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Creative Classroom Designs

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Creative Classroom Designs

By

Sarah Komendat

An Abstract of a Project
in
Creative Studies

Submitted in Partial Fulfillment
of the Requirements
for the Degree of
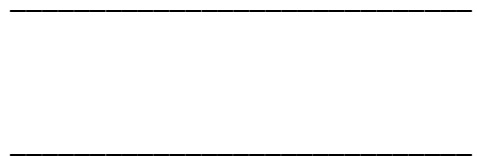

Master of Science

December 2010

Buffalo State College
State University of New York
Department of Creative Studies

ABSTRACT OF PROJECT

Creative Classroom Designs

Creating a classroom space that is conducive to learning is an important task for teachers. The purpose of this project was to generate classroom design plans that create a positive classroom environment which promotes learning and creativity. I observed classrooms at Central Avenue School in Lancaster, NY and did some research about how to design positive learning environments. Digital plans for remodeling six classrooms at Central Avenue were created using the AutoCAD design program. This project is intended to teach readers about the importance of classroom design and its effects on the creative climate, student behavior, and lesson potential.

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Dates of Approval:

_____   _____
                                                      Project Adviser

_____   _____
                                                      Candidate

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Thank you to my family for all of the love, support, and encouragement you gave me as I traveled through the Master's Project and Creative Studies Program at Buffalo State College. Without your support and resources this journey would not have been possible. I would like to specifically thank Matt for all of your help and support throughout all the time I have spent working on this project. Thank you for everything, I love you very much and I do not know how I would have made it through without you. I would also like to thank my project supervisor, J. Michael Fox, for your positive remarks and assistance with this project.

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Introduction

I have chosen to work on this particular project because of what I have learned

in the Creative Studies program at Buffalo State College about creative space, design,

and the theorist Göran Ekvall. I thoroughly enjoyed a project I did in spring 2010

involving creative spaces in organizations. I started to wonder: How might the concepts

of creative space within places such as IDEO and GooglePlex be applicable to young

creative minds in classrooms?

After some reading and research, I created design plans for six classrooms, one

per each elementary grade level (1-6). I used Central Avenue School in Lancaster, NY as

a starting point for the design. Using this school as a starting point forced me to design

around the limitations like those given to any new teacher that is starting with nothing.

Designs were created using the furniture and technology available in that school.

Design plans are located in Appendices B-G.

The first part of the paper, *Research and Activities for the use in the Design*, will

highlight the key characteristics of designing a classroom space. The major elements

that will be discussed are: designing for the students, space and flexibility, activity

centers, color, and technology. The purpose for this section is to provide research

background to my design and activities that can be done in the created spaces.

The second part of the paper, *The Design*, is intended to describe the rationale

for the designs created. The design elements and activities described in part one

becomes integrated with the digital design. This section will help readers understand the placement of the furniture and activity areas.

The final part of the paper, the *Conclusion*, will summarize the reason why this project contributes to teaching and ideas for my own future research. I will also include a reflection of my learning during this project.

Part I: Research and Activities for the use in the Design

Designing for the Students

When creating an environment for a student-centered approach to learning, it is imperative that one take the needs of the students into consideration. Teachers should ask themselves about what types of disabilities will be entering their classroom, what types of behavior are expected from the incoming group, and will all students be able to hear instruction from the seating arrangements? Merritt, Beaudin, Sells, and Oja (2004) described an issue that is still an issue today when they said,

> As a society, we haven't yet come to grips with some of the subtler aspects of disabilities legislation, which aims at ensuring that disabled people participate equally in all the opportunities that we provide to the able-bodied. In schools, this means making sure that, to the greatest degree possible, physically disabled students are able to enjoy access to all parts of the curriculum…(p. 133).

Designing a classroom space to accommodate students with special needs takes some work. For a student who travels by means of a wheelchair, center areas, seating, and observation areas (amongst other learning areas) need to be low enough for them to be wheelchair accessible. If a blind student enters the classroom, there must be clear and organized pathways to allow that student to walk around the room without a fear of tripping over clutter. A setting for students with behavioral disabilities or emotional disabilities needs to be safe and must avoid objects of potential danger. When teachers get their new course rosters and IEP forms (Individualized Education Program, documentation of student disabilities) for the upcoming school year, reading current research should take place in order to create the most inviting classroom space that is accessible to all. In addition, the teacher may want to meet with the students' teachers from the year prior and with the student and their parents themselves (see Appendix A for questions one should ask themselves when designing the classroom for the students).

