debate about replacing CR with multiple-choice (MC) questions. The purpose of this study is to explore students' attitudes toward MC exams by surveying 130 undergraduates. Results indicate that most students prefer CR-format exams. The introduction of MC exams will change the students' learning strategy, where one highlights memory and detail more than understanding. The analysis shows that students are divided in their views of the exam depending on personal traits (Five-Factor Model). More conscientious undergraduates prefer CR-type exams. These individuals are characterized by commitment to academic skills and performing well. This is probably due to the fact that the two exam forms measure different dimensions of knowledge. When selecting the evaluation form, one should consider how to adapt the exam form to different types of students and to think about the purpose of the test.

Keywords: Big five, multiple-choice questions, business courses, quantitative analysis

Business Students' Preferences and Attitudes Toward Multiple-Choice Questions as Exam Form. Does the Big Five Matter?

Multiple-choice question design is quite common for large-scale testing. There is no bias in the grading practice among the students attending the same course, the scoring can be done by a computer, and the large number of questions cover different issues. Due to budgetary considerations and the decision to have a common course and exam at different campuses that involve from 500 to 1000 students, there is pressure to substitute ordinary written essays or constructed response (CR) methods with multiple-choice (MC) tests for undergraduate business students in Norway.

MC-based testing has some limitations. As Livingston (2009) emphasised, MC questions give students the opportunity to choose between a correct or incorrect response, but the participants are not asked to construct a model, to provide the right answer without choosing between alternatives, to explain logical steps and structure, or to express the choice well by the written language.

The purpose of this study is not to consider whether MC-formed exams can replace CR-formed exams, but to identify students' attitudes toward multiple-choice-oriented assignments. Which factors have influence on the desire to have more MC questions in the final exam? What factors can explain the variations of students' assessment preferences? We want also to find out whether personality factors (the Big Five Model) have an impact on students' preferences. Finally, we will investigate to what degree the preferred choice of exam form might have an effect on students' effort.

Theory and Literature Review

Zeidner (1987) reported that the majority (77%) of high school students prefer MC questions over essay exams. The main reasons are that they do not need to clarify the answers, they can select among different options, and one has the option to guess. The minority favours essay exams because it provides the opportunity to write and explain the answer. Furthermore, it is easier to prepare for the exam, and one can expect to get a higher score by applying MC questions (Struyven et al., 2005). A challenge using MC-based questions is to measure the students' knowledge, especially in the context of a deeper-learning approach. It is hard to compose MC items that reach a high level of knowledge. The essay-based exam better reflects students' knowledge of exam materials compared to the MC-based

exam. Consequently, the MC exam does not provide the same level of explanation as the CR exam, and the result depends on personal characteristics (Krieg & Uyar, 2001). Other studies have confirmed that students prefer MC-based exams over CR-based exams (Beller & Gafni, 2000; Ben-Chaim & Zoller, 1997). However, other studies have reported that students largely prefer traditional written assessments (Van de Watering et al., 2008). Many students wish to have essay-format exams because they are used to them.

Preferences and Attitudes Toward MC

The prior literature shows that students' preference of exam form depends on the learning setting (Birenbaum, 2007). Students tend to choose an environment that promotes their understanding (Entwistle & Tait, 1990).

Anxiety and depression can result in poorer student performance on a test. There is a negative correlation between test anxiety and academic performance (Burke et al., 2020). Zeidner (1987) reported a significantly higher anxiety rate for essay-type exams compared to MC exams. This is because students must organize, structure, and express their answers in essay form. Many students face anxiety if they think they cannot perform well. They might feel they are not well prepared, do not understand the questions, answer incorrectly, or cannot handle the time limit (AlKandari, 2020). Therefore, some students might struggle to answer open questions on an exam. Other students may struggle with MC questions. Participants with high anxiety might choose not to answer many questions. This effect increases if the students are risk averse and if negative points are assigned for incorrectly answered MC questions (Pamphlett & Farnill, 1995).

There is no simple answer regarding students' definition of fairness in testing (Struyven et al., 2005). MC questions can be fairer because there is no bias in measuring the students' score, and the questions can cover different kinds of issues in a specific course. MC-type exams achieve homogeneity in grading practice. The students are equally treated on the basis of their scores. It is also easy to check the answers and compare with others. CR questions include only a part of the exam materials. The difficulty can vary, and the students' performance depends on how well prepared they are to answer the specific question. MC questions have some limitations because it is difficult to measure certain kinds of skills and knowledge (Denny et al., 2019). CR-based exams develop a wider range of skills and motivate the

students to write and express their ideas and answers. Another drawback is that it is easier to cheat using the MC-type exam, especially in large halls where one can notice the marks of the fellow students. Zeidner (1987) reported that about 75% of students believed they could obtain a higher score on a MC-based test relative to a CR-based test. Students find MC questions easier to answer, the risk of failure is smaller, it requires less preparation, and one can achieve a high score even with poor spelling and writing abilities. Some students might perform better while others perform more poorly, depending on the chosen testing design, but the distribution of the grade letters depends on the grading practice for the actual course (Opstad, 2020). Hence, if one uses a relative grading system based on the result from the exam, the success of the average student might be unchanged.

The choice of exam form influences students' study behaviour (Zeidner, 1987). Students with good academic abilities tend to favour CR-based exam instead of MC questions. The situation is opposite for students with poor academic performance and with low self-confidence. They prefer MC questions as the exam form (Birenbaum & Feldman, 1998). Other researchers have supported this conclusion (Struyven et al., 2005; Traub & MacRury, 1990).

Assessment plays an important role in the learning process. According to Birenbaum and Feldman (1998), students are motivated to choose the exam type where they perform best. Furnham and Chamorro-Premuzic (2005) found that students play on their strength and self-interest. This is reflected in the students' desired exam format. Schouller and Prosser (1994) reported that MC questions lead to a surface-learning style. Van de Watering et al. (2008) did not confirm this result. Students with deep-learning approaches tend to keep to this strategy on the preparation for the exam, independent of the exam format.

Personality Traits (the Big Five)

Prior studies (Furnham et al., 2008; Lakhali et al., 2013) have verified that students' personalities have an impact on their preferred exam format. In this study we use the Five Factor Model for personal traits to investigate this issue. This model is widely used and is very popular (O'Connor, 2002). Following the definition of John and Srivastava (1999), individual differences can be captured in five traits: *extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience* (see Table 1).

Table 1

The Big Five Personality Traits

Trait	Definition
Openness to experience	The tendency to be open to new aesthetic, cultural, or intellectual experiences
Conscientiousness	The tendency to be organized, responsible, and hardworking
Extraversion	An orientation of one's interests and energies toward the outer world of people and things rather than the inner world of subjective experience
Agreeableness	The tendency to act in a cooperative, unselfish manner
Neuroticism (inverse of emotional stability)	A chronic level of emotional instability and proneness to psychological distress

Adapted from Almlund et al. (2011) and Adrebilli and Rickertson (2020).

The Big Five is a robust measure that can be used across cultures and is relatively stable among adults. It incorporates distinct factors in the personality characteristics. This method is widely used in the current literature.

O'Connor and Paunonen (2007) reported a small correlation between openness and academic performance. Therefore, this personality dimension does improve academic success. Openness to experience is associated with intelligence (Furnham & Chamorro-Premuzic, 2005). Such people are more open to experience, and they are original and creative. This might be an argument for such students to prefer CR questions in the final exam. Lakhali et al. (2013) partially supported this result, but one has to take into account that business students are less open to experience than other peer students (Lounsbury et al., 2009).

Conscientiousness is associated with responsibility, being hardworking, and being well organized. This will predict lower interest for group work. Furnham and Chamorro-Premuzic (2005) suggested that such students might not appreciate only MC questions in the final exam. Many studies have found a positive relationship between conscientiousness and academic performance (O'Connor & Paunonen, 2007). Extraverted students are impulsive and have a tendency to dislike working alone; they prefer project work.

According to Furnham et al. (2008), these students might prefer MC questions, but the authors failed to verify such a link. The literature suggests that agreeableness is not an important predictor for academic success (O'Connor & Paunonen, 2007). Students who are agreeable prefer group work and project work instead of MC- or CR-based testing (Lakhal et al., 2013). Neurotic or emotionally unstable students are more likely to improve their performance under stress-free circumstances (Dollinger et al., 2008). If these students associate CR-based exams with more stress than MC-based exams, this can be an argument for them to prefer MC questions over CR questions (Furnham & Chamorro-Premuzic, 2005).

Methodology

Sample

The sample consists of 118 undergraduates at NTNU Business School (48% men and 52% women). Students attending the last lecture of fall 2019 in the second-year compulsory macroeconomic course completed the questionnaire. The sample was not randomly chosen. Those who were absent on this day were not included (about 40% of the students). The representativeness of the sample was not evaluated by comparing the characteristics of all students at second year, but prior research suggests that a slightly higher proportion of students are women and that they have a slightly higher GPA than other students (Bonesrønning & Opstad, 2015).

Instruments and Test Methods

By using the 20-item version of the Big-Five Inventory (BFI-20) developed by Engvik and Clausen (2011), we were able to identify the personality traits of the students. Measurement is done using a 5-point Likert scale where 1 reflects strong disagreement and 5 reflects strong agreement. Instead of neuroticism, the inverse value (emotional stability) is measured, following Barrett et al. (2017).

The first part of the questionnaire examined a bilateral correlation of whether there is a connection between attitudes and preferred exam form. It additionally looked at whether attitudes and preferred exam form depend on the undergraduates' personality. Because the undergraduates in this study could choose between only two kinds of written final exam, the connection between personal traits and exam form is not obvious. The second part investigated factors

that might influence students' efforts if the final exam consists of MC questions by using a linear regression model. The advantage of this method is that one can simultaneously explore how different factors influence students' effort. The assumption is that more positive attitudes toward a MC-based exam will increase the student's effort.

The chosen independent variables are gender, attitudes (knowledge, anxiety, fairness), and personality traits. The selected linear regression model is:

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + \alpha_6 X_6 + \alpha_7 X_7 + \alpha_8 X_8 + \alpha_9 X_9 + \varepsilon$$

where:

Y: effort (students report more effort if pure MC-based exam; 7-point Likert scale, 1: strongly disagree, 7: strongly agree)

α_0 : constant

X_1 : gender (0:F, 1:M)

X_2 : anxiety (students' opinions of less anxiety with only MC-based exam; 7-point Likert scale, 1: strongly disagree, 7: strongly agree)

X_3 : knowledge (MC-based exam will measure the students' knowledge in subject; 7-point Likert scale, 1: strongly disagree, 7: strongly agree)

X_4 : fairness (MC-based exam is more fair; 7-point Likert scale, 1: strongly disagree, 7: strongly agree)

X_5 : extraversion (5-point Likert scale, 1: strongly disagree, 5: strongly agree)

X_6 : agreeableness (5-point Likert scale, 1: strongly disagree, 5: strongly agree)

X_7 : conscientiousness (5-point Likert scale, 1: strongly disagree, 5: strongly agree)

X_8 : emotional stability (5-point Likert scale, 1: strongly disagree, 5: strongly agree)

X_9 : openness to experience (5-point Likert scale, 1: strongly disagree, 5: strongly agree)

ε : stochastic error

Due to multicollinearity, one had to limit the number of independent variables.

Findings

Table 2**Data**

A. Students' attitudes if only MC-based exam compared to CR-based exam (N = 118, 7-point Likert scale)	Mean	St. dev.
Effort		
Increased effort	3.4	1.64
Study Habit		
Change learning style	5.16	1.46
Change preparation to exam	5.48	1.36
More focus on details	4.97	1.65
Anxiety		
Less anxiety	4.02	1.75
Knowledge		
MC will catch my knowledge	3.74	1.43
Keep memory and remember more	3.53	1.66
Learning		
MC makes me learn more	3.47	1.56
Success		
MC exam will change my expected letter grade	3.44	1.62
Fair		
MC is more fair than CR	3.18	1.70
Motivation		
MC will motivate me more	3,66	1.36
B. Big Five personality traits (5-point Likert scale)		
	Mean	St.dev.

Extraversion	3.60	0.77
Agreeableness	3.88	0.58
Conscientiousness	3.65	0.72
Emotional stability (inverse of neuroticism)	3.29	0.79
Openness	3.36	0.72
C. Preferred percent of MC questions at final exam (can choose between 0, 25, 50, and 100 percent)	Mean	St.dev
Math	12,0	21,6
Business economics	32,7	20,3
Macroeconomics	34,7	21,6
Managerial accounting	26,0	22,0
Management	35,9	29,2
Statistics	15,6	23,5
Marketing	35,2	28,3

Table 2 shows some variations in students' reports. Note that there is a significant difference in students' desire for MC-based or CR-based exam depending on the course. Few students want MC questions in mathematics and statistics. The mean value is around 15%. The mean rate is substantially higher for accounting (around 25%). For the other courses the mean is between 30% and 40%.

