Final Inquiry Project

My Inquiry Question

How can we best organize our classroom space in order to promote a wide range of Learning Styles?

What are Learning Styles?

Throughout the Bachelor of Education program, I have encountered many opinions about Learning Styles. There are many categorizations of Learning Styles; however the classification system I will be using for the purpose of this inquiry project is Neil Fleming's VARK model (1992). The VARK model defines four methods of how students prefer to learn: *visual* (maps, spider diagrams, charts, graphs, flow charts, labelled diagrams, and all the symbolic arrows, circles, hierarchies and other devices, that people use to represent what could have been presented in words", *aural/auditory* (lectures, group discussion, radio, email, using mobile phones, speaking, web-chat and talking things through), *read/write* (manuals, reports, essays and assignments, PowerPoint, the Internet, lists, diaries, dictionaries, thesauri, and quotations) and *kinesthetic* (demonstrations, simulations, videos and movies of "real" things, as well as case studies, practice and applications). A majority of students have a tendency towards a one or two Learning Styles, and a few students who learn exceptionally better with a specific Learning Style, which if cut out of the daily lesson plan, could hinder that students' academic achievement. However, Fleming and Mills (1992) acknowledge there are no clear-cut boundaries and providing a variety of Learning Styles is beneficial for students.

Not only do preferences for Learning Styles differ from one student to the next, external factors can result in changes to an individual student's preferred method of learning. The external factor I focused my research, is how students are motivated to learn depending on the time of the day. Joy Zimmernan (2001) suggested "educators need to identify variables that contribute to or interfere with learning. These include: … Time of day when lessons are taught" (p. 8). My observations during my practicum also suggested evidence of students desiring to learn in a variety of Learning Styles throughout the day. I noticed a trend of my students' preferences changing from *visual*, *auditory*, and *read/write* in the morning, to *aural* and *kinesthetic* after lunch. This development links closely with the research I have done and affirms my decision to move forward with my inquiry and apply methods for accommodating the desire for such Learning Styles changes.

Margaret Theobald's work (2006), a driving force in this paper, describes the benefits of thoughtfully transitioning modes of presenting information.Theobald explores motivation in terms of general framework for thinking about motivation, strategies for motivating students, and a deeper understanding of students' needs. The chapter I focused my research on is Chapter 3: Motivation is affected by Timing. This chapter supports my inquiry as it coincides well with my initial observations of students' motivations changing throughout the course of the day. Theobald acknowledges how students' needs appear to fluctuate randomly throughout the day and being unprepared for these changes are a constant struggle for educators. She suggests providing stimuli to increase students' motivational levels (p. 36). I interpret these stimuli as a change in how information is presented, because Learning Styles can affect students' motivation to learn. Educators can preplan when to use each the VARK Learning Styles, according to the patterns of the students' learning needs. For example, Theobald recommends using kinetic,

hands on activities in the morning and after lunch to help engage students who are feeling tired or distracted.

Significance of the Question

This question is significant to me because conventional classrooms and teaching techniques hinder frequent transition between the types of Learning Styles. As previously discussed, neglecting one or more of the Learning Styles can result in unfulfilled learning potential. Rather, we should be regularly rotating the methods we teach content to keep students engaged and motivated. While it is nearly impossible for teachers to cover every Learning Style at once and I am in no way suggesting this is either practical or necessary. Occasionally learning outside their comfort zones may even be beneficial for students, because it teaches them how to learn in a variety of ways. However, efforts should be made to incorporate the complete VARK model throughout the day or even within individual lessons. I hope to create simple solutions for teachers so that they can create an environment where many different activities can be easily facilitated throughout a lesson or day.

Initial Research

This initial research led me to the issues surrounding how to facilitate the space so educators can quickly and efficiently switch activities. When it comes to school and classroom design, there are many factors which can benefit one learning style while hindering another. For the sake of practicality, I am going to focus on seating plans, because teachers do not often have agency over school design, or more permanent classroom fixtures. An example of seating plans being correlated with Learning Styles is how grouped desk arrangements facilitate group

activities (*aural/auditory, and read/write)*, but not lectures and kinetic activities that require an open space. I think this is an issue many teachers - new and experienced - struggle with when creating a classroom seating plan. I believe if the classroom pedagogy is not reflected in the spatial organization of the classroom, the transfer of knowledge from the teacher to the student will be obstructed by daily limitations and interruptions. Therefore, I decided my next plan of action was to study popular teaching philosophies through the past century, and how they were reflected in educational architecture and interior design.