Aside from accounting for the special needs of students entering the classroom, the teacher must consider the developmental stages of the students. Clayton and Forton (2001) give readers a tool called the "Birthday Cluster Exercise". It involves creating a table and possibly a graph of the students' names and birthdays. The purpose of the exercise is to find out where the major clusters of age are within the group in order to "anticipate the changes that will occur in the group's development over the course of the school year" (p. 18). By doing this exercise prior to the school year starting, the teacher will be able to get a rough idea of the average stage of

development and approximate behavioral age of the group. This may be helpful when the teacher is figuring out student work groups, seating arrangements, and behavior management plans for the beginning of the school year.

Teachers always need to be ready for anger and behavior issues in their classroom. Even in a classroom in which the students are typically well behaved, there are still days when students may have had a difficult night at home and anger or sadness carries into school. To avoid complete disruption of the rest of the class during a behavioral issue, the teacher should have a location of the classroom set aside for students to relax and calm down. This may be an activity center idea involving "good choices" or a basket of calm-down exercises in the corner of the classroom. Activities in these types of areas may include writing prompts about making good choices, discussion activities with a partner or teacher, stress balls to let out frustration, and a behavior management poster for which students can reflect on or write.

The social needs of the students should be taken into account when designing a classroom space. Even at young ages students can feel withdrawn because of their height, weight, or physical appearance. Care should be taken to allow for students to feel comfortable in the classroom and equals with their classmates. Clayton and Forton (2001) suggest that "generally, simple measure can make a big difference for these students. Perhaps sturdy step stools can be placed beside shelves and work areas for short students, or chairs can be provided for everyone at circle time so that larger students can sit more comfortably without being singled out" (p. 16). By being aware of

these small social issues teachers can make their classrooms more comfortable for all students.

Space and Flexibility

A student that walks into a classroom of clutter and filth will probably have less of a chance of having a good day in school than the student going into an organized classroom. Picture this… an open door policy, work tables that are able to be folded up and rolled to the side, chairs with supply organizers, and large walkways between tables and other learning areas. There should be ample space for movement in the classroom. Desks and tables should be easy to move in order for a whole-group dance or drama activity to take place. The classroom space should allow for a grand flexibility of activities to take place.

When the teacher is deciding where to place desks and tables, they need to take the students, future lessons, and activities into consideration. The areas of the classroom with anticipated high traffic flow and high use should be integral to the design of space. When a teacher takes the time to think about how to design space and traffic flow, learning can be positively affected. Clayton and Forton (2001) stated, "Well-designed traffic pathways can help students to move around the classroom safely, easily, and responsibly. This can improve transitions, help children to establish self-control, and generally support a productive and cooperative learning environment" (p. 50). Once the teacher has thought about areas of the classroom that may have high-

traffic flow, they can start thinking about how they can maximize the space they are given by selecting the proper furniture and equipment.

By creating more whole-group and small-group space and less personal space, one can create a sense of community in the classroom since there is a greater emphasis on shared areas. According to Torrance (1995), "The classroom group may stimulate certain types of creative thinking. Children should learn early that creative ideas are shared and enjoyed by the group" (p. 31). Grouping students together allows for creativity group projects to take place in which students can share ideas and grow as intrinsically motivated teammates.

Students should have a locker or cubby area for their bag and coat and a supplies station. In order to save space, individual supplies can be organized in one area of the room or in chair organizers. There is a wealth of chair organizers out in the market that basically can drape over the back of the chair and contain a variety of compartments for easy organization. For budget-conscious teachers, sewing patterns are available so that inexpensive, homemade chair organizers can be created. With the supplies and cubby areas organized and condensed, there can be room for more center and exploration areas.

Tables that are easy to move are helpful when teachers want to be able to change the outlook of their classroom from time to time, and want to be able to do a wealth of activities. A good table for maximum flexibility is a trapezoid-shaped table, big enough to sit three students comfortably. This table is great because it can be put together to allow for groups of four to six, or split apart to allow for small-group

activities involving two to three students, all with their own space to work and create.
This table is also good because it maximizes space and allows all students to directly see
each other during group work.

Figure 1. Singular Trapezoid-shaped Table and Grouped Tables.

When designing a classroom, it is important to design spaces that are visible
from every part of the room. Too many shelves sticking out, walls, or furniture allows
students to hide. The teacher should be able to see all students at all times so that
students remain secure and safe. Clayton and Forton (2001) mention, "When children
are confined to spaces that are too small, or when they don't have enough room for
making transitions without bumping into each other or the furniture, the inevitable
result is increased tension, conflict, and misbehavior" (p. 45). If some disruptive
behaviors can be prevented just by remodeling the classroom for more transition room,
teachers should take this opportunity and allow for more educational time.