Table 3

Pairwise Correlation Among Variables (Pearson Correlation Coefficient)

	Desired % of MC on final exam				Personality traits				
	Math and stat ¹⁾	Economics ²⁾	Accounting	Non-quantitative courses ³⁾	Extraversion	Agreeableness	Conscientiousness	Emotional stability	Openness

Desired % of MC on final exam									
Math & stat		0.60 ***	0.50 ***	0.70 ***	-0.13	-0.13	-0.08	-0.08	-0.01
Economics	0.60 ***		0.52 ***	0.61 ***	-0.02	-0.21 **	-0.17 **	-0.06	0.08
Accounting	0.50 ***	0.52 ***		0.52 ***	0.07	-0.09	-0.18 *	-0.09	-0.02
Non-quantitative courses	0.70 ***	0.61 ***	0.52 ***		-0.06	-0.15 *	-0.10	-0.04	-0.04
Effort									
Increased effort	0.33 ***	0.51 ***	0.46 ***	0.38 ***	0.12	-0.06	-0.28 **	0.06	0.11
Study Habit									
Change learning style	0.16 *	0.24 ***	0.23 **	0.13	0.00	0.06	-0.01	0.23 **	0.03
Change preparation for exam	-0.03	0.15 *	0.00	0.01	-0.08	0.03	-0.02	-0.04	-0.05
More focus on details	-0.25 **	-0.21 **	-0.16 **	-0.22 **	0.07	0.18 *	0.01	-0.06	-0.07
Anxiety									
Less anxiety	0.28 **	0.53 ***	0.37 ***	0.28 **	0.06	-0.09	0.03	0.18 **	0.09
Knowledge									

MC will catch my knowledge	0.30 **	0.52 ***	0.34 ***	0.34 ***	-0.06	-0.11	-0.14	0.10	0.03
Keep memory and remember more with MC	0.33 ***	0.58 ***	0.39 ***	0.41 ***	0.07	-0.13	-0.26 **	0.02	0.10
Learning									
MC makes me learn more	0.38 ***	0.57 ***	0.50 ***	0.47 ***	-0.02	-0.14	-0.26 **	-0.01	-0.05
Success									
MC exam will not change my expected letter grade	0.00	-0.03	0.09	0.03	-0.01	-0.05	0.11	-0.08	-0.10
Fairness									
MC is more fair	0.33 ***	0.52 ***	0.48 ***	0.43 ***	-0.1	-0.13	-0.13	-0.04	-0.11
Motivation									
MC will motivate me more	0.37 ***	0.66 ***	0.53 ***	0.42 ***	-0.15 *	-0.06	-0.18 **	0.09	0.10
Notes: 1) Mean value of mathematics and statistics, 2) Mean value of macroeconomics and business economics, 3) mean value of introduction course in management and marketing									
*, **, and *** denote significance at the 10%, 5%, and 1 % level, respectively									

Table 3 presents the bilateral correlation of coefficients between actual variables. The courses are divided into four homogenous groups (1. mathematics and statistics; 2. economics, including macroeconomics and business economics; 3. accounting; and 4. non-quantitative courses, containing marketing and management). Note that there is a strong correlation between students' desired exam form among the courses. Undergraduates who prefer more MC questions in one course tend to do the same in other courses. Additionally, for most of the attitude variables there is a significant link between the score and the preferred exam form. The findings also show variation in the correlation between attitudes and preferred exam form among the courses. The impacts are stronger for economics courses (for

instance, for anxiety the correlation coefficient is higher than 0.5, while it is between 0.28 and 0.37 for the other courses). Furthermore, students' expected success does not depend on the exam design.

The personality traits have impact on the attitudes toward test methods. For instance, there is a negative significant correlation between the personality type conscientiousness and preferred MC-type exam within economics and accounting. Emotional stability is positive and significantly linked to less anxiety with MC-type exams. Additionally, these students will change learning style if one introduces more MC questions in the final exam. In addition, there is a significant negative link between agreeableness and MC-formed exam for some of the courses. Finally, conscientiousness has substantial negative correlation with undergraduates' effort, learning, and motivation if one introduces more MC questions.

From the regression model (Table 4), one can conclude that there are significant relationships between the independent variables (like students' perceptions of less anxiety, knowledge, fairness, and motivation regarding more MC tests) and the dependent variable. Additionally, students with high scores on extraversion and low scores on conscientiousness will increase their effort if the colleges introduce MC testing in the final exam. Agreeableness, emotional stability, and openness have no effect on students' effort.

Table 4

Dependent variable: MC questions increase my effort

	B	Standardized coefficients Beta	T-value	Sig.	Statistics VIF¹⁾
Constant	-0.17				
Gender	-0.325 (0.240)	-0.100	-1.36	0.708	1.41
Less anxiety	0.160 (0.072)	0.170	2.21	0.029**	1.53
Knowledge	0.504	0.518	6.11	0.000***	1.88

(catch up/measure)	(0.083)				
Fairness	0.155 (0.080)	0.171	1.93	0.056*	1.82
Extraversion	0.321 (0.150)	0.151	2.14	0.035**	1.29
Agreeableness	0.254 (0.190)	0.090	1.34	0.183	1.19
Conscientiousness	-0.402 (0.171)	-0.171	-2.35	0.021**	1.38
Emotional stability (inverse of neuroticism)	0.031 (0.160)	0.014	0.192	0.848	1.48
Openness	0.081 (0.166)	0.036	0.49	0.627	1.41
	N= 115, adjusted R square = 0.51				
	Notes: 1) All VIP (Variable Importance of Projection) values are between 1 and 2 *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively				

Discussion

If the analysis is based on a rational student who wants to maximise his or her own utility, many of the findings in this research will make sense. The prior literature has shown there is a positive link between effort and performance for business courses (Bonesrønning & Opstad, 2012). From this point of view, one will expect MC-favouring undergraduates to increase their effort by introducing more MC-type exams. This conclusion has validity for all courses. The same tendency is observed for knowledge, learning, and motivation. Students who like MC-type exams report that more MC questions will increase their motivation, value of learning, and knowledge. The connection between fairness and exam form is also statistically strong and significant. Students desire fairness. And if they find

MC questions to be fairer than traditional essay questions, they wish more of that kind of exam, independent of the chosen business course.

Test anxiety varies among the students. Naveh-Benjamin et al. (1987) reported two types of test-anxious students: those with poor learning skills and those with good ones. A high level of nervousness can stifle students' ability to act and perform well. Hence, there is an inverse relationship between test anxiety and success. According to Cassidy et al. (1992), more MC tests might reduce the fear among business students. This might be the case for some students, and it depends on which course. Many business students have math anxiety and therefore dislike quantitative business courses (Bhowmick et al., 2017; Opstad, 2019). A CR-type test might therefore create more anxiety than MC questions for those subjects. On the other hand, some students fear answering incorrectly with MC questions. This can inhibit them from responding, and therefore they dislike this exam form. Those students who consider that MC questions will lower their anxiety prefer more MC tests. It is probable that students' anxiety about mathematical analysis explains why this relationship is much stronger for quantitative courses (correlation coefficient 0.53) than for non-quantitative courses (correlation coefficient 0.37). However, the score is low for mathematics and statistics. The reason might be that most of the students (around 85%) do not like MC tests in those courses. Therefore, few participants are included. Singh et al. (2013) suggested it is a significant difference in students' anxiety depending on whether it is MC or CR, but they did not find any significant diversity. Our results confirm that students are divided in their view of whether MC-type exam causes less anxiety. Half of the undergraduates agree, while the other half disagree (Figure 1). Other authors have reported that MC questions will reduce the students' stress (Traub & MacRury, 1990; Zeidner, 1987).

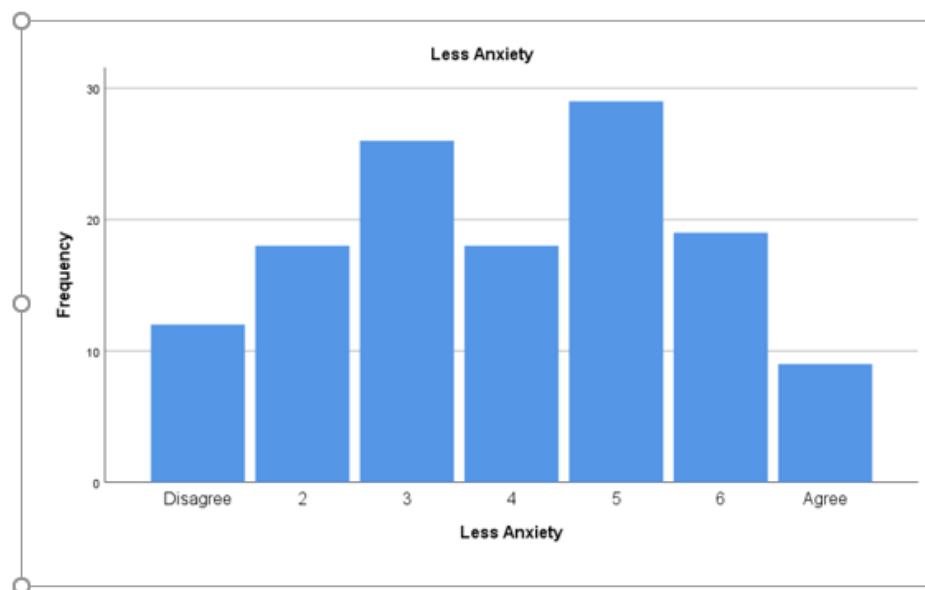


Figure 1. Student reports on whether more MC-based exam will reduce anxiety

With the same composition of students and using the ECTS (European Credit Transfer and Accumulation System) grading scale system, the distribution and mean value of the letter grade will not be affected by the chosen exam form (Opstad, 2020). Some students might perform better, others worse, but overall the distribution and mean will be unchanged. The students are obviously aware of this. Hence, there is no significant link between more MC questions and expected performance.

Most of the undergraduates agree that they will change their type of learning and the preparation for the exam if one substitutes CR questions with MC questions. (The mean score is high, between 5 and 6.) This impact is significantly correlated with the preferred percent of MC questions in the final exam for the quantitative courses. There is no such effect for non-quantitative courses. Previous research has indicated that MC-based and CR-based exams measure different aspects (Simkin & Keuchler 2004; Simkin et al., 2011; Singh et al., 2013). If the students have the opinion that MC questions measure knowledge like recall and superficial reading, while CR questions evaluate real learning and skills, they will adjust their study habits according to this. Consequently, they will focus more on details. Hence, it makes sense that there is a significant relationship between desire for more MC questions and more focus on details for all courses. It is not easy to capture students' written and analytical skills using MC-

type exams. By applying MC questions, it is also difficult to capture critical thinking. In the literature this discussion is related to Bloom's taxonomy of educational objectives (1956).

The paired correlation between the different variables also shows that personal characteristics have an impact on students' preference. From Figure 1, we note that students are divided in their view that pure MC exams will lead to increased anxiety. Because emotional stability is substantially and positively correlated with students' view of less stress with regard to MC questions, the opposite is true for neurotic persons. Such individuals fear MC-format exams more than CR-format exams. Maybe they are afraid of answering incorrectly in the choice between a given number of alternatives. These students also report that the MC format will change their learning style.

According to Birenbaum and Feldman (1998), students who favour the CR format tend to have academic self-confidence, high academic abilities, and good learning skills. Furthermore, many authors have identified the relationship between conscientiousness and academic aptitude (Furnham et al., 2008; O'Connor & Paunonen, 2007). A high score in conscientiousness is an important factor to verify academic success, and there is a significant relationship between this personality type and academic results. In this study we do not have data on students' performance, but conscientiousness can be used as an indicator of academic success. If so, we can argue that skilled students prefer CR-format exams because the results of this survey show a negative correlation between favouring MC and conscientiousness. This impact is significant for economics and accounting courses.

Agreeable individuals will largely help each other, and they show solidarity and great social skills. They are supporters of group work instead of individual written exams (Lakhal et al., 2013). This is not an option in this case, and therefore, it is not easy to assume what these individuals would prefer. Lakhal et al. (2013) suggested that higher agreeableness predicts lower preference for written exams, but not for MC tests. However, Furnham and Chamorro-Premuzic (2005) reported a significant positive relationship between written exam and agreeableness. The correlation between preferred MC-type exam and agreeableness was negative, but not significant. The findings in the current research are in line with this result. More investigation is needed to find out if there may be a link here.

Students who are more open to experiment can be associated with intelligence and creativity (Furnham & Chamorro-Premuzic, 2005). One could expect that such students would favour the CR-format exam, but this data does not suggest that there is such a connection. One explanation could be that business students are to a lesser extent open to experiment than other students (Lounsbury et al., 2009).

Which Factors Have Influence on Students' Reported Effort with Applying MC-Type Exams?

Partial analysis does not capture how different factors influence a variable simultaneously. The findings shown in Table 4 indicate that many variables affect students' efforts when changing to a MC test. There is a strong statistical link between effort by introducing MC and the students' attitudes toward this evaluation method. This approved selection of exam form can have great influence on students' effort, and thus the exam results. Undergraduates who consider that MC-type exams will better capture their knowledge, will be fairer, and will reduce their exam nervousness confirm that they will increase their effort if the college introduces more MC tests. The impact varies. Knowledge has the strongest effect, with a standardized Beta value of 0.5, and it is significant at the 1% level. Students who believe a MC test measures their knowledge better than a CR test will study harder and will probably be rewarded with a higher grade. One should not disregard the fact that many of these students may struggle with traditional essay exams. In this model there is no significant gender effect.