Spatial organization and Historical Pedagogy: Row Seating

The first observation I made during my study into historical teaching pedagogies is each one tends to favor one or two learning styles, and attempt to promote the ease of teaching in that style. The first classroom seating style I will discuss is row seating, which was favored in Western educational institutions until 1920. This style often used in television and media to portray stereotypical classroom organization. Amy Ogata (2008) discusses how the schools of this epoch promoted tradition, structure, and hierarchy within the classroom, which valued teachers and textbooks as experts, and students as empty vessels to be filled with knowledge. Since the pedagogy of this time valued a transmission style instruction, the only focus in the room needed to be the teacher and the blackboard on which the teacher shared information during lectures. Since discussion based and kinetic learning was not highly valued, there was no need for students to be able to group their desks or face one another. The purpose of the seating arrangement was to actually prevent students from talking with one another, because it was not conceived that students could learn from one another in that way. Open space in class was viewed as unnecessary, as kinetic learning was physically removed from the classroom and only

associated with Physical Education in the field, playground, and gymnasium. This trend was embedded into the classroom as the desks were often literally nailed to the floor.

The ideals of row seating in classrooms quickly changed as "the once-daring school plants with long corridors and classrooms located on one or both sides were now dismissed as hopelessly dull 'egg-crates'" (Ogata, 2008, p. 581). Such desk arrangements may be intimidating for students because they resonate the days of uninspiring lectures and punishments such as the strap. While I have observed a few teachers during my practice use row seating, it appears to be the most detrimental for small group discussions, kinetic activities, and class wide discussions, because it isolates students from one another.

Spatial organization and Historical Pedagogy: Group Seating

Later school buildings began to embody democratic ideals and the child became the focus of the classroom. "Unlike prewar public school buildings that embodied discipline, the postwar elementary school was designed to be friendly" (Ogata, 2008, p. 569). As the curriculum began to lean towards the teaching of both abstract and real skills, rooms were designed to allow student to move around freely, use a wide variety of materials, rearrange furniture, and produce hand-on projects. The role of the educator drastically changed, "new or "modern" methods that were widely adopted after World War II cast the teacher as a guide who constantly moved around the room and kept a desk at the back or side of the classroom, but used it only for recording marks" (Ogata, 2008, p. 579).

As 'Learning by doing' was beginning to replace 'Learning by reading', designers began to provide partitions so the area could be divided into spaces for instruction with open areas for group projects (Ogata, 2008). A major focus in the architecture for educational institutions of the

time was flexibility. The new materials available at the time, such as poured-concrete slabs, lightweight steel frames, expanses of glass, and radiant floor heating allowed for folding walls, moveable cabinets, and open corridors (Ogata, 2008, p. 568). Designers even tried to use colours in the room to control room temperature, psychological and aesthetic effects of the room (Ogata, 2008, p. 570).

The philosophy of the postwar epoch highly regarded the domestic setting as being optimal for children to learn in because it would make them feel safe and prevent them from feeling overwhelmed. The seating organization which best emulates these ideals is the group seating because it focuses students towards one another instead of towards the teacher. The small size of the group is less intimidating to students and provides a safe environment for students to share their ideas. This seating can be achieved by large tables seating a few students, or individual desks grouped together, resembling the informal domestic space of the kitchen table. This seating is also particularly useful for students to develop their ideas and theories before having to write them down, or share them with the class. This layout also allows for resources such as electronic devices and handouts to be shared more easily between students. Special materials such as art supplies, scissors, and glue, which we do not usually have enough for each student, can also be shared easily in this format.