Openness and flexibility are important factors to consider when designing
classroom spaces not only for supervision reasons, but positive effects on learning as
well. Amabile (1996) found,

Open classrooms generally contain less structure, fewer teacher-initiated

constraints on performance, and more individualized effort. Since many of the

differences between open and traditional classrooms concern extrinsic

constraint, the intrinsic motivation hypothesis of creativity would lead to

predictions of higher creativity among children in open classrooms. (p. 206).

In order to make behavior management easier for the teacher, plans should be

made to deal with high interest areas, such as science experiment areas or bulletin

boards. For example, if the tadpoles from a science, life cycle lesson are located in a

cramped area, students may try to cram into the small space possibly causing tension or

behavior issues. Clayton and Forton (2001) believe that students can be involved in

creating a plan to overcome this issue. The authors stated, "Students are often helpful

in coming up what such plans. Perhaps a certain number of children are allowed in the

area at one time, or the item of high interest is moved to another area which will

accommodate more students" (p. 53). No matter how the issue is solved, the overall

goal should be to make sure students can move through the classroom in a safe manner.

A way to reduce tension in the classroom is to make the illusion that the

classroom is bigger than its real dimensions. Teachers can do this by placing materials in

cupboards that shut and by limiting the amount of posters and other wall décor.

Teachers can also place furniture in ways that make the space look larger. Dudek (2000)

described a small classroom space and how he made it look larger by taking "…two

storage cupboards (which also double as computer niches) [that] are deceptively large,

hidden in the 'fold' at the corners of the room. So this space seems to be devoid of

corners, emphasizing its sense of spatial fluidity" (p. 55). By rearranging the furniture to make the classroom appear circular he made a smaller classroom appear larger. Reducing tension in the classroom may help creativity grow.

Activity Centers

Centers are small designated activity areas in which students can do a small activity pertaining to the center's theme. By exploring their interests, students can get a head start on deciding what they want to do later in life. According to Gardner (2006), "…not everyone wants to be a law professor; and, indeed, not everyone can occupy any particular occupational niche. The chance for a child to explore options that might be congenial to his or her strengths and interests can spell the difference between a frustrating educational experience and one that has purpose" (p. 57).

Giving students a variety of centers to choose from allows students to take the opportunity to explore their interests. These small areas can be simply a desk with a folder of short activities. The activities at each center should be no more than thirty minutes, self-guided, and stimulate creativity. Teachers can set aside center activity times for morning work or afternoon relaxation time. Schedules or charts can be created by the teacher so that students can easily create a plan for trying each activity center. Starko (2005) highlighted some interesting ideas for differentiating instruction through learning centers including, "You might decide to glue the directions for each kind of activity on a different-colored card. Red cards could be for core activities, blue

for enrichment activities, and green for more challenging activities" (p. 384). By clearly stating directions for each activity the teacher can allow students to build on their independent learning skills.

Activity centers may cater to specific learning objectives or other student interests. Gardner (1999) stated, "…only if they have multiple opportunities to apply their knowledge in new ways are they likely to advance toward enhanced understandings in their schoolwork and in their lives beyond the schoolhouse walls" (p. 128). Core curriculum subjects can be central to the creation of centers, but for the purposes of this paper centers involving creativity, exploration, and the possible integration to core curriculum subjects will be described.

The *science center* should be updated for each new unit. This center may include whole-group experiments such as planted seeds or a caterpillar farm. There should also be an activity folder at the center that has exploration activities for students to complete. For example, an activity that may be in this center during a "stages of growth" unit with a caterpillar cage present may have students observe how caterpillars grow and live. There would be an observation chart students need to fill in followed by questions that lead students to explore the growth of a caterpillar. The science center should be located in a place in the classroom that allows for a large amount of traffic flow, since students are typically curious about science experiments when animals are involved.

An *art center* should allow students to be able to openly create something material. The more materials provided, the greater opportunity for exploration. An

example for an activity for this center involves given students prompts of issues in

school, asking them to create a piece of artwork that may help solve the issue (ex.

bullying, being on time, being nice to classmates, etc.). Upon completion of an art

activity, the teacher should have a designated area in the classroom for finished

products to be held in order for them to be dried and displayed. Another example of an

art activity may have students experiment with geometric shapes and SCAMPER

(substitute, combine, adapt, modify, put to other uses, eliminate, and rearrange)

(Cornett, 2007, p. 213). Students should pick one or more of the SCAMPER tools to

change the geometric shape or shapes to create a new piece of art. Some students may

grasp geometric concepts better by having the opportunity to play with the geometric

shapes in an artist manner rather than completing traditional drill and practice

worksheets. Claudia Cornett offers a wealth of other Arts integration activities (lessons

that combine core curriculum subjects with the Arts and creativity) in her 2007 book

(listed in the reference section).