Note the connection between personality traits and effort. Students with high scores on conscientiousness report a significant negative impact on effort by applying MC questions. This supports the analysis that was done in the paired comparison in this paper. These students' effort and attitudes are related to the evaluation form. They are good at reflection, analysis, and writing. An exam form in which these abilities are not appreciated may lead to less interest in the subject. Another explanation is that skilled students find it easier to perform well at MC questions. The requirements are lower at the final exams. Many students assume the same grade can be achieved with less input than with a CR-type exam. Therefore, the effort is reduced by introducing a MC-type exam.

Extraverted students are impulsive and impatient. According to Furnham and Chamorro-Premuzic (2005), they may prefer MC tests if this means shorter duration. No such assumption can be made from this study. There is no obvious explanation why extraverted undergraduates will increase their effort by the introduction of MC questions.

One possible explanation may be that they do not have patience to prepare and study well for a CR exam, and therefore they report more effort with a MC exam.

Education policymakers must consider what kind of assessment and exam strategy is suitable for students with different psychological characteristics. The chosen evaluation form has influence on students' learning style and attitudes. It is important to work out the consequences of various changes before new arrangements are implemented.

Limitations

This study is based solely on the results of a survey. The selection can reflect bias. This work relies on honest answers from the participants. Many of the students have little experience with MC questions. In most subjects at business schools in Norway there are still only CR questions in the final exam. The consequence may be that many students do not have enough knowledge of how a MC exam will work. Much of the analysis is based on paired observations. This means that one cannot capture how other variables affect the result.

Conclusions

This analysis confirms that students' preference for evaluation methods affects their study behaviours. Some students favour MC-based exams. For these students, that type of exam will contribute more to enthusiasm and motivation. The implication is increased energy and probably better grades. The students are divided in their preference for evaluation format. This view depends on participants' characteristics. Using the Big Five Model as a reflection of personal traits shows that students with high conscientiousness prefer traditional CR exams. Conscientiousness is related to motivated students who perform well. They work hard and are achievement oriented. Therefore, students with good learning skills and high academic ability tend to prefer CR questions. The reason is probably that MC questions and CR questions measure different kinds of knowledge—where the first type involves deeper approaches of learning and analysis. These are important factors to consider when designing and choosing the type of course evaluation.

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Facilitating Teaching Observation acceptance into Italian academic context: an intervention proposal

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Abstract

Across the universities, the practice of Teaching Observing (TO) and giving feedback on teaching is highly discussed. Teachers sometimes do not like being observed during teaching and find the process threatening and time-consuming. Yet if handled properly, the time invested in the process of observing and being observed can facilitate innovation, improve the students experience, share best practices, foster academic relations and Faculty Development (FD) initiatives. Based on these premises, this paper reviews the literature on TO outlining some issues around TO in higher education and focusing on acceptance of these practices. So, we propose a series of key actions to realize a TO intervention that can be carried out across the sector.

Keywords

Teaching Observation, University, Faculty Development, intervention

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1. Introduction

Learning and teaching in higher education has become more complex in recent years for many different reasons (Wood, Warwick, 2018). Faculty members are increasingly involved around several key issues, including a challenging vision of the role and purpose of higher education itself. New standards for student learning have been introduced across the States and greater attention has been given to the function of teacher (Darling-Hammond, 2000). The large question on what constitutes “good teaching” has itself been worldwide addressed by research.

In this regard, Stefani (2005) focused on the factors that might be expected to contribute to successful study outcomes for students. Conversely, Goodwin and Stevens (1993) depicted six dimensions in the analysis of what constitutes good teaching: teaching practice; teaching context; teacher's role; student's role; atmosphere and physical environment.

According to Ericksen (1985), “good teachers” choose and organize the course resources and support students in acquiring information so that they can easily remember it. They are also skilled in the models and methods adopted in their activities, and they foster self-paced learning.

In De la Cruz point of view (1999), a “good teacher” should:

- be a top specialist in his/her branch of knowledge;
- be motivated to carry out research and to teach their subject;
- should have a vocation for their subject;
- have certain personal skills including getting on with people, communication skills, stress control, a high frustration tolerance, etc.;
- have specific teaching skills (good at organizing the subject matter to be taught, long and short-term planning of teaching activities, clear explanations, presentation of the subject matter in a way that arouses the students' interest and encourages independent learning);
- have a critical, contemplative attitude to his/her own activities as a teacher;
- be innovative and receptive to change.

These argumentations reveal the interest of both teachers and educational researchers on what constitutes good teaching and how to develop it. In such perspective, many and varied quality improvement actions are attempted in Higher Education including some forms of observation to foster the overall teaching and learning experience. Observations are adopted as a means of obtaining a direct measure of teaching practice and can generally be described as follows. Observations are structured around a set of domains that describe the core constructs of teaching valued by a set of dimensions (e.g., emotional support, classroom organization, and instructional support). In some systems, a full lesson is observed as it is. In other cases, a full lesson is divided into shorter segments of time, and each segment is observed (Bell et al., 2012).

Based on this assumption in the following sections, we first investigate the actual role of TO in University contexts. Afterword, we present our research method. Finally, the TO intervention details and conclusions are drawn in the last part of the paper.

2. Why do observation of teaching?

The standard source of information on teaching effectiveness is usually the student course satisfaction surveys. This offer a partial view of what goes on in the class (Robinson, 2010). Some important dimensions of teaching

effectiveness - e.g. whether a teacher is making useful connections to prior learning within the curriculum - are beyond the opinions of students (Cohen, McKeachie, 1980). According to Moore and Kuol point of view (2005), student evaluations are a partial indicator since students' ratings may allow extraneous personal factors to overwhelm the true quality of instruction. For example, student motivation or expected grades as well as stereotypical convictions associated with a teacher's age or attitude may influence his/her evaluation. The advantage of obtaining expert observers teaching practice view is that it can provide a useful counterpoint to the students' evaluations which is affected by all the potential problems or deficiencies that the student's feedback may have, as outlined above (Martin, Double, 1998).

In this scenario, Fullerton (1999) pointed out that the observation process can give a rare opportunity for an observer to see and analyze what students are actually doing as a result of the actions of the teacher.

Some other strengths of using TO allow observers to do the following:

- study the processes of education in real-life environments;
- provide more detailed and accurate evidence than other data sources;
- encourage change and verify that it occurred (Steinert et al., 2006).

The observers are seen as more likely to focus on the wider dimensions of teaching such as issues related to the "student experience" (Hammersley-Fletcher, Orsmond, 2005). TO can be a guide for teachers so they can reflect on their own teaching practices, and those who are observing can learn from other experts about their methods. Additionally, TO is a quality-enhancing tool that is an integral part of FD and of teaching professionalization (Cookson, 2005). For this reason, to help faculty members to fulfil their multiple roles, a variety of FD programs and activities are designed and implemented thanks to the TO inputs. FD activities include workshops, seminars, short courses and other longitudinal programs.

In this endeavor, the debate about the observations' function increases (Steinert et al., 2006). Any requirement of teachers need to be addressed with decisions about TO procedures. The dominant values and assumptions need to be considered. Having taken full cognizance of these requests, it is probable that there will be a positive reaction to TO when its advantages for the Universities are clearly, robustly and appropriately defined (Lomas, Kinchin, 2006).

3. Research method

The study has been conducted following the design science research method that consists of six steps going from problem identification to research communication (Hevner, et al., 2004; Peffers et al., 2006).

Design science research method has attested to be a successful method when implementing an intervention in any research domain. A great number of scholars have provided guidance to define its phases (Peffers et al., 2006, Sein et al., 2011). Currently, it includes six key phases: problem identification, research goal definition, solution proposition, development, demonstration and evaluation, and research communication.

For the purpose of our research, this method has been used to propose our TO intervention in the University context. At this stage of the research, we are in the solution proposition phase.

Firstly, problem identification has been grounded on a literature review about TO, in order to explore the actual state of art of TO practices and its impact on FD practices. So, our problem identification has been related to a definition of key actions to be accomplished in order to run a TO intervention. Specifically, a documents retrieval process has been realized by launching on Scopus database the search terms "Teaching observation", which have been cross-

referenced (AND search) with “University”, “Italy”, “advantages”, “features”, and “faculty development”. The first search showed more 20.000 results after 2018.

Then, the research goal was defined coherently with the problem identified at the outset. Because of the previous two phases, the solution proposition phase consists on the definition of key actions for a TO intervention considered as the best fitting mean able to reach the research goal.

The intervention development phase - still to be implemented - will consist in the deployment of our intervention within a real University context.

Then, demonstration and evaluation phases will involve teachers and staff in a collaborative investigation process. Thanks to the collection of feedback and data collected in the evaluation phase, some implications for researchers and practitioners will be elaborated and communicated through coming research contributions.

4. TO intervention

Successful implementation of TO depends on strong strategic actions involving different actors in the University environment. When correctly executed, a TO intervention can support community among colleagues and encourage both the observee and the observer to reflect on their activities, helping them to continuously develop their practice. As mentioned before, TO offers insights on aspects that students are not as qualified as peers to appraise such as the teacher’s content expertise or his/her adoption of specific teaching methods (Cookson, 2005). The proposed key actions for the TO intervention are the following.

- Study of the TO interventions previously carried out by other Institutions. Even though a tradition in higher education institutions is detectable across Australia, UK and USA (Yiend et al. 2014), practices of TO have emerged in Europe only in the last decade (Mouraz, Lopes, 2013). Constraints were related with a well-established tradition of discipline-structured and research-focused universities. In the analysis of previous interventions, it should be relevant to focus on best practices to build competitive advantage both in national and international University contexts. The analysis of existing practices could provide a better understanding of the priorities about TO and could give a picture of the different actors potentially involved to set up the intervention (e.g. teachers, staff, Schools or Faculties’ directors).
- Collection of teachers’ needs through a series of meetings or focus groups in order to discover teachers’ beliefs and requirements about TO. Teachers beliefs and requirements should be considered and discussed in order to allow for successful intervention. In fact, observation acceptance is enhanced when TO is adopted for professional development and leads to lively discussion (Fullerton, 1999). Meetings could permit the development of a team culture that could value critical discussions around TO practices. Teachers’ involvement will be essential both in a context where TO practices are already in place and in a context where they are introduced ex-novo (Peel, 2005).
- Definition of the strategy to communicate TO intervention (e.g. organizing seminars, producing documents and/or informational brochures to be distributed among staff and teachers).
- Definition of the policies regarding participation and enrolment of TO actors (e.g. staff to recruit teachers). Observers should be selected to include those who can discuss and offer expertise in teaching the discipline and he/she should be an expert or a peer. In such perspective, another important point to think through at an institutional level is the training for observers. In order to make informed observations, they should be knowledgeable and up to date with all aspects of teaching methods and models adopted in higher education (Scourfield, 2019).
- Creation of guidelines to carry out the observation. The guidelines could emphasize a three-step consultation process consisting in classroom pre-observation, observation, and a post-observation. Indeed, the guidelines should explain, for example, how to give and receive feedback. Whether managed on a one-to-one or team

basis, the practice of giving feedback should involve a series of systematic, continuing, and developmental cycles of planning (Reilkoff, 1981). Therefore, the TO could remain confidential between the observer and the teacher involved. Some departments could simply keep a record that the process has been undertaken; others could also keep a record of the given feedback (Washer, 2006). Indeed, the observations of the full range of teaching and learning activities should take place not limiting the process only to lectures.

- Observation’s deployment. Based on the established guidelines, TO could be carried out combining both qualitative and quantitative methods. Student-centred observation instruments that allowing comparisons between groups of students in the class could be adopted.
- Monitoring of the process with periodic analysis and reports. The monitoring activities could permit checking if intervention is going to plan and that all the involved actors are “on task”.
- Adoption of the collected data and information as powerful sources to design new training proposals. Then, the data could then be used to make informed decisions regarding future TO interventions. Lastly, as a result of the derived insights and ideas from TO, both observer and observee could be motivated to innovate teaching practices in their own classroom.
- Communication of TO data. The diffusion of intervention’s results will go beyond scientific publication. Specifically, the focus will be on dissemination to community participants and other institutions.

Discussion and conclusions

Observation is a flexible approach to data collection, suitable for a broad range of educational settings. In the university context, it allows detailed documentation of events that may go unnoticed among teachers (Leedy, Omrod, 2005). In order to improve teaching and learning within faculty, a TO intervention involving specific actors in the university is proposed. Given the above suggested actions, it should be possible to set up an intervention for TO which is both productive and non-threatening. The establishment of a systematic intervention in which teachers and staff opinions are valued will contribute to faculty professional growth.

At its best, the proposed intervention can foster and disseminate best practices and lead to closer academic links and more general team-building within academic departments.

Future research could include the validation of the intervention that will be carried out in an authentic context.

Biography of each author

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“Connecting Through Story: How Narrative Mediation Techniques Can Foster Meaningful Dialogue Between Polarized Political Groups”

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Abstract

Public engagement in political dialogue and debate is an essential practice of democracy. While such discourse can take many forms, its manifestations often fall into oppositional patterns, and this tendency towards polarized dialogue seems to be increasing. Indeed, the modern channels of rhetorical engagement – social media, television news cycles, etc. – appear to be compounding this trend by actively reinforcing the division of this rhetoric into binary ideological camps. This pits the participants against each other in a way that forecloses nuanced dialogue or effective engagement; when traditional forms of rhetorical persuasion and argumentation are used in such encounters, it often causes the other party to simply dig in their heels deeper.