However, this classroom organization does not promote all the VARK Learning Styles and make it difficult for students to learn from modes Learning Styles which require teacher-focused lessons such as PowerPoints, lectures, and movies, and kinesthetic activities which require open space to move around. It can be disruptive during lectures or class wide instructions because students who are faced away from the teacher are less likely to turn around and make eye contact. The group seating arrangement also huddles the students and create an atmosphere

where students are more easily led to talk off topic. Finally, group seating can prevent easy paths

of movement throughout the classroom. Not only does this waste class time as students and

teachers constantly have to wind around chairs and desks, but also inhibits physical activities and

can promote a classroom culture where students are sitting for almost the entire class. While

there are many aspects of group seating I admire, I continued to search for a more flexible

seating arrangement.

Spatial organization and Historical Pedagogy: Open Seating

In the 1970's, open plans began to emerge with moveable partitions and seating

arrangements. The design was largely based upon the structural motifs of corporate architecture

with wide open spaces partitioned like cubicles and formal classrooms with a specific purpose

scattered around the perimeter, like offices. The common belief of the time was it would be best

for students to have choice in what they learnt, and the open concept scheme allowed teachers to

lead a group of students through a variety of activities and stations throughout an open space.

However, these largely failed because teachers were often reluctant to change the desk layouts

and relied on traditional teaching methods they were comfortable with. This is an example of

outdated teaching practices not meshing with the physical structures in which they are

implemented. Other issues included the integration of technology, such as televisions, which

proved to be a nuisance when they echoed throughout the open space, disrupting other classes

(Ogata, 2008).

A desk arrangement which reflects the principles of open plans is most commonly

referred to as the U-shape plan or open seating. This configuration places students around the

perimeter of the room in a large U-shape facing the front, so all the students see the projector

easily. This plan places every student in the "front row", which will hopefully prevent students from distracting one another during presentations, as it creates a panoptical response, where students feel as though they can be easily noticed by the teacher. In addition, the open seating allots a space in the center which can be used for circle-style classroom discussions, or kinetic methods of learning which require a larger area for moving around. During independent work time, students will have fewer opportunities to distract one another, and space for collaborations can be set around larger tables in the peripherals of the classroom. The students can also work together on the floor or with groups of chairs in the center open space. However, as I wish to have many cooperative tasks in my class, the open seating plan does not quite fulfill my need for safe spaces for small group discussions and activities.

Methods of Approaching Inquiry: Transformational Seating Plans

Throughout my research, I was unable to discover a single plan which embodied an ideal method for incorporating all of the VARK Learning Styles. Then the idea came to me to incorporate several seating plans within the classroom. Since the spatial constraints prevented me from having multiple seating arrangements at the same time, I wanted to devise a plan for transforming the classroom from one seating plan to another in a practical way. I was inspired by an exhibit, Andrea Zittel: Critical Space, I enjoyed at the Vancouver Art Gallery in the summer of 2007. Zittel's work, which is also published in text (2005), provides answers to the issues caused by over population in urban spaces. Her response was to create space which can be transformed for different uses, much like the design of trailers and Recreational Vehicles. The beauty of her work was the ease in which those living within the structure could change their space so dramatically with hardly any effort at all.

My goal, which I will impement during my practicum, is to develop seating plans which can be more easily manipulated into various configurations that support all the VARK Learning Styles. Perhaps, more important than manipulating classroom desks, is to create a habit within teachers and students to make frequent changes in seating arrangements throughout the day. I believe a classroom culture of constantly changing the classroom spatial organization will promote a healthy environment where students can gain knowledge through many Learning Styles. In an ideal situation, decks would have wheels to allow for ease of movement. Since most classrooms do not have this luxury, my next stage was to create a transformation plan which would cause the least amount of movement to create the next desk formation. I strived to have the least amount of students moving their desks, and these movements would be small shifts or rotations of the desks.

My first step towards putting my inquiry into practice is to openly discuss the idea with the students and ask them who they work well with and do not work well with. My decision to include them in this choice was grounded in Theobald's (2006) philosophy about motivation, "Students can develop a better sense of self-esteem when given some decision making power." (p. 41) However, I am fully prepared to make rapid changes if issues arise within the seating plan. The seating plan comes in two forms, as demonstrated in Figure 1 and Figure 2. I took the students' seating partner requests into consideration for both of the seating plans.

The first scheme expresses an open concept philosophy. I chose the "open seating" plan (Figure 1), because it is very good for sharing information through a lecture or class wide discussion. I also like how it places students closer to where the information is shared. I have noticed that students' motiation decreases th further away they are from the teacher during

lectures, so hopefully this will prevent this from being an issue. Ths seating plan also works well with my perosnal teaching style, because I like to walk around the classroom while I am presenting.