Drama centers should be close to an area that allows for movement so that

activities involving role play can be administered. These activities can also be designed

to allow a few students to use the hallway to create their role play. Other activities for

this center may involve script writing, story writing, or storytelling. Directions and rules

should be outlined before students use this center and should be reviewed from time to

time in order to prevent problem behaviors in the classroom. The opportunity for

movement within the classroom is helpful in developing interactive play skills in

students as well as allowing students with attention or behavior issues to relax and work

through their troubles. Starko (2005) outlines the importance of the teacher as a model

during drama activities when she said, "a teacher who uses a plastic bowl as a hat, a

steering wheel, and a bed for a stuffed dog—in addition to its typical use in the

kitchen—engages the social interactions Vygotsky (1960) (as cited in Smolucha, 1992)

described as developing creativity through interactive play" (p. 388). Students will most

likely need help orchestrating these activities from this center in the beginning of the

school year, but as they develop the skills to work as a team at this center without

teacher guidance, the potential growth of teamwork skills is worth the hard work of

organization at the beginning of the school year. An example of an activity in this center

directs a team of two to create a role play about bullying in the classroom (grades 2 and

up). They would create the scenario and a short skit to represent how they can solve

the issue. Upon teacher review, the role play may be good to share during morning

meeting time or during a whole-group lesson.

Activities to allow for *kinesthetic movement* should be available in the classroom.

The teacher may not want these to be useable at all times in order to help manage

behavior, but should give students this opportunity during choice- and free-times.

When creating activities for a dance center, the teacher should make sure that there is

an area in the classroom or in the hallway that allows adequate space for movement.

An example of activity in this center would guide students to choreograph a dance

movement connecting to some sort of prompt. For example, if the social studies unit

being studied is about ancient Egypt, a sixth grader wanting to take part in this activity

would create a series of movements relating to how ancient Egyptians gathered food.

A general *play center* is a great activity area for students to play around and explore. Amabile (1989) suggested ideas for this center when she stated how the a center like this should be a place "…where they can play and experiment with various materials…one week the activity table might have magnets that the children can play with before they begin to learn about magnetic forces" (p. 135). These activities may be good for heightening the anticipation before starting new subject matter. Students can play with the new concepts they will be learning.

When deciding on how to evaluate centers teachers have plenty of options. Prior to allowing students to partake in center activities, the teacher should go over a rubric for grading that explains what is expected of the students with each activity. If activity centers are to be done during morning work time, the teacher may require students to turn in three to five finished activity logs, and may grade each (or all as a whole) with a rubric. Rubrics should minimally include grades for effort, participation, and ability to follow directions. Additionally, teachers are suggested to require students to do a reflection on each center activity, which can be a simple picture with a describer sentence for younger elementary grades, or a "pluses, potentials, concerns" written reflection for the older elementary students.

Décor and Environment

Taking time to set the environment and plan for color design can have positive effects on students' feelings about school. According to Dudek (2000), "…an experience

of different school environments and methods brings with it a range of ideas from the overwrought chaos of classrooms dripping with children's drawings and paintings, to the classrooms of teachers who perhaps give little thought to the quality of the environment and reinforce a dull uninspiring atmosphere" (p. 58). Placing student artwork around the classroom and in the immediate hallway space creates a sense of challenge for the students since they work hard to make their projects of a quality to be displayed. Allowing students to design some spaces in the classroom allows for the freedom in a classroom environment to sparkle. Challenge and freedom are two of Ekvall's (1996) ten dimensions of creative climate. When students become part of the classroom design and décor, the dimensions of a creative climate are satisfied and a welcoming environment is established.

Several studies have been done to example the effectiveness of classroom wall color on behavior (Dudek, 2000; Grangaard, 1993). Grangaard (1993) did a study for her dissertation about color theory and classrooms. She assessed the blood pressure, pulse, and behavior of eleven first grade students in three different classroom colors. Students spent ten days in their classroom as it was painted brown and off-white. They then spent ten days in same classroom after it was painted blue and fluorescent lights were added and then final set of ten days with the classroom repainted brown and off-white. Grangaard found that "there was an 8.1 drop in mean blood pressure readings from Phase one (98.3) to Phase two (90.2)…and [behavior] differences between the Phase one and Phase two scores were 24%" (p. 91). This study and several other studies prove

that calm, welcoming colors should be chosen for classroom walls. Light blue and green painted walls fare much better than brown and off-white.