This paper contends that recent developments in narrative approaches to rhetoric and mediation promise a better way forward for political dialogue. These developments have demonstrated that sharing a contested perspective in a narrative format can invite increased participation and bypass reactionary responses. More specifically, these insights have given rise to narrative mediation practices, conflict resolution methodologies that rely on sharing perspectives through stories rather than arguments to bring reconciliation. While such mediation practices have largely been developed for formal conflict resolution situations, many of their key principles and techniques are relevant to broader rhetorical situations; however, little attention has been given to applying these principles to such larger contexts. This paper

enters into that space to suggest several ways those engaged in political discourse can appropriate and apply these rhetorical principles of narrative mediation to foster meaningful dialogue with oppositional audiences.

The Multimodal, Embodied Experiences of Students and a Teacher in French Immersion, Early Years Settings: An Exploratory Case Study

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Abstract

This proposal discusses the possibilities of a teacher and students in a French immersion classroom, embodying and conceptualizing multimodal possibilities through a posthumanist lens. The idea that intra-action and *becoming* are deemed as crucial processes for students to experience language opportunities are an integral part of this proposal. Furthermore, that the data collected from this, should be placed in a wunderkammer (cabinet of curiosities) to fully understand the depth of the French language learning process. The importance of non-representationalism is debated and compared to representationalism, and its place in semiotic and multimodal research. Through the Review of Literature, common teaching practices, curricular expectations and French immersion literacy packages are reviewed, and what current, brain-based research states educators should be doing to improve second language acquisition in classrooms.

Keywords: French immersion, multimodality, embodiment, becoming, fluency, posthumanism, intra-action, representationalism, entangling, desire, agency, conditions of possibility, smooth spaces, wunderkammer (cabinet of curiosities)

Introduction

The study outlined in this proposal looks to identify how an educator and students both conceptualize and embody multimodal, oral language in a French immersion (FI) classroom. The introduction begins by discussing the curriculum in Alberta, as well as French immersion programming in the Edmonton Catholic School District (ECSD). After, multimodal possibilities in FI are explored, followed by the statement of the problem, the purpose of the study and the research question. The introduction section will finish with the research design and overview, the assumptions, significance and information on the researcher. Following the introduction, I present a review of the literature and the methodology to be followed for the study.

Curriculum in Alberta

Alberta is in the process of changing the curriculum used in schools across the province. The government and stakeholders, such as parents and professors, are working together to redevelop the curriculum (Government of Alberta, 2019). Some parts of the curriculum were released 30 years ago, while other subject areas were redesigned eight years ago (Government of Alberta, 2019). The new curriculum will leave behind the knowledge-based approach, and move towards a concept-based curriculum. Though the curriculum cannot tell a teacher how to teach, the style in which it is written impacts educational practices. With the new concept-based curriculum, teachers will have to understand how to connect key concepts amongst all subject areas, and encourage exploration and discovery within the classroom. The new Program will encourage students to have richer exploration opportunities through common ideas that will tie across multiple subject areas (Government of Alberta, 2019). Due to these changes, teaching practices arguably must evolve.

The conceptually-based framework to be adopted in Alberta allows teachers to educate students in a cross-curricular fashion through exploration, discovery, curiosity and questioning. Furthermore, in the last few years, the Alberta government has put much emphasis on the need for a new curriculum, to educate diverse students. The Alberta government believes that the new curriculum “provides opportunities for all students to develop literacy and numeracy skills, and competencies across all subjects and grade levels” (Government of Alberta, What’s New?, 2019). Therefore, there is a pressing need for educators to evaluate and reconsider their teaching practices. In the area of language and literacy instruction, educators have been encouraged to incorporate multimodality in their practices for many years now (Jewitt, 2008). However, this has not translated into many FI classrooms. In fact, “the available research evidence suggests that students in many immersion classes are given few chances to speak during class and even fewer opportunities to initiate the use of language. Most often, students use language in response to questions or comments initiated by the teacher” (Genessee, 1994, p. 4)

Furthermore, because of a curriculum that was created at different times, FI teachers have not had the opportunity to engage in the possibility of cross-curricular teaching practices, making content and language-teaching separate experiences. With the new curriculum, comes new opportunities to engage students in learning experiences that target both content and language knowledge.

French Immersion in the Edmonton Catholic School District (ECSD)

Ballinger (2015) discusses research, which calls for needed change “to be made to the pedagogy within bilingual programs such as immersion” (p.37). This so that it can “purposefully make cross-curricular links between materials taught in both languages to reinforce and deepen students’ understanding of content as well as language” (Ballinger, 2015, p.37). This separation in teaching languages or subjects may not be surprising for some, given that the various parts of the curriculum for both FI and English programs were redesigned at different times, without the consideration of other subject areas. Some parts of the curriculum were released 30 years ago, while other subject areas were redesigned eight years ago (Government of Alberta, 2019).

Currently, the stakeholders involved in Alberta wish to create “subject scope and sequences that facilitate/cross-curricular approaches to learning through competencies and literacy and numeracy that transcend subjects, and are critical in ensuring coherence within and across subjects” (Government of Alberta, 2016, p.5). For regular programming, many view this as an excellent pedagogical practice.

Certain specialists in FI, however, such as Lyster (2007), believe that language instruction in programs such as FI should be counterbalanced. Counterbalancing (Lyster, 2007) consists of putting the focus not only on the form (grammar) or not only on the content (teaching Mathematics in French without looking at the language) but on using both so students can learn the language in context while learning the language form (how languages are structured).

Incidental attention drawn to language during subject-matter instruction is insufficient because, without having their attention drawn more systematically to the target language, the cognitive predispositions of second language learners interact with classroom input in ways that restrict the incidental assimilation of specific target features and grammatical subsystems, such as verbs, pronouns, and gender in the case of French immersion students (Lyster, 2007, p. 29).

Counterbalancing practiced in ECSD range from the Accelerative Integrated Method (AIM), to *Daily 5*. AIM is a program that uses actions to assist in language development.

Each word is assigned an action, and the teacher speaks using the assigned actions, to encourage language development. *Daily 5* uses centers and student-driven activities to promote language learning through activities such as writing, listening, speaking and sharing ideas. These programs or practices, explained further within the Review of the Literature, are used to enhance and provide more opportunities to practice specific outcomes in the curriculum within French Language Arts. For example, in the curriculum, for Grade 1 French Language Arts, it states:

Pour répondre à des besoins d’imaginaire, de divertissement et d’esthétique à l’écoute, l’élève devra (I have translated this to mean: To respond to an imaginary need and diverse listening aesthetics, the child should):

mimer les actions suggérées par l’auteur dans une chanson ou dans une comptine (I have translated this to mean: mimic the actions suggested by the author in a song or rhyme)

(p. I-25).

Using AIM, students would be able to attain this outcome through the pre-recorded story of *Little Red Riding Hood*. Students would listen to the audio, and can share the story with others using the actions from the program, as well as the words, to provide evidence of understanding through “mimicking”. With the use of *Daily 5*, students would be able to write about the story, re-tell the story, create a play with the story, or read the story dramatically to a friend. These are examples of how these programs are used to provide extra practice for students, regarding the curriculum and its outcomes. Others, such as Dagenais and Toohey (2006), who perform research in French immersion, look at different ways students entangle with French. Some of these practices can fall into the multimodal category, though given different titles or placed in varying categories.

Therefore, though there will be a new curriculum which affords an array of cross-curricular opportunities which can be explored through embodied, multimodal experiences or Reggio Emilia, teaching practices should still be counterbalanced to ensure language acquisition by FI students. This will be possible within ECSD due to the varying strategies and programs encouraged, and used by its educators.

Multimodal Possibilities in FI

Teachers are able to approach curriculum in various ways. The idea that children “engage in everyday activities by drawing on various multilingual, multimodal and multisensory resources available in their local

environment” (Hua, Otsuji & Pennycook, 2017, p. 385) provides many pedagogical directions for teachers to pursue. Multimodality can be explained as the various modes in which a message is expressed. Color, shapes, sounds, movement, and even images are the various components that create multimodal experiences (Kress, 2009). Embodiment is how the students take up, or use what has been provided to create new learning, or information (Siegel, 2006). This can be achieved through smelling, touching, moving or *becoming*, a process explained later.

This study will be conducted in a French immersion school. There are a variety of programs in Alberta that promote teaching of French. Intensive French, known as IF, was first introduced in Montreal in 1975 for French learners, by Lise Billy, a French consultant (Netten & German, 2005). There is also French as a second Language or Core French (Mady & Turnbull, 2009), francophone schools, etc. Some of these programs put their focus on oral acquisition, such as IF, and on the Literacy loop, which consists of focusing on oral before introducing reading and writing (when students acquired a structure they start again: oral, reading, writing) (Netten & Germain, 2005). However, nothing has been done in French immersion to look at multimodality.

Other concepts regarding French orality and the possibility of language exposure have been discussed through the use of modes such as music or language patterning. Leith (1975) uses the idea that popular French music may be used as “an integral part of any sophisticated foreign language instruction program, at least for the major cultural languages” (p.537) to assist in oral development and fluency. Researchers such as Wauquier and Yamaguchi (2013) discuss the French Template, which encourages phonological awareness through the stress of certain syllables or sounds, which many consider to be poetry. An example given within the book is,

« Voici des fruits, des fleurs, des feuilles et des branches

Et puis voici mon cœur qui ne batte que pour vous » (p.325).

In English, this would translate to:

“Here are fruits, flowers, leaves and branches

And here is my heart that only beats for you.”

Not only should the structure of the sentence be noticed, but the flow, capitalization and punctuation. The Iambic verse gives a sense of flow, allowing the reader to remember, restate or use the language at another time. Though these two examples are not called multimodality, in the way that this study will use song and rhyme, it could fall into that category.

FL educators must consider that “one of the key factors in learning a foreign language is the ability and opportunity to play with it, test its elasticity” (Maley, 1987, p. 94). There is multimodality, as well as Total Physical Response (TPR) that allow for this play and testing.

Asher (1965), a specialist in TPR, states that the fluency in second language acquisition is perhaps one of the most difficult tasks for an individual to accomplish. An example of TPR would be the teacher giving the word in French for the English word, sing, which is « chanter, » and having the students first repeat the word, then sing, to reinforce the meaning (Asher, 1965). Studies performed on second-language learners provided almost perfect retention scores from students; these students ranged from small school children, to adults. TPR does have some similarities to multimodality in that it recognizes the importance of movement and meaning; however, it is important to note that TPR is purposeful, and almost rote (Asher, 1965), whereas multimodality encourages students to draw on a range of communicational modes, such as image, sound, and gesture, and not rely solely on the linguistic mode.

Multimodality offers numerous affordances to explore and develop various languages through voice, body, space, objects and movement in educational settings (Ozen & Mohammadzadeh, 2012). Furthermore, multimodal

communication is something that many children naturally engage in, which will allow for easy integration into language classrooms.

Thus, teachers can look to practices that encourage multimodal, embodied experiences to engage, excite and promote learning.

Statement of the Problem

Students need to improve their French oral skills to adequately function in immersion settings. With current, pedagogical approaches, not all students are gaining the expressive skills expected by FI programs. By better understanding how children engage in embodied, multimodal practices, educators may be better equipped to use such methods in informed ways in classroom.

Purpose of the Study

The purpose of this study is to explore how students and teacher engage in multimodal, embodied experiences to improve their French oral skills.

Research Question

For my overarching question, I will be asking: How do children engage in multimodal, embodied experiences that seek to promote oral language learning in an Early Years, French Immersion classroom?

I will also be considering the following, to support my research question:

- How do multimodal learning experiences open up spaces for expressive learning in a FI classroom?
- How do they close down spaces for expressive, language learning in a FI classroom?
- What kinds of conditions enhance or constrain language learning in a FI classroom when multimodal learning experiences are foregrounded?

Research Design and Overview

The proposed study will take place at a dual track school (dual track: a program which offers both French immersion and English programming), in a grade 1 FI classroom, with twenty-eight students. The focus of this study will be on the teacher and students, and their conceptualizations of their multimodal, embodied experiences with French language instruction.

I will be using an exploratory case study method. Because I will be conducting the study in a grade 1 FI classroom, I believe that the exploratory case study will allow the flexibility needed to properly conduct my research without restrictions. Exploratory case studies “are designed to bring out the details from the viewpoint of the participants by using multiple sources of data” (Tellis, 1997, p.1).

Assumptions

Because of my experiences as a French immersion teacher in same the school proposed for my research site, I am going to make two assumptions. Firstly, I am going to assume that all students are coming to the grade 1 classroom with some exposure to French as an additional language. This is due to the school offering a Kindergarten French Program, which allows for early exposure and participation in French. The second assumption I am going to make as the researcher is that many students are English Language Learners (ELL). In our school’s latest ELL list, Grade 1 French, on average, 63% of the students speak another language besides English or French.

Significance

I began to realize the importance of FI embodied, multimodal practices before I was a teacher. At the time, I worked as an educational assistant, in a Kindergarten classroom that followed the Reggio Emilia philosophy. Here, I could witness children grow socially, creatively and as independent thinkers. The students would sing, dance, speak in musical tones, and mimic actions. These are multimodal, embodied experiences, but I just knew them as the Reggio Emilia approaches. These “Reggio” approaches were what I continued to use in my teaching practices, unaware of the multimodal experiences I was affording the students. Now, I cannot help but wonder how children engage with multimodal experiences for oral language learning in a FI classroom beyond Kindergarten. Through research and the opportunity to attend Professional Development workshops where provocations and exploration (main features of a Reggio Emilia pedagogical approach) were main topics, I have been able to evolve my thoughts on educational practices and develop my own ideas as to what might work well in primary level FI classrooms. While Reggio Emilia provides a helpful framework for early years learning, I am concerned that it is unable to provide the more structured opportunities that multimodality can address through mimicking movement, sound, rhythm and song. This is because Reggio Emilia is more about creating, participating in projects and collaborating with peers. Thus, some of the multimodal, embodied aspects are not interwoven (Katz, 1998). This has encouraged me to pursue research into language acquisition through multimodal, embodied approaches.