The second scheme is the "group format" (Figure 2), which places students in small clusters, ideal for small group discussions and projects, such as jigsaw and placemat activities where a tight-knit conversation is ideal. When students are seated facing their own group, it allows them to focus on the members of their small group and students who have issues sharing in front of the class, may feel more self-confident when they can discuss their ideas with their small group. This works well with my personal teaching style because I am planning on frequently having small group hands-on activities with shared resources.

I will be spending a lot of time with the class, developing method of transitioning between the layouts until it become fast and efficient. Since the students are not accustomed to moving their desks and chairs throughout the course of the day, I expect there to be a learning curve, and the first few times to be noisier and take longer than desired. However, any new strategy for teaching takes a while to get put into place and it is only through repeated attempts that success will be found. I will work hard to create lesson plans which include all the Learning Styles and require a change in the seating plan to enforce the transitions, even when I am tempted to revert back to a more traditional seating arrangement. I expect some days there will be only one or two transformations, and other days up to four or five transformations throughout the course of the day.

Practicality Issues

This leads into the practicality of using a classroom space, and the endless factors to consider when developing a classroom layout. One of the largest concerns with consistently reorganizing the students' desks throughout the day is the time spent on such activities. My first proposal is to create "movement plans," which are predetermined, and easy to coordinate. Figure 1 and Figure 2 are examples of class plans I produced for my practicum. They are developed to be as easy as possible to be changed from one plan to another. Half the students do not need to move their desks as all and those who do move, are simply rotating their desks. My second proposal is to incorporate the movement of the desks into the daily prescribed activity, or as a part of an activity. Even if students spend a total of five minutes a day moving tables around, this time is not wasted if it is viewed as a body-break to help the students clear their minds and stretch their legs. For my transformational geometry unit in math class, I want to enact the students in a massive class kinetic activity, using a series of transformations of desks, and the tiled linoleum floor as a grid. Other practical implications to be considered is the level of noise caused by moving chairs and tables, and the process of getting students used to the idea of moving around their desks so often. While many issues are sure to come up during the class time, I believe if this exercise result in more Learning Styles used in the classroom, it is well worth it.

What was Learned through Engaging with Resources Combined with Inquiry Processes

When I engaged the text research with the practical applications of creating a seating arrangement, it brought forth many practicality issues I had not previously considered. For instance, the social issues one must consider when one is creating a seating plan. One of the

greatest difficulties with the seating arrangement was the students who a significant number of students felt they could not work well with. I had to not only consider the students sitting directly next to them in the "open seating" plan, but who they would be grouped with during the "grouped seating" as well. Another issue which arose during creating a seating plan during my practicum was placing students who have technology closest to the available plugs and outlets. I am also a little bit worried about having enough room around the perimeter of the classroom during the U-shape seating plan. Zimmerman (2001) noted the importance of considering navigation issues which might arise , "minutes can also be saved by arranging classroom tables and chairs for efficient movement of students and teachers" (p. 8). I expect there will be many little changes before this transformation plan begins to work as well as I would like.

Implications for Practice and Next Steps

I think the outcome of this inquiry will be very useful for me and other educators, as considerations on how to best use the space of the classroom. If I am able to implement a plan which allows for easy transformation of the classroom, a wider variety of lessons and learning styles and be applied throughout the day. I believe this will result in higher student motivation and academic success. In the next few weeks, I will be implementing the seating plan charts during my practicum. I will be taking notes of the practical implications of this plan, and note the difficulties and solutions for my colleagues. I will also be discussing the process with my students and asking about their perception of the seating transformations and the use of many Learning Styles throughout the day. If my work is successful, I would like to share the idea of transformative seating plas with my peers, so they can create a larger spectrum of classroom activities.

Resources

Fleming, N.D. & Mills, C. (1992). *Not Another Inventory, Rather a Catalyst for Reflection. To Improve the Academy*, 11, 137-155.

Ogata, Amy F. (2008). Building for learning in postwar American Elementary Schools. *Journal of the Society of Architectural Historians,* 67 (4), 562-591.