Students feel appreciated and accomplished when their work is displayed in the classroom. Lindberg, Walker-Wied, and Forjan-Beckwith (2006) noted that when setting up displays of student work "be sure that their work is prominently displayed during your school's open house, PTA meeting, conference time, or whenever families are in the building. Be sure to include items you have chosen as well as items students have selected" (p. 10). Teachers can set up strings from wall to wall in order to display student work from the ceiling. Corkboard strips can be hung in hallways in order to display work in the surrounding hallways. Students should be part of the display selection process because it allows for students to become more self-reflective of their work and develop a sense of pride of what they can create. For teachers that do not have their own classrooms, there are ways to find space to display student work. These teachers can search for unoccupied hallway space to display their things or create portable display units. These can be created using tri-fold poster boards and sticky tack (Lindberg, Walker-Wied, & Forjan-Beckwith, 2006, p. 10). When decorating, it is also important to not be excessive. Student work should definitely have its places to be displayed, but make sure to keep away from making the classroom spaces cluttered because when there is too much to focus on the value of the work may feel diminished.

When selecting décor for a classroom, it is helpful to select a theme. McDonald and Hershman (2010) suggest that teachers "decorate your door with a theme or slogan" (p. 24). Television shows or sports themes often fare well with students. By

decorating the classroom door with a welcome theme, students know what to expect.

The theme can carry into classroom reward systems and other behavior management

posters. Having one overarching theme for the classroom provides a consistency that is

good for students with special needs since it provides consistency and predictability.

Display boards are important tools teachers use to reinforce key learnings.

Often teachers have display boards about grammar reminders, science vocabulary, word

walls, etc. Many times, these display boards are overused and poorly designed.

Teachers should be careful to not overfill their classroom with posters. Too many

displays can be overwhelming and may decrease the importance of the key learnings.

Posters are often designed in neutral colors when actually reading retention increases

when bright, readable colors are used (Baird, 2006). Baird found that "color increases

recall by up to 60 percent, and some research suggests that readers pay attention up to

82 percent longer when color is used in a document" (p. 38). The most effective use of

display boards and posters is to limit them to the most important ones so that they can

be used and make sure that the colors of the boards and posters are vibrant and easy to

read.

Technology

Today's world is ever changing due to the inventiveness of the information age

that surrounds our learning. Children today deal with a variety of technologies that the

children of ten years ago never dreamed would be in existence. Many children over the

age of twelve now have a cell phone, Facebook page, and access to the internet.

Merritt et al. (2004) stated "in today's knowledge economy, students must be

empowered to become self-directed, interdependent, and self-assessing learners. This

shift requires a significant change in teaching and learning, and technology is a vital tool

for accomplishing this shift" (p. 67). Schools are dealing with issues such as usage of cell

phones in class and cyber-bullying. It is up to teachers to inform students of the proper

uses for these technological devices and involve them in what technology is to come in

the future. These issues create the need for technology to be an integral role in

classroom design.

Computer stations within classrooms are absolutely necessary for student

learning. Students should be able to have access to some sort of technology at least

once every day. Many districts offer variety of technological tools and programs for

teachers to use in the classroom. McDonald and Hershman (2010) suggest that teachers

create classroom websites for students use as well as for parents to view. Class blogs

and wiki spaces can be fashioned to make the class digitally interactive (McDonald &

Hershman, 2010). Teachers can have students post responses about reading

assignments on blogs. Also, instead of printing up monthly or weekly newsletters for

parents, teachers can post information about what the class is up to via parent blogs.

Smart boards and Interwrite boards are making their way into a central spot in

classrooms. The purpose of these technologies is to allow students to become

interactive with classroom worksheets and other lessons that can be displayed on the

board. If a worksheet is up on a Smart board students can use special pens to digitally

draw answers and solve problems on a blown up version of the worksheet. Used

properly, these pieces of technology can be a great way to connect old-fashioned paper

and pencil lessons with today's knowledge age. Unfortunately, many teachers are given

these wonderful tools without much instruction about how to use them. If the

opportunity arises to be able to have a Smart board or Interwrite board in the

classroom, teachers should take it, and also seek training for the device so one can use it

to its full potential. For the money-conscious teacher, opportunities and programs are

becoming available to create Smart board technology out of a Wii remote, classroom

projector, and Smart pen (D. Uribe, personal communication, March 2010).

Teachers function best when organized, including the organization of computer

documents. When designing a classroom space, teachers can get a good look at the

space if the space is designed digitally. Architectural programs like *AutoCad* (used later

in this project) are fairly easy to use and can allow teachers to play around with

classroom design. Creating digital plans of the classroom can be helpful also when

creating seating arrangements and leaving updated seating charts for substitute

teachers. Teachers can save previous seating arrangements and make notes on those

documents about the advantages and limitations about the old arrangements. Keeping

all computer documents organized helps teachers to avoid mountains of papers and

extra handouts. McDonald and Hershman (2010) suggest that teachers use the

computer programs and systems that act as a "filing cabinet" and when doing so

"separate the files into categories or themes" (p. 4). By organizing lesson files in an

organized, systematic way teachers can have easy access to all of their materials and handouts.