The Researcher

The first moment I realized the importance of multimodality and the embodiment of literacy practices was when I was teaching French verbs. The students could not grasp that a verb was an action word. Tired and frustrated, I jumped up onto the table. The students looked at me in shock, wondering what I was doing. However, from there, I moved around the room on the tables, acting out various forms of verbs. The students were engaged, excited, and participating. From then on, we “acted” every day. It brought me to wonder, however, what else I could “act out” to get the students talking.

As a child, I participated in the Kiwanis Music Festival for Speech Arts, where I won many awards and titles. Speech Arts is best described as an individual memorizing poetry or literature and presenting it to three judges. There are many categories within the arts, such as dramatic, lyrical and Canadian. I decided to share my passion for speech arts with my students. One day, after presenting a poem to the students, they were mesmerized, and even quiet. A child who never spoke raised her hand and asked, “When do we get to do that?”

Through incorporating movement of the body into poetry, there was a shift in my classroom. As shared by Williams and Tedick (2008), “it is our experience that there is a great deal to be gained through exchange of research findings across program contexts” (p. 14). Due to this shift, and my new passion, it led me first to complete a master’s degree from the University of Portland, where I studied how the recitation of poetry assists in second-language learning, to then pursue a doctorate in languages and literacy at the University of Calgary.

Review of the Literature

The aim of this research is to examine how students engage in multimodal, embodied language and literacy learning opportunities within the Early Learning FI classroom setting. To provide a context for the study, I begin the review of the literature with a discussion of the Edmonton Catholic School District teaching practices in FI. Next, I discuss Reggio Emilia. I then consider multimodal and embodied literacy practices and matters of representationalism and semiotics. Finally, I consider multimodality and embodied language and literacy learning practices and their relationship to pedagogy inspired by Reggio Emilia.

Teaching Practices in FI

FI programs have been created to allow non-French students to learn another language, appreciate another culture and not hinder the child’s first language development. However, with varying classroom demographics, some

researchers and educators have begun to question which practices best target the largest majority of students (Cammarata & Tedick, 2012). More specifically, what activities could encourage student engagement and collaborative environments (Cammarata & Tedick, 2012).

One area of weakness identified in FI programs through research and observation, is that too much attention is given to the subject instead of the language of instruction (Cammarata & Tedick, 2012). The hope for FI is that the child will acquire both language and content skills. Teachers, parents and stakeholders want students to be *fluent*. Teachers therefore have a responsibility to not only ensure that a child understands content, but is able to express their comprehension of content. This is where the importance of teaching resources or programs is critical. Edmonton Catholic School District school administrators within FI have and continue to promote two ways of teaching French in the classroom: AIM and Daily 5 within the context of Reggio Emilia inspired programming.

AIM is a program created for language learning where students link words to actions, to encourage memory opportunities for the student. “In this view, language is not a unique product of just the learner’s individual brain, but of a mind that actively draws on the interactive environment of the setting in which language is used” (Snyder Ohta, 2001, p. 4). This “interactive environment” which Ohta (2001) speaks to is critical for child in an immersion program, because it is another way for the student to remember various words, tied to the actions, to assist them in the communication process. This differs from a first language learner, where, unless there is an underlying learning disability, the words come to mind *before* the action.

Daily 5, sets out the roles of the teachers and students, suggesting that educators change “the atmosphere in [their] rooms and [their] own roles, from trying to “manage” students, rushing around the room putting out fires, to creating routines and procedures that [foster] independent literacy behaviours that [are] ingrained to the point of being habits” (Boushey & Moser, 2006, p. 9). These habits are to be practiced through the suggested activities of reading to oneself, reading to someone, working on writing, listening to reading, and spelling/word work, (Boushey & Moser, 2006, pp. 11–12).

Though the concept of *Daily 5* or AIM have some aspects that are positive, there are ways in which these two programs are not as beneficial to immersion classrooms as they could be, based on personal experience. Both *Daily 5* and AIM tend to use language that is not adequate for FI, due to being geared towards Francophone (students whose first language is French) students. Furthermore, the *Daily 5* program, if done correctly, takes an entire day to complete. When Mathematics, Science and Social Studies need to be taught, this isn’t possible.

Because of the shortcomings I note with regard to AIM and *Daily 5*, for this research study, I will be working in a first grade classroom whose pedagogy is inspired by Reggio Emilia (this program will be explained more thoroughly in the section below) and does not use AIM and/or *Daily 5*.

Reggio Emilia

Reggio Emilia has been the program of choice for both French and English programs within ECSD, for every Early Learning classroom (Kindergarten to grade 1). This program encourages children to develop naturally, within a non-conventional classroom environment. The Reggio Emilia approach originated in Italy, in a small town known as Reggio Emilia (Edwards, Gandini & Forman, 1998). The approach is based on a particular educational philosophy that children are able, and capable of leading their own educational journeys (Edwards, Gandini & Forman, 1998). In the original location, the program has existed for the past 50 years, and encourages *all* children, ages six and under to attend. Students with special needs or disabilities are mainstreamed into the program, receiving full support to be successful in their learning (Edwards, Gandini & Forman, 1998). This is partially due to the fact that centers or learning processes are student driven, and students are seen as equals in their educational journey. Because students are their own academic guides, it introduces a pedagogical shift based on the idea “that all children are capable, competent, powerful learners who bring to the school valuable theories and hypotheses of their own that are worthy of

investigation” (Shelley & Flessner, 2013, p. 645). This is why inclusive education is possible in this program. Furthermore, “the teachers know how to listen to children, how to allow them to take initiative, yet how to guide them in productive ways” (Edwards et al., 2011, p. xiv). Children are responsible for asking questions, exploring materials and creating. Edwards, Gandini and Forman (1998) refer to this process as “their “languages,” including the expressive, communicative, symbolic, cognitive, ethical, metaphorical, logical [and] imaginative” (p.7). The teacher’s role is to supply the necessary tools or resources for the children to explore, inquire, and learn.

The Reggio approach stems from four major thoughts of thinking. “European and American strands of progressive education, Piagetian constructivist and Vygotskian sociohistorical psychologies, Italian postwar left-reform politics, and European postmodern philosophy” (Edwards, Gandini & Forman, 1998, p.8). There is also a cultural aspect, which is woven through the four main concepts of this program. Throughout Europe, the Reggio Emilia approach is highly respected, with educators travelling from all over to observe, reflect and bring ideas back to implement within their own districts (Edwards, Gandini & Forman, 1998).

Edmonton Catholic School District adopted the Reggio Emilia philosophy almost a decade ago, and has attempted to change not only teachers’ style of curricular presentation, but also the classroom environment. For example, Reggio-inspired classrooms have lamps instead of harsh LED classroom lights. There is a large use of wood and natural materials, such as cork. There are many nooks with beanbag chairs or mini-couches for children who wish to be comfortable, as well as higher spaces, such as lofts. These different areas and experiences are said to offer students different perspectives of the room. Mercillott (2001) explains this educational shift as the learner having rights. These rights are the belief that children should be able to explore, question, discuss and discover. Children are social beings, and can construct various forms of knowledge, and act as researcher through question and discovery. The role of the teacher is to be an active learner and participant with the child and to create situations that allow the child to explore or question to deepen their understanding. Documentation is a large part of the process, with the goal of sharing the various ways children learn and contribute to the classroom, and school community.

Though the ethos of Reggio Emilia works in some ways for fostering a rich language learning environment, it is through personal experience that I feel that immersion students need more direction and adequate exposure to the language. Students normally enter Kindergarten with a vocabulary of around “2,000 to 6,000 words” in their first language, whereas immersion students often will come with little experience, or words, in the language of instruction (Belisle, 1997, p. 1). Because of this, many teachers spend as much time as possible in the L2, to immerse students in a rich, language environment. This is precisely why districts, such as ECSD, are choosing to use AIM and *Daily 5*. These programs ensure that both the teacher, and students are spending as much time as possible in the language of instruction through pre-created activities and routine. Williams and Tedick (2008) refer to this time spent in the L2 as “time on task” (p. 36). However, Caine and Caine (1990) conclude that what educators need is to have multiple methods, resources, or approaches available to pull from. Fortune and Tedick (2008), who suggest that educators “risk under-attending to the full range of diverse learning needs that exist in many Immersion classrooms” (p. 14), also support this need for multiple resources.

Thus, this brings forth the idea of multimodality through language embodiment opportunities. By using rhyme, song and movement, students will have more direct instruction, but have the opportunity of exploration, through the use of space and materials, which piques student interest. When students use rhyme, song or movement, there is opportunity to create, and *become*. This *becoming* is what will allow students to make connections to past and present experiences within their new language, and allow for a deeper understanding due to the use of various outlets.

It is imperative, therefore, for ECSD teachers to create an environment, and learning opportunities that fall under the philosophy of Reggio Emilia, but have the direction needed for students to acquire the necessary skills for FI. I argue that multimodal, embodied language and literacy learning practices will encourage this, by providing a balance between exploration, and routine.

Multimodal and Embodied Literacy Practices

Research on using multimodal, embodied literacy practices in FI classrooms has been conducted in limited jurisdictions. The concept has been explored in terms of Core French (optional French courses), by Au-Yeung (2009), Lotherington and Jenson (2011) but not in FI, early year's settings. Core French findings, however, demonstrated that "there was a cross-language transfer of phonological awareness and word reading from English to French, and cross-language relationship between English receptive vocabulary and French receptive vocabulary for both groups" (Yeung, 2009, p. 43). Because of this lack of research, much of the information that will be guiding this study has come from non-immersion classrooms or experiences, or from research not directly confirmed as being, "multimodal" or "embodied practices."

Multimodality is a concept originating from Gunther Kress, described as "the scholar who pioneered and continues to play a decisive role in shaping the field of multimodality (Kress, 2009, About the Book). Other scholars, such as Carey Jewitt (2008), discuss the importance of how society and capitalism influence how messages are given and received.

Jewitt (2008) argues that in a contemporary multi-media communicational world, it is impossible to consider literacy a "linguistic accomplishment" (p. 241) as print-based literacy must now give way to other factors, such as image, sound, action, and colour. Jewitt (2008) believes that the representation and sharing of messages are what shape the learning of individuals. "That is, the ways in which something is represented shape both what is to be learned, that is, the curriculum content, and how it is to be learned" (p.241). Due to these beliefs, one must acknowledge the importance of not only the message behind the words, but the message behind the other ranges of multimodal communication, such as vocal tone or movement. This consideration forces one to consider student interest, current events or personal beliefs when wanting to "shape" the curricular content to engage students. With new district initiatives and a cross-curricular Programs of Study coming to Alberta schools as early as 2020, ECSD teachers will have expanded opportunities to integrate multimodal, embodiment practices with various facets of student interest, especially in FI settings.

The application of multimodal, embodied practices to immersion classrooms is possible because literacy, and what is considered literacy, has evolved (Bearne, 2009). What is meant by literacy "evolving" is that it comes in multiple forms, including signs, pictures, colours, movement, and more. Because of this evolution in multiple cultures or languages, the application of new practices should be possible. Throughout this study, the teacher will be encouraged to use multimodal, embodied practices to encourage language acquisition.

Music, poetry and movement will be the main focus when discussing multimodal, embodied practices. This is because recent studies have demonstrated the importance of incorporating one's body, as well as multimodality, to accelerate the process of language acquisition. Though this seems to be a new concept, Siegel (2006) argues that children have always engaged in these practices. This is further reinforced by Hua, Otsuju, and Pennycook (2017), who believe that all occurrences of day-to-day life "employ a broad understanding of social semiotics that includes body, space, gesture, senses and objects" (p. 383). Teachers who *think* that they have had little exposure to multimodality or embodiment may feel intimidated or overwhelmed, because of the lack of understanding of what these practices are. However, as Siegel (2006) points out, all, at some point, have engaged in multimodal, embodiment practises. This feeling of being overwhelmed is due to needing to know not only curricular content, but also actions or activities that engage more than just memorization or daily routine. However, educators must remember that "social, cultural, and economic worlds now require facility with tests and practices involving the full range of representational modes" (Siegel, 2006, p. 65). This means that in order for students to be successful, we need to use their means of communication. Students need opportunities to explore literacy through gestures, music, technology, pictures, and other interests, which could include the creation of iMovies, or art. These forms of exploration should be deemed just as relevant as language practices (Siegel, 2006).

For example, both music and poetry are in the curriculum, however, many teachers are not comfortable enough to teach them. This is because as Carter (2012) explains, it includes an understanding of "... listening/speaking/reading/memorizing/creatively conversing and conferencing/expressively engaging/composing [and] performing" (p. 5). It also uses movement, and the process of students *becoming* whatever they are speaking or singing about. This *becoming*, which is the embodied practice within the multimodal activity, is what creates ownership in the child's learning, creating literacy fluency and comprehension (Cudak, 2014).