Theobald, Margaret A. (2006). *Increasing student motivation: Strategies for middle and high school teachers.* Thousand Oaks, CA: Corwin Press.

Zimmerman, Joy (2001). How much does time affect learning? *Principal*, 80 (3), 7-11.

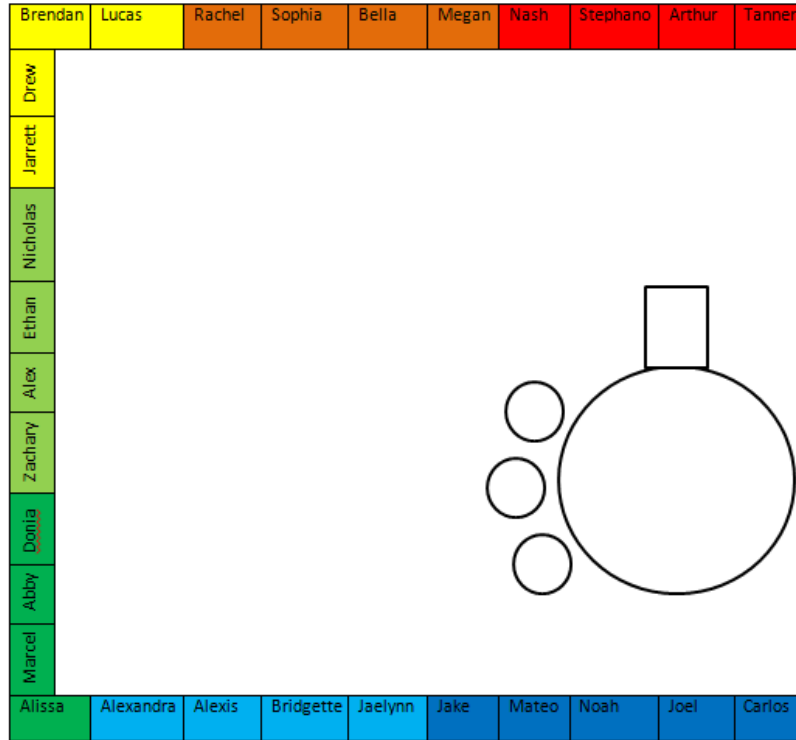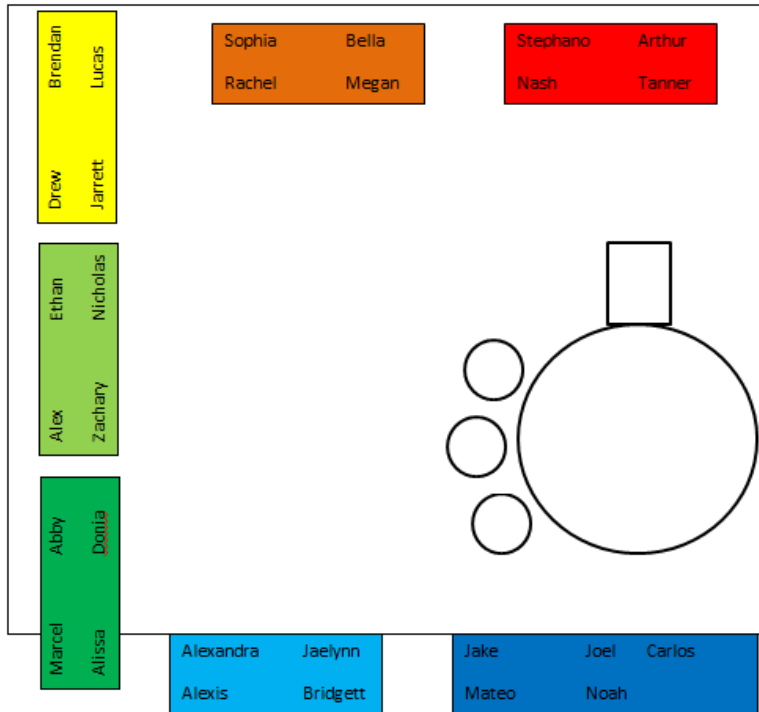Zittel, Andrea (2005). *Andrea Zittel: Critical space*. New York: Prestel.

Figure 1

Figure 2