Part II: The Design

The purpose of this part of the paper is to explain the rationale for the design in each classroom. Any of the designs can be adapted for any grade since they all promote my main goal which is to create a classroom environment that stimulates creativity and a sense of community. For each classroom desks are shaped in a way that promotes teamwork and centers and environment pieces are in place to encourage the teaching and learning of Creative Problem Solving and creativity with core curriculum integrated lessons. I included a variety of the design ideas I have spread out amongst the six designs. My own future classroom will most likely include bits and pieces of each design. All areas in each classroom are designed for about twenty to twenty-four students with the core curriculum subjects, space limitations, and furniture limitations in consideration.

For the purposes of making this creation a realistic ordeal, Central Avenue School in Lancaster, NY was used to create a starting point. The building was closed for operation at the end of the 2009-2010 school year and was empty during the creation of this project which made it easy for me to think about starting from scratch. I wanted to create these spaces with the few materials I had at my disposal just as I will have to start with the bare necessities when I get my first full-time teaching job in the future. Any

furniture I added that was not already in the school is described through the rationale

with means of obtaining it. Pictures were taken of furniture available at Central Avenue

School (see appendices). For reference purposes, the "front of the room" is where the

Interactive Board is located. For the purposes of this project, the explanation for the

design for this room may not discuss every object's placement, but instead the key

elements of the design.

First grade room

The purpose of this section is to discuss the rationale for the placement of the

tables, rug, and other objects in the classroom designed for a first grade class (See

Appendix B for the digital layout of this room). While designing this room, I made

certain to concentrate on there being a wealth of community spaces since learning

about one's community is a central piece to the first grade curriculum.

Trapezoid-shaped tables are placed together to create four hexagonal-shaped

tables in the center of the classroom. This creates individual desk space for the

students. Trapezoid tables were selected since they can be pushed together to create

teams up to six students, or split apart to seat three students. This allows for a great

variance of group activities and the ability for the groups to own some space while they

work. Desks in groups have a positive effect on the students' feeling about the

classroom. Graetz and Goliber (2002) stated that "…desks arranged in rows facing a

central podium suggest lecture, whereas tables scattered about the room suggest

collaboration" (p. 15). Group settings suggest more of a variety of activities in the

classroom, which is excites students more than the probability of lecture. Tables are

placed far enough away from each other in order to allow for ample walking space

between seats. The tables are angled in a way that forces only a few students to rotate

around to see the Smart board and chalkboard.

The rug area is placed in the corner of the room that is far enough away from the

lockers and door area to reduce distractions from passing students. For first grade

classrooms, it is helpful to have the rug area far away from distractions caused by the

phone, visitors, or other tables since it is the area that is welcome to a lot of whole-

group instruction and individual reading time. Book shelves about two feet in height

enclose the reading area in order to create a cozy environment. Pillows and beanbag

chairs can also be purchased to further create a cozy, warm feeling for readers. Close to

the window side on one of the book cases should be the literacy center. This center

should contain some reading and writing activities that involve creativity. These

activities may be done during morning routine time or during a center activity time.

Activities should be able to be individually run and elicit creative thinking.

The science center is placed on a table near the sink area in consideration of

science projects that require water for caretaking. It is placed slightly out of the corner

so that there is enough room for several students to view whatever is being showcased

(for example, in first grade earthworms are often observed). The science center is

placed away from door to the classroom and computers for easier traffic flow through

the classroom and safety.

The computer area houses four student computers, a television stand, and a teacher computer desk. The technology center is located in this area and should have activities that allow students to dig deeper with various technology programs. If the class is working on a unit about earthworms, the technology center may have an activity that has students using the program *Kidspiration* to create a web diagram about what they know about earthworms. Computer programs should be introduced to the students beforehand in order to allow for the students to work on the activity by themselves.

Above the windows are corkboards. These corkboards are a great place to display student art work since it is the first wall parents and students see when they enter the classroom. Bright backdrop colors also help bring attention up to the student work. In addition to displaying student work on those corkboards, string and laundry clips are good tools to use in order to suspend student work from the ceiling.

The teacher area is enclosed by a semicircle-shaped table and a filing cabinet. Many teachers like to have their own space to keep organized. The computer table offers a good amount of space for paperwork organization as also does the filing cabinet. The semicircle table is a good place to have students hand in work and meet with the teacher for small-group meetings.