It is important for teachers to understand that students all have various paces, none of which are identical to another. Kress (2004) also argues that adults hold an expectation that children must move into adult language before first exploring their own, as adults feel that they have more power or experience than the child does. This type of thinking eliminates multimodal thinking, as multimodality does take a certain type of creativity and freedom for the child to create their own learning experience. "Even in conditions of heavy social constraint people can and do act out of their interests; equally, what seems merely individual is socially constrained" (Kress, 2004, p. 70). Thus, we need to encourage students to use modes to create meaning. This would tie into song, or acoustics, as discussed by Fabbro (2013). Kress (2005) describes modes as "lots of different 'stuff'" (p. 7) that we use to make our signs. This can be anything from music, voices, our bodies, or the various materials around us. Specifically, for this research, the mode of focus will be the body, signs, or other means that students find interesting.

Multimodality and embodiment opportunities are part of what creates inspiration in students. Kuby and Rucker (2015) explore this concept through various forms of literacy and their representations in their book *Go Be a Writer! Expanding the Curricular Boundaries of Literacy Learning with Children*. Here, readers are taken through a journey of how the various forms of literacy entangled in their interests can assist students in becoming motivated, interested and engaged. The purpose of this book was to provide "a significant departure from literacy-based ways of approaching and writing" (p. 2) through a posthuman lens that considers the importance of the body in living and learning. "Posthumanism might reconfigure classroom practice and curriculum" when educators allow an evolution to occur with their teaching practices (Snaza & Weaver, 2014, p.9). What this means is, teachers should not only allow, but encourage children in classrooms to play, explore, collaborate, and experiment with items or ideas.

I explore concepts of posthumanism that relate to my study further on in the proposal. However, some concepts introduced by Kuby and Rucker which will be applicable to this study are rhizomes and lines of flight, which are the "unexpected" ways one can practice literacy. *Rhizomes* are "about connections and difference - no two connections are the same. Something new is always being produced" (Kuby & Rucker, 2015, p. 32). Thus, a child's experiences are rhizomes. The changes the child makes, or where the activity breaks off and turns into something else, are the *lines of flight*. Rhizomes and lines of flight are crucial in immersion settings, as the teacher will have to move out of a zone of comfort to fulfill the needs, requests, or interests of the students, to attain or grasp their attention through the *intra-action* with materials or things. Barad describes intra-action in an in-depth matter in an interview with Kleinman (2012).

Intra-action unsettles the metaphysics of individualism (the belief that there are individually constituted agents or entities, as well as times and places)/"individuals" do not preexist as such but rather materialize in intra-action. That is, intra-action goes to the question of the making of differences, of "individuals," rather than assuming their independent or prior existence. "Individuals" do not *not* exist, but are not individually determinate. Rather, "individuals" only exist within phenomena (particular materialized/materializing relations) in their ongoing iteratively intra-active reconfiguring (Kleinman, 2012, p.77).

This means that, intra-action takes the responsibility away from the individual; the materials as well as the surroundings are able to inspire, and take responsibility for what has been, or will be created.

Through the process of intra-action, students will *become*; that is, their identity shifts as they intra-act with materials, events, or other humans. An example of *becoming* in a FI setting would be a child learning a new song, and,

after practice, visuals and collaborating, is able to sing the song sporadically, and becoming a French speaker through this process. *Becoming* will allow students to fully engage in the literacy process in the immersion classroom and experiment with words, actions, or sounds (Kuby & Rucker, 2015). As they explore these concepts within the book, the authors demonstrate the possibilities associated with embodying and using multimodal expression in language learning.

Because multimodal embodiment activities can include all various landscapes of visual or auditory outlets, educators need to be able to make the choices to decide what will be most beneficial to students in their additional language acquisition. As previously discussed, these types of experiences allow children to *become* through intra-action, and provide opportunities for language acquisition. Though this has been heavily explored in literature such as *Go be a Writer!* (Kuby & Rucker, 2015) in English streamed classrooms, it still brings forth the idea that literacy is many *things*, and can be taught in many ways.

Representationalism and Semiotics

Multimodality, as conceived by Kress and Jewitt relies on a representational understanding of semiotics. Semiotics allows individuals to know what message is being conveyed through making meaning out of “signs” (Lacey & Lacey, 1998). The study of semiotics originated with Saussure, Sebeok and Peirce (Cobley, 2009). However, as previously mentioned, the importance of signs and its significance, has been studied and researched by Kress. Kress argues that an understanding of semiotics is needed now more than ever, as “language alone can no longer give us full access to the meanings of most contemporary messages” (Kress & Mavers, 2005, p.19). Semiotics allows the individual to use a variety of modes to communicate, instead of a singular mode, such as writing. Furthermore, semiotics questions the notion that the written word is an “applicable account of representation and communication” (Kress, 2005, p.19). Kress argues the importance of signs in everyday life; people see various modes in magazines, on street corner or billboards and are able to understand what is being communicated (Kress & Van Leeuwen, 1996).

Usually, multimodality is based on an understanding of semiotics that is informed by representationalism. Theories of representation understand representation of meaning through a variety of signs, as equivalent to, or better than, other forms of understanding, like affect or embodied understanding. However, this paper will be working with an alternate understanding of multimodality- one which is informed by non-representational posthumanism.

Representationalism sees people as having control over the objects, and not *intra-acting*, *entangling* or *becoming* as part of the learning experience. “Representationalism place[s] the human at the centre and position[s] nonhuman matter at his or her disposal” (Kuby, Spector & Thiel, 2018, p.232). Furthermore, representationalism views what has been created or produced, as stemming from the individual mind, with no recognition that inspiration might come from objects, materials or the environment.

In the context of my proposed study, where *becoming* and *intra-acting* are understood as important parts of the learning process, multimodality, as framed by representationalism, poses a problem. This is because the process of *becoming* and *intra-action* place the individual and the materials at the same level of importance, going against representationalism. As stated earlier, things and individuals rely upon one another for the process of creation, and neither are viewed as more important than the other, making these non-representationalistic processes critical in language development. They allow students to engage as members of the French community and not simply memorize expressions or sentences, but practice and live the French language in holistic ways through intra-active opportunities. Multimodality, when framed by posthumanism, articulates that “humans, nonhumans and more-than-humans [are] entangled in producing truths, realities, knowledges and relationships” (Kuby & Rowsell, 2017, p.285). When considering Kuby and Rucker (2015) and their students’ process of *becoming*, this is how students were able to engage on a deeper level of thinking and questioning, which furthers discussions and opens up opportunities for other learning experiences. These posthumanist, embodied experiences regarding “speaking, gesturing and sounding, as emergent literacy practices,/ [are] not about transmitting information or intentionally designed signs, but about embodied and

sensory experiences in which communication about and in place occurred through the body being and moving in place” (Hackett & Somerville, 2017, p. 374).

Though semiotics and representationalism have afforded interesting theories and educational practices in the past, this study will look at other methods to encourage language acquisition. Through the use of multimodal, embodied practices, students will have the opportunity to learn from the “more-than-human-world” (Hackett & Somerville, 2017, p. 380).

Multimodal, Embodied Practices and Reggio Emilia

As previously discussed, little research regarding multimodal or embodied literacy practices has been conducted in FI settings. Because of this, one needs to consider how newer practices could improve French language acquisition, within district expectations of teaching in a Reggio Emilia environment. Improvement occurs through allowing children to explore, *intra-act*, *become*, *desire* by using both the materials and environment around them. “The Reggio system/is a collection of schools for young children in which each child’s intellectual, emotional, social, and moral potentials are carefully cultivated and guided” (Edwards, Gandini & Forman, 2011, p. xix).

Exploring for children is especially important, because it allows children to assess the “possibilities of the world around them: ‘reading’, in the sense of details analytical scrutiny of all aspects of their world for their potential use in representation” (Kress, 2005, pp. 33–34). Thus, because the research will be conducted in a school that practices Reggio Emilia, this exploration will be possible. Reggio Emilia insists that “the learner possesses rights, is an active constructor of knowledge, and is a social being; the instructor is a collaborator and co-learner along with the child, a guide and facilitator, and a researcher; and knowledge is viewed as being socially constructed, encompassing multiple forms of knowing, and comprised of meaningful wholes” (Hewett, 2001, p.95). The posthuman understanding of multimodality will allow me to consider not only the social learning environment but also the material.

Intra-action will occur daily, as FI classrooms tend to use physical, natural materials to explore new language or create situations for students to communicate. An example of this would be from Kuby and Rucker (2015), with a young student named Riley. After creating a paper frog, she then *becomes* the frog. She hops around with it, making noises appropriate to her creation. What occurs between her and the frog is *agency*. *Agency* is what happens between the *intra-action* of person and non-person. Riley then searches for peers that she hopes are willing to play with her. Within second-language classrooms, these types of experiences allow teachers to guide students to learn new vocabulary that is based on student interest, while encouraging creative, literacy-based occurrences. It is therefore critical that within this study, students are able to *intra-act*, *become*, *desire* and experience *agency* and that the teacher is able to understand and see these occurring moments in her classroom.

Summary

Through the literature reviewed for this proposal, it is evident that though there has been no research done on multimodality in FI classrooms. Through programs such as Reggio Emilia, there will be opportunities to create multimodal experiences for language-learning students. The goal is to understand the conceptualizations of multimodal practices regarding both the teacher and students, in a French Immersion, Early Years setting.

Methodology

Introduction and Overview

This section begins with an introduction that provides my theoretical framework. Following this, the methodology I have selected for the research will be discussed. Next, the research sample, then the data collection process will be described. Later, I share the overview of information needed to complete my research. This includes questions for

students, questions I must ask myself, as well as discussion pieces between the teacher and myself. This is followed by the research design outline. I will then discuss the data collection, observations, data analysis, ethical considerations as well as trustworthiness. This proposal will end with the limitations, delimitations and the summary.

Theoretical Framework

For this research, I will use a posthumanist approach. Posthumanism is a theoretical stance that encourages alternate understandings of being human (Pennycook, 2016). More explicitly, Braidotti (2016) believes “this line of thinking [means] the practice of science is not seen as narrowly rationalistic, but rather allows for a broadened definition of the term, to include the play of the unconscious, dreams and the imagination in the production of scientific discourse” (p.198). It allows researchers to question possibilities in educational settings through evaluating the entanglements of people, things, spaces, and agency. Wolfe (2010) discusses how posthumanism allows us “to describe the human and its characteristic modes of communication, interaction, meaning, social significations, and affective investments with greater specificity once we have removed meaning from the ontologically closed domain of consciousness, reason, reflection and so on” (p.XXV). However, to some, posthumanism is more than simple entanglements; it is a construction of relationships (Snaza & Weaver, 2014). Tuck (2015) observes that the idea of posthumanism is not a new notion, especially when considering Indigenous peoples. Their belief has always been that living and non-living matter are all connected and influence one another. The entanglements and agency are unavoidable.

A major question in classrooms is *what do we want education to do?* (Snaza & Weaver, 2014). Many believe that it is to educate *humans*. However, a posthumanist standpoint does not just consider what the human needs to know, but how other areas (science, social studies, language arts, etc.) can affect or inspire the learner. This is where the idea of *intra-action* and *agency* comes in, as it is not just the human making the choices with the materials, but the materials and the human inspiring the other to create something new and diverse (citation(s)). The hyphen in the middle of a word, such as *intra-action*, demonstrates the “in-betweenness” of what is occurring with the people, things, time, materials, or space. *Agency*, which may arise through the intra-action, takes place between the person or thing. The example given by Kuby and Rucker (2015) is a young child playing in the sandbox. The child is sitting and touching the sand, while the concept of play takes place between the sand and the child.

Agency is sparked by affect and thus requires the child to be moved by affects such as inspiration or feelings of curiosity. The inspiration that is produced by intra-action creates a desire to pull from various matter and create, which is known as *assemblages of desire*. These moments cannot be “prepared, planned and supervised” (Olsson, Dahlberg, & Theorell, 2016, p. 720). These *desirings*, however, occur between humans and non-humans as they become entangled.

Humans and non-humans caught in *entanglement*, through *desire*, create “truths, realities, knowledges and relationships” (Kuby & Rowsell, 2017, p. 285). Thus, in posthumanism, rather than wondering what education should do, the teacher would provide a statement, such as “Education will make the kind of human who can...” (Snaza & Weaver, 2014, p. 2). For my research, the teacher and I will discuss this, and formulate a statement such as, “Education will make the kind of human who can utilize multimodality to acquire a second language” as a reminder during the research process. Humans must allow themselves to be inspired and to co-create with the *things/matter* around them. Please note that within this research, things/matter can represent materials, technology, animals, or anything else in the educational space.

Posthumanists must avoid the idea that humans are on a higher level than other things. People and things intra-act. Snaza and Weaver (2014) give a clear example of how posthumanists should not think: “Humans can think, animals cannot; humans can use language, animals do not; humans have souls, animals do not; and humans are rational, and animals are instinctual” (p. 2). In other words, posthumanism seeks to move beyond binary opposites.

A posthumanist perspective offers the idea that we are all *entangled* with each other, and entangled (living, non-living, material, matter) in all that surrounds us (Kuby & Rowsell, 2017). An everyday example of entanglement and intra-activity would be in the classroom: a child dressing up as an astronaut or princess, a child creating a treasure box or creature, and even the use of Play-Doh are all *things* that make up a larger relational, ontological interaction. It is not just in classrooms with children where intra-action and the entanglement between humans and things take place. When considering shops and markets, the importance of “material objects (clementines, celery), taste, activity and language come together in particular assemblages in these shops and markets” (Hua et al., 2017, p. 386). When individuals try, smell, or touch these items, they are *becoming* their experience (Kuby & Rowsell, 2017). A man tries celery, the celery inspires him, and he becomes a cook. He intra-acts with the celery, moving it around as he cuts it, visualizing his dish. The celery, as it rests precariously on the cutting board, allows the cook to cut in a unique way, changing the shape or presentation of what the dish will be. Another individual questions a price or location of an item grown or reflects on previous experiences with an item and is a barterer, or storyteller (Hua et al., 2017). These items, from a humanist standpoint, would be shaped and changed by the individual. However, from the posthumanist standpoint, the items educate the individual, creating something new and unique. The thing inspires the person, and the person creates a new thing, using that thing due to desire. Assemblages of desire give “a different sort of sensation that cannot be subsumed by the language and linguistic categories” (Olsson et al., 2016, p. 720). Furthermore, “Assemblage, as it is used in Deleuze and Guattari's work, is a concept dealing with the play of contingency and structure, organization and change” (Wise, 2013, p.91). Desire, however, allows various forms of emotion, which is what inspires the individual to create. In my proposed research, these types of experiences will demonstrate how a child becoming their experience affects their learning and encourages a child to *become* fluent.

Conditions of possibility are the spaces that will create *desirings*, to allow a child to create. Deleuze and Guattari make clear that desire, and assemblages are always together during the process (Kuby & Rucker, 2016). As discussed earlier, the approaches used by Edmonton Catholic School District, such as Reggio Emilia, encourage unique spaces to encourage creativity for the child—spaces that might be labelled as smooth spaces (Kuby & Rucker, 2015). Deleuze and Guattari (1987) describe *smooth spaces* as being open, with vast spaces, with few distractions. Conditions of possibility will impact the intra-action and becoming of students, as they can both hinder or encourage the process of desire or agency. A patterned carpet, for example, is an excellent smooth space in the classroom, which offers lots of colour and possibilities. Students can move freely, comfortably, and through the agency and desire created by the carpet, can turn the space into whatever they choose. One day it could be the ocean, the next day, a village. One should consider the conditions of possibilities when developing spaces.

When using posthumanism as a theoretical framework, it is important to acknowledge the process of collecting and organizing data. MacLure (2013) believes that though coding is a necessity in qualitative research, it also carries dangers. Her thoughts on coding derive from Deleuze and his assessment of coding, which he calls *representation* (MacLure, 2013). With coding, there tends to be naturally occurring categories to assist in categorization. One category would be observations, responses, stories, interactions, or interviews. The next category looks for specific patterns through categorization. Lastly, data is eliminated through the categorization process (MacLure, 2013). The issue with representation is that it is a way to classify things; animals, things, matter, people, or anything surrounding us is classifiable. This, then, goes against the concept of assemblages, as representation disallows “entanglement, or unholy mixture, of language and materiality” (MacLure, 2013, p. 165). In response to these concerns, MacLure (2013) suggests another form of coding, coined the “cabinet of curiosities” (MacLure, 2013, p. 165).

The cabinet of curiosities, known in German as wunderkammer, can be described as artifacts, or collected data being so different from one another, that “they find a comfortable space for a definition only within an academic cabinet of curiosities” (Arnold, 2012, p. 238). Thus, depending upon the researcher, the participants, and the types of data collected in the journey, it would appear different for each researcher, bringing about a different outcome or a different conclusion. Cabinets of curiosity came from a time of education, in Europe, where special items were placed in cabinets with little connection to one another (Arnold, 2012). These items tended to be artifacts of importance, due to

history or monetary value. There were several components to the cabinets of curiosity: First, it demonstrated the wealth of the individual who had purchased these artifacts through travel, or otherwise. Next, it alluded to the idea that the owner of the cabinet could evoke important discussions to demonstrate his knowledge, and that those invited over were also men of refined taste (Arnold, 2012). According to Arnold (2012), “it was also a space that called for discussion and debate about objects, allowing certain gravitas of intellect to be the focus of the after-dinner entertainment rather than gossip, cards or less educative or more speculative activities” (Arnold, 2012, p. 239).

The cabinet of curiosities will be an important part of the posthumanist approach to the collection and demonstration of data for my study, because it allows, in fact encourages, data to be “chaotic,” and have “serendipitous connections” (Arnold, 2012, p. 241). This works especially well because classrooms, especially ones which are exploratory or multimodal based, will be chaotic. We might always anticipate a certain amount of chaos because the students are making choices about the directions in which their educational experience will take place, as well as having the opportunity to use a vast array of tools to demonstrate their literacy desirings through these approaches.

For my research methodology, I have selected an exploratory case study. An exploratory case study is defined as a research method that “investigates distinct phenomena characterized by a lack of detailed preliminary research, especially formulated hypotheses that can be tested, and/or by a specific research environment that limits the choice of methodology” (p.368). Areas such as “community studies [and] innovative projects” (Yin, 1981, p.97) tend to use, with success, exploratory case studies. Due to exploratory case studies being used in these contexts, classrooms provide a fitting environment for exploratory case studies in that they provide settings “that are attached to the naturalistic, holistic, cultural, and phenomenological paradigms” (Stake, 2012, p. 380) to be observed. Thus, children in an exploratory language classroom would make excellent candidates for an exploratory case study.

Case studies are unique because they allow the researcher to witness various situations without intervention, and do not anticipate a specific outcome (citation(s) here). Due to the chaotic nature of what classrooms are, this will allow me the flexibility needed as a researcher. Furthermore, the methodology’s openness facilitates opportunities for the researcher to see a situation through multiple lenses, making for richer data collection (Baxter & Jack, 2008). Greene and Hogan (2005) believe that this open flexibility allows the researcher to attend to child participants more carefully throughout the process.

Because I want to understand how the FI teacher participant conceptualizes multimodality within her classroom, the study will be unique and in-depth. According to Swanson and Holton (2005), uniqueness and in-depth studies are necessary pieces for an exploratory case study (p. 330). Thomas (2015) also suggests using case studies, but only if the researcher is willing to “drill down” (p. 4), that is, to look at the research subject in a specific, in-depth manner (p. 3). Case studies should not be general, but specific and able to take various directions or have various “degrees of freedom” (George & Bennett, 2005, p. 28). Working closely with one specific teacher at various parts of the day will allow me to “drill down” and obtain specific data needed during this process. I will also have a better opportunity in understanding the classroom’s dynamics, as well as what the teacher feels are the potentials of her students. Because I will be comfortable in the room and school, I will also be willing to take various paths and be open to various occurrences, or events, within the classroom.

Varying purposes lead to different types of events and are created by different people, by different moods, by various interactions, or by different subjects that are given the opportunity to be explored (Dyson & Genishi, 2005). In this specific context, my events will be the *intra-actions* and the *becoming* that I witness in the classroom, as well as how the teacher encourages these events to occur, through planning or otherwise. Dyson and Genishi (2005) also remind researchers that just as events and unexpected paths may occur in the classroom, students are also unique in their own way, and will construct their own paths (Dyson & Genishi, 2005).

This case study will look at how a teacher in a FI classroom conceptualizes multimodal practices and how her students take up, and make sense of these multimodal, literacy practices. The teacher in this study will be utilizing what students have always “known and done”, that is, incorporation of their multimodal experience.

As previously stated, multimodality and embodiment include music, rhyme, movement, gestures, materials and various text landscapes, children will have the opportunity to explore various literacy practices. This idea has led me to my research question: How do students engage in multimodal, embodied experiences in FI classrooms?

Through the duration of this research, I will be asking the following questions:

- How do multimodal learning experiences open up spaces for expressive language in a FI classroom?
- How do they close down spaces for language learning in a FI classroom?
- What kinds of conditions enhance or constrain language learning in a FI classroom when multimodal learning experiences are foregrounded?

Research Sample

For this study, I will be using a convenience sample and purposeful sampling technique. It is convenient, because the district in which the study will be conducted is where I will be teaching kindergarten next year and where I worked before my secondment. Because of this, I am aware of the Edmonton Catholic School District (ECSD) procedures and regulations. This will allow for easy communication and trust when the process of data collection begins. This sampling is also purposeful, because I will be able to perhaps select an educator that I have already built a relationship with, which allows for the data collection and observation periods to occur more quickly and perhaps more easily.

However, I must consider a FI teacher who is open to exploring multimodality and post-human concepts at the grade 1 level. I would like someone who also integrates French Language Arts into all subject areas, and is passionate about pedagogical shifts that improve students’ achievement. This “achievement” is considering what the teacher has done to integrate district initiatives as well as creativity to motivate students and raise levels of engagement.

I would like to select 6 students to focus on, to share their embodied, multimodal stories. These students will be selected by teacher suggestion, and considering what students perhaps need extra encouragement or stronger skills to participate in daily, oral activities.

Data Collection Process

At the beginning of the study, I will be asking the teacher to fill out a questionnaire, as well as conducting an interview with her, to identify how she perceives multimodality, and students taking up multimodal practices, as well as their impact on language acquisition in the classroom. It will also be beneficial to ask the same questions at the end of the research, to record how her conceptualizations evolve during the study. Though these are perceptions, it will be interesting for the researcher and readers, to see how the ideas of the educator has evolved throughout the experience.

I will collect many artifacts during this research. First, I would like to include the songs, activities, or handouts the teacher uses that incorporate multimodal practices. I would also like to include copies of lesson plans or teacher notes, as well as documentation from the interview. If I see specific activities that the children are engaged in, I will take pictures of those activities as well. Due to Freedom of Information and Protection of Privacy (FOIP) (policy that governs privacy and access to the freedom of information in Canada) and Edmonton Catholic School District regulations, I will not be allowed to photograph or videotape any students during the research process.

Some of the questions I will be asking the teacher throughout the process are:

- What activities are being used to assist students in engaging in multimodal, embodied language practices?

- How are these activities selected?
- What changes have you noticed from the six students selected from this process?
- What activities have been proven to be most successful?

Overview of Information Needed

To answer my research questions specifically, I will need “contextual, perceptual, demographic, and theoretical information” (Bloomberg & Volpe, 2008, p. 67). To assist me in this process, I will create a chart, stating what I will need in terms of these various categories of information to properly respond to these categories once the research process starts.

Because this is an exploratory case study, I must be prepared for the research questions or methods of collection to change. These changes will be noted in the results section.

Research Design Timeline & Outline

The design of this research will be based on observations, questioning and collecting artifacts to add to my “cabinet of curiosities.” The cabinet of curiosities within research allows for various artifacts and parts that may not appear to be related, to be included and considered when considering data results, as this may bring about “new ways of thinking” and “explores how the singular research journeys may express themselves so differently that they find a comfortable space for a definition only within an academic cabinet of curiosities” (Arnold, 2012, p.238).

Below, I have created a timeline and I anticipate the process to take approximately five months. Please note that this is *after* I have received approval from both my district (Edmonton Catholic School District), as well as the Ethics Board with the University of Calgary. During this time, I will make all necessary changes to meet their approval.

Table 2. Research Timeline

Month	Plan
September * observations: 10-12	-initial interview with the teacher -set up observation dates -discuss what types of documentation I will be looking for to fulfill this study -introduce the concept of multimodality, literacy and neurolinguistics research -share research questions
October * observations: 9	-continue to collect data from the teacher -observe the teacher in the environment: What is she doing, what are the students doing? What intra-action am I seeing?
November * observations: 9-10	-revisit the questions with the teacher. How have her responses changed? - engage with students, pose questions. -write observations of the teacher and of the students.
December	-begin to piece together documentation into various categories

* observations: 9-10	-begin to transcribe interviews -engage with students/ teacher observations
January * observations: 9-10	-finish gathering data and categorizing data -have the teacher respond to the same questions as she did at the beginning, but ask for final thoughts/ ideas/ feelings

I indicate that I will “set up observations” for each month, because many activities or issues could arise. There could be school celebrations, field trips, or teacher illness. By creating a new schedule every month, this allows for flexibility and ensuring that the visits are still occurring.

Data Collection

Below I list the specific ways in which I will collect data for my exploratory case study. Because of the nature of this study, however, I must be open to other evidence, which may arise, as well as sorting the research information appropriately.

Observations. Throughout the course of the study, I will observe morning routine components, such as circle time, calendar, French language arts, and the use of literacy programs, which are classroom and district specific. I will not be specific with the periods I observed in the day, as multimodal, embodied practices can occur at any time, in spontaneous ways. These observations will be approximately five months. I would like to have about 20 observation sessions of about 45 minutes each. Students will engage in active movements that go with words, singing, dancing, and literacy programs that tie into district and school goals.

Music will be an important component because “music powerfully manifests a/posthuman creativity that enriches our understanding” (Omry, 2016, p. 104). Songs allow students to move and demonstrate actions that illustrate the words they are singing. Furthermore, for students that are ready to read, many French songs for children contain the words are at the bottom the song page, which is displayed on the SmartBoard, and are highlighted as they are sung. This allows for students to both interact with visuals and embody the experience. Thus, the music and lyrics can teach the child the meaning of the words, and the melody will assist the student in remembering the process.