Figure 2. Semicircle Table

Second Grade Room

The purpose of this section is to highlight some ideas for setting up a second

grade classroom in order to stimulate group, student-centered learning and creativity

(See Appendix C for the digital layout of this room). Children in second grade are

typically in a phase of their lives when they are starting to hone in on their reading skills

and fluency. These readers are also just figuring out some of their personal interests

and talents. The plan for this classroom emphasizes the opportunity to read and try a

variety of activities.

Desks are grouped together in order to make tables of four to six students in

order to allow for teamwork activities. Trapezoid tables are used together in pairs so

that a group of six students can work on a project with ample space. Cornell (2002)

noted, "With tables, students can face one another and documents and materials can be

shared. Trapezoidal and other nonrectangular shapes enable different kinds of spatial

arrangements for collaboration" (p.38). Tables can also be split into singles for a group

of two to four students to have their own space to work. There is plenty of room for

easy traffic flow due to the shape of this table because the shape prevents chairs

backing into one another and taking up space.

The design of the rug area offers a multi-level area for cozy reading. Students

have the opportunity to climb up to a *reading tree house* to read. There is some work

involved in building this space and developing the rules for its use, but a multi-level

section in a classroom can help create a free-feeling classroom atmosphere. Cornell

(2002) stated, "Making furniture user-centered will enhance the overall experience. In

the knowledge economy, where learning is not only continuous but also more informal

and serendipitous, anything that makes the experience more positive will also increase

learning" (p. 41). This area should be designed at a height that is easy for the teacher to

supervise and should have clear rules for student use. The rest of the rug area can also

be used for a reading center or whole-group instruction area.

Near the windows is an area for a Creative Problem Solving (CPS) center. In

small groups, students can explore with some CPS techniques. It would be beneficial to

relate the activities at this center to other course material. This center should include a

free standing poster board, Post-it notes, and other CPS materials. The teacher should

practice CPS with the whole class before students try it on their own. Besides the CPS

center, there are three other centers throughout the classroom. These centers are

designed with at least eight feet of space between them, minimizing noise level

distractions. If the centers were too close, group members would have trouble hearing

each other because noise levels would be too high in the concentrated space and there would be more possible distractions.

The Interactive Board situated on the front wall of the room is an excellent way to bridge older curriculum materials with current technology. Teachers can put worksheets up on the board digitally to create a large, blown-up version of the worksheet. Students can use interactive pens to write their answers on the Interactive Board, displaying their work for the whole class to easily view. The Interactive Board also allows the entire class to look at educational websites together and the teacher to show students how to use Microsoft Word and Power Point for projects.

Third Grade Room

The purpose of this section is to highlight the main design elements of the third grade classroom (See Appendix D for the digital layout of this room). This room was designed as if only traditional desks were available for the students' individual space. The square footage in this classroom just barely allows this whole-group design to take place. The desks are placed in a rectangle-shape pattern with walking room between desk areas. I wanted to showcase this design because I have seen it work at another school before. Sometimes a chatty bunch of students need change from small-group settings and this desk set-up can help calm disruptive behaviors, yet still allow for group activities and peer help to happen. Depending on student needs, this set-up may be

good for a child with Autism Spectrum disorders since it is a very linear design and it is

predictable.

The teacher's area is located by the backmost computer and semicircle table.

This is a good place for supervision because it is close to the locker area and the teacher

can see around the entire classroom while sitting behind the semicircle table. Students

working at this table are facing away from other small-group activities that may be

distracting and far enough away from the movement center which can become noisy.

The movement center is a place for students to connect the lesson they are

learning with their own understanding through kinesthetic movement. Activities at this

center should stimulate creative movement and expression. Creating movement

activities does require space and may become noisy. A shelving unit is placed on one

side of this small rug area in order to minimize distraction. Clear rules for this center

must also be discussed before students do the activities. When the kinesthetic center

activities are not in use, the rug may be used for cozy reading space or a different small-

group activity.

In the front of the classroom, next to the door is a small table that houses the

morning organization. In this area students should figure out what they want for lunch

and hand in any notes to the teacher. On the chalkboard area next to the table the

teacher should place a "Creative Question of the Day". This is can be a short morning

prompt that the students answer when they arrive each morning to get them thinking.

It is placed near the door of the classroom so students see it right when they enter the

classroom, but far enough away from the door that the space does not get overly

crowded when students enter in the morning.

Fourth Grade Room

The purpose of this section is to discuss the rationale for the fourth grade

classroom design (See Appendix E for the digital layout of this room). This space allows

for a little more table space than in the younger grades. There are five group tables

created instead of four in order to allow for more individual space. Extra individual

space is necessary since state testing takes up a considerable amount of time during the

fourth grade year.