Observations will be done through making notes of conversations, intra-actions, and activities. I will not use checklists or rubrics, because this closes off the study from taking various directions, which is one of the purposes of using an exploratory case study. Notes will also be taken of important occurrences and what led up to those occurrences; student choices or instructions given by the teacher. Regarding student behaviour, I will be observing the level of engagement, proficiency and response to questions posed during various observation periods. Evidence of oral language improvement would look like the student attempting to use their French by the repetition of learned vocabulary, as well as being able expand or develop upon ideas given. This will therefore tie into posthumanism. How do the children intra-act with one another, the materials, the teacher and various ideas? How do these intra-actions impact their views and ideas?

Interviews. The goal of this research is to see how the teacher is working with, and understands, multimodality within her classroom, as well as the neurolinguistics research that supports multimodal literacy practices. I will observe how student behaviour changes during multimodal activities. I will interview the teacher and I will also speak with students. Though the focus of this study is the teacher, I would like to ask students questions to see how they feel about their French, such as which activities they felt confident or capable in, as well as which ones felt more difficult. Individual interviews are important because stories are purposeful and allow researchers to see

what the person is experiencing (Hardin, 2003). The interviews will be brief, and will be approved by my supervisor as I want to ensure that the questions are context appropriate. The interviews will be recorded using a recording device and transcribed afterwards.

Classroom activities will incorporate both oral and listening language skills learned each day. There will also be exploration periods, where students will have the opportunity to wonder, create, and question. Throughout the observations, the researcher will conduct an individual interview afterwards with the teacher, regarding classroom occurrences after each observation.

I will, at some points, also interview children, while they are intra-acting with objects or materials, as previously mentioned. I will want to know why they are making certain choices, what their material is doing, and what else the materials have the possibility of doing.

Artifacts. Though the district has made it clear that videos or pictures of students are not permitted, I am still able to document or photograph the various artifacts that will be used or created. I will also include lesson plans by the teacher, as they give insight into the thinking process and demonstrate the various multimodal activities. In lesson plans, resources and outcomes are also included, which allow for further analysis by the researcher as to what ensued and why. Furthermore, lesson plans explore how the day will unfold, from the teacher's perspective. But because this exploratory case study takes a posthumanist approach, I will also be looking at how the teacher moves away from the lesson plan to respond to student interest or needs (that is, how she follows the lines of flight initiated by students). Though this may not be specific to my research question, it may provide evidence for my cabinet of curiosities, which allows the researcher to go outside the scope of their research to add artifacts interesting to the study. Websites which the teacher will choose to use during the data collection process will also be considered as artifacts. They will guide many of the activities the students will be engaging in, and will create the atmosphere that allows students to participate in multimodal, embodied experiences.

Data Analysis

There are various ways to interpret data collected during research. Because this follows a posthumanist approach, it is important to remember its theories. This would include concepts such as *becoming*, *desiring* and *intra-acting* with materials, environments or objects around them. As mentioned earlier, there is no separation or level of importance when using a posthumanist approach, as all *things* are seen on the same level. It is also imperative to remember that for qualitative data analysis, "material/has to be prepared for being analyzed as a text" (Gibbs, 2008, p. xv). Gibbs (2008) discusses how, when we analyze our data, the information goes through a metamorphosis. For data to be analyzed, it needs to be consciously collected, in a way that the researcher can discuss and explain the outcome.

When data analysis occurs, researchers in this field typically look to increase, not decrease the amount of data collected. This is because exploratory case studies look to improve the knowledge within a specific field, which calls for an adequate amount of documentation and results (Merriam, 2015). Furthermore, Yin (2009) discusses the importance of building a theory, which also cannot occur without rich results. Because this is an exploratory case study using a posthumanist framework, the researcher will specifically be looking at the intra-action between child and materials, and how the teacher conceptualizes this notion of intra-action.

Thus, for this study, I will be looking to find trends in the data collected through observations, interviews, and artifacts through the tangling of people and *things*. A good place to start would be asking questions such as:

- What key words have come up in the interview by the individual answering the questions?
- What type of body language is demonstrated by the teacher and students?

- What does the environment look like during these activities, in comparison to other activities? For example, has furniture been moved, or are the lights dimmed?

These types of questions will allow data to be sorted based on themes or trends, in a throughout the data collection process.

Ethical Considerations

In discussion with the Edmonton Catholic School District (ECSD), I am unable, under any circumstances, to take photos or video recordings or to use specific names of children. Due to this, I will be using pseudonyms for students, as well as recording observations through writing rather than using photography.

Ethical considerations are important to consider for many reasons, but according to Burton and Steane (2004), one of the more important issues is that the researcher is the face of the university. The point of ethical considerations is to ensure the safety of those involved as well as making participants aware of all the components within the research.

Research should ensure that people, as interview sample or as case interviewees, are informed of the study and its method and consent, either in writing or implicitly, to the dissemination of the findings. Such consent should not leave the participants willingly or unwillingly in a more vulnerable position. (Burton & Steane, 2004, p. 62)

Burton and Steane (2004) encourage researchers to ask themselves questions such as:

- What is the researcher's role?
- How are the participants being treated throughout the process?
- What are the benefits of conducting this research?
- What would be the risks? (Burton & Steane, 2004)

Another aspect to consider is that children are more impressionable than adults. In a study conducted "it was found that children are more likely to take on board incorrect information supplied by an adult than that supplied by a child" (Greene & Hogan, 2005, p. 10). Because of this, the researcher must be careful with interactions, as well as with questions asked during the research process.

Because I am doing research in the school where I currently work, I must also consider once again, the privacy of both the teacher. I am not there to observe the teacher as an evaluator, and I am not there to evaluate the students in any other capacity other than for research purposes. I should also not discuss teacher choices made during lessons with other staff members. This would go against the Professional Code of Conduct (2018) that teachers must abide by in Alberta. The Professional Code of Conduct (2018) is a set of policies created to assist teachers in continuing to understand their responsibilities as both educators, and colleagues.

Trustworthiness

In qualitative research, it is crucial that the findings emerge from the data and not from researchers' own predispositions (Shenton, 2004). Morse, Barrett, Mayan, Olson, and Spiers (2002) explore the term *trustworthiness*, which is an idea created by Guba and Lincoln. The concept of trustworthiness has four aspects: credibility, transferability, dependability, and confirmability (Morse et al., 2002). When using methodological research methods in qualitative settings, the rigour will change because various realities can occur (Lincoln & Guba, 1986). This goes with the posthumanistic lens, as various realities are created through the events and things involved. Lincoln and Guba (1986) refer to this as "naturalistic events." In a way, a classroom is similar, as things are constantly changing. From a posthumanist lens, the assemblages of desire are what will create the various realities as students create and become. Lincoln and Guba write:

The axiom concerned with the nature of reality asserts that there is no single reality on which inquiry may converge, but rather there are multiple realities that are socially constructed, and that, when known more fully, tend to produce diverging inquiry. These multiple and constructed realities cannot be studied in pieces, but only holistically. (p. 17)

Lincoln and Guba (1986) also identify what should be present in research to ensure credibility, dependability, and confirmability are met.

To ensure credibility, it is imperative that I spend much time with the teacher, as well as students, to “assess possible sources of distortion” within the environment (Lincoln & Guba, 1986, p. 18). This means that before even starting to collect data, I should engage with the students and teacher to understand the environment. The importance of observing the environment consistently is also mentioned, as it is important to get a clear view of what is occurring with the students and the teacher (Lincoln & Guba, 1986). The researcher must also use what is referred to as “triangulation,” as well as “negative case analysis” (Lincoln & Guba, 1986, p. 19) to verify the data and continue to be aware of the negative impact that the research may have on the environment or those involved.

While findings from case study research are not generalizable, they are considered to be transferable. Many are critical of transferability though it is a crucial part of research, due to its open and general nature (Coghlan & Brydon-Miller, 2014). “The transferability of a research finding is the extent to which it can be applied in other contexts and studies. It is thus equivalent to or a replacement for the terms generalizability and external validity” (Coghlan & Brydon-Miller, 2014, p. 785). However, other researchers argue that it is actually quite difficult for transferability to occur. It is dependent upon the situation and source of the research topic. Only by deciding which components are most crucial, can a researcher use the findings of another’s work (Coghlan & Brydon-Miller, 2014). For transferability to be adequate, the data must be rich with information, to ensure that it is specific to the research, and cannot be transferred to someone else’s work (Lincoln & Guba, 1986). Lastly, for confirmability and dependability, “an external audit requiring both the establishment of an audit trail and the carrying out of an audit by a competent external, disinterested auditor” is helpful (Lincoln & Guba, 1986, p. 19).

Limitations

All studies have limitations, which Price and Murnan (2004) define as “the systematic bias that the researcher did not or could not control and which could inappropriately affect the results” (p. 66). For this study, one limitation is the lack of research on multimodality in FI classrooms. Though multimodality occurs in everyday life, there is little focus or content focusing on a second-language context. This is for specific reasons, For example:

the teaching and learning processes essentially rely on communication. As the communication landscape shifts, so must every process utilizing it. Secondly, because communication is taught at school mainly through language courses. Thus, any change in communication also calls for language teaching redefinition. (Katsarou & Tsafos, 2010, p. 50)

Another limitation is the restrictions placed by the district regarding ethical considerations. Within research, pictures or video can be extremely beneficial to demonstrate various events that enrich data collection. Furthermore, there is a way to use pictures or video that respects the students and district. To collect data while following the rules of the Edmonton Catholic School District, I will take pictures of projects or final creations, and of students with their backs turned or without their faces showing. In this way, I am still able to show the process without compromising the children’s anonymity.

Limitations regarding the students are also a concern. Students will be attending school for the first time in a full-day program. Because of this, there will be a large adjustment period for the students. Not only will there be a difference

due to students attending full time, but children who are slightly younger than their peers may demonstrate difficulty as well.

Lastly, and most concerning, is child attendance. One of the issues at École Our Lady of the Prairies School, is that many students do not show up regularly. This is for many reasons, such as weather, visiting family on their reserve or in other countries, or parents placing priority on other issues or events in their lives. Research has shown that children will demonstrate the attitude their parents hold regarding education. Daniels (2014), a psychologist at Polytech University State, found that parental behaviour or feelings regarding education “predicated their [children’s] cooperative participation in classroom activities and subsequent achievement” (p. 256). Thus, cultural differences or opinions could influence the child’s success in school, such as attendance. To assist with attendance not being an issue, I will be attempting, with the teacher’s assistance, to select students who have acceptable attendance scores, according to the Edmonton Catholic School District attendance system, PowerSchool.

Delimitations

I will be “binding my case” (Baxter & Jack, 2008, p. 546) in a variety of ways. Delimitations are “intentionally introduced into the study design or instrument by the researcher” (Price & Murnan, 2010, p. 66). Price and Murnan (2010) give examples of delimitations such as race, sex, age, region, or ethnicity. It is important to ensure that my study is not too large, thus, I will limit the scope of my research by:

- Only conducting research at École Our Lady of the Prairies School
- Working with five students only
- Working in a grade 1 FI classroom

I will add to the delimitations when I begin my research. However, for the moment, these are the limits set for this study.

Summary

This study will use a posthumanist lens within an exploratory case study. Due to the nature of this study, it has the possibility to take different directions; students, the teacher and the classroom environment all play a role in the process of data collection and impacting the research. The multimodal, embodiment practices will be the main focus.

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Mindful Based Interventions for students

Usta, Askin .

Abstract

Mindfulness means paying attention in a particular way; On purpose, in the present moment, and nonjudgmentally. Mindfulness is about being directed to focus on the present moment and the immediate subjective experience; and acceptance, being nonjudgmental, and experience are the main components of mindfulness.

This study examined the effects of an 8-week stress reduction program based on training in mindfulness meditation. Previous research about mindfulness program for children suggesting this program may be beneficial in terms of reducing stress-related symptoms and helping students cope with their emotional problems.

Methods

Qualitative analysis methods were used in the research. The diaries of the students were read at the same time from week to week and categories were formed. Evaluations having similar meaning were put into categories and frequencies were obtained. Obtained frequencies and percent distribution is indicated.

Fifty students and 3 teachers participate in the present study were choosed for group. They filled journals after practices for each week. The findings of the study were grouped under three main themes as 'word for first week mindful practice, Word for last week mindful practice and summary for each week practices that are conducted on third and fourth grade students.

Results

The data of the research are examined by two independent researchers by content analysis. Inductive reasoning is conducted upon 9600 words in total. The codes obtained from these transcripts are organized under primary codes that are consistent with the related literature. Afterwards the two researchers differing data are consulted with the other PhD student for a consensus. Lastly, an expert is consulted as the final step.

Conclusions

All the students in the study have evaluated the 8-week mindful experience as “excitement-fun” (29.9%), “happy-relaxation” (40.4%) and “silence-awareness” (19.1%). According to gender, 31.8 % of girls and 28% of boys have evaluated it as “excitement-fun”; 22.7% of girls and 16% of boys have evaluated it as “silence-awareness”; 50% of girls and 27.2% of boys have evaluated it as “happy-relaxation”.

Key words

Mindfulness , mindful based interventions, education

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I am a phd candidate in Turkey, Istanbul. I am at thesis level. My department is Psychological Counselling and Guidance. Also , I am a school counsellor at Aci Schools in Istanbul. I am 28 years old. Last year, I came to Boston for your conferences as a presenter.



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