A math and art center is located on the window wall counter of the classroom.

Students come to this center in order to connect the math concepts they are learning to

artistic creations. There is an American history center at the front of the classroom.

Units on Native Americans and early American history are big components of fourth

grade curriculum. Having a designated space for students to explore this information on

their own time is helpful since there are only so many hours in a school day to talk about

everything that there is to learn. The teacher may be able to have a school provided

laptop strolling through historical battle pictures and information blurbs or models of

Native American log cabins displayed.

The rug area is a little smaller than the younger grades since there is a greater

need for more desk space and center space at this age level. It is beneficial to have a

rug space for whole-group lessons and reading space so that students are not confined to the monotony desks and chairs all day long. According to Ekvall, strong working environments require a good amount of freedom and liveliness in order to produce good feelings about the work place (1996). What Ekvall says about work places carries into the classroom. In order to create freedom and liveliness in the classroom, the physical environment cannot be stagnate and boring, but must include a variety of activity spaces and designs. With that said, wouldn't it be comforting to see a cozy rug area in classrooms of all ages, as well as all creative business areas?

The front of the classroom offers a décor center. At this center students find a desk full of supplies in order to decorate the classroom door. Whether it is during fun Friday time, recess, or after school, it is good for students to have the opportunity to design and decorate something in the classroom. Allowing students to have the opportunity to put their influence on the classroom design brings a child-centered aesthetic quality to the classroom environment and also helps students feel a sense of pride in their creations.

Fifth Grade Room

The purpose of this section is to explain the rationale of the fifth grade classroom design (See Appendix F for the digital layout of this room). This space was designed as if only traditional style, rectangular-shaped desks are available for individual student space. By the fifth grade level students are starting to benefit from learning how to

work better with others and in large groups. Desks are grouped in clusters of eight, ready for larger group projects. At the beginning of the school year, the teacher will probably need to assign project roles or at the very least suggest ideas for group work. Working in such large groups will invite reflection and whole-class discussion about working with others, which may help students figure out who they are as a teammate. Large groups are helpful during lessons that are confusing to some students. Depending on the specific disabilities of the students, this set-up may be helpful to students with learning disabilities since they have several students surrounding them to ask for help on challenging assignments.

Bookcases are situated near the rug area in a manner that allows for a nice display area of student work. Shelving for books faces the rug, leaving the backside empty. Showing off student work creates a welcoming space and makes students feel valued. Putting their work on a display board area that low to the group allows the students to be able to see it often and brings a multi-level focus to the décor of the classroom space. Guardino and Fullerton (2010) suggested that the bookshelves also provide a barrier between two spaces, "creating separate group space areas" (p.11). This helps to reduce possible distractions between learning spaces.

Besides the bookshelf area, another fun space to display student work is right on their lockers. The lockers are located on the back wall of the classroom. Magnetic frames are available in craft stores for any size paper. Allowing students to select their favorite work of theirs to be displayed on their locker creates a sense of ownership for

the student over their work and locker and also adds color and decoration to an otherwise dim area.

Sixth Grade Room

The purpose of this section is to discuss the rationale for the sixth grade classroom design (See Appendix G for the digital layout of this room). This classroom was designed as if only rectangular-shaped tables were present for use. Each table has room for six students' individual spaces. Grouping sixth grade students into groups of four to six is good because there is a great opportunity for peer assistance with challenging assignments. The tables are all facing in a direction in which it is easy for students to see the Smart board and there is an ease for traffic flow through the classroom. The semicircle table is positioned near the middle of the window wall in order to provide enough space for students to view and travel past the science area and sink area. A bookcase is placed by the rug area in order to provide a little separation between reading activities or group activities that can take place on the rug and group work being done at the semicircle table. There is also enough space between the semicircle table and a circle table placed near the door in order to keep noise levels between the different group-work spaces dispersed. The teacher area is located in the front corner area opposite the rug area so that if students are spread out around the classroom the teacher can easily see all students for supervision purposes.

The purpose of the circle table at the back of the classroom is for group projects and center work. Students may find social studies centers involving world exploration or math shape creations at this center. The purpose of the semicircle table is for assignments in which the teacher wants to be able to provide individual help. For example, when students are doing a difficult writing assignment, the teacher can have several students sit on the outside of the table while she sits in the crescent area of the table easily able to see their work and give prompt feedback.

The rug area is in place so that students can have a cozy, comfortable place to read silently. This space may also be a good place for group reading. There are not many sixth grade classrooms in this day and age that have rug areas available because some believe that students of this age are too old. People of all ages look for comfortable places to read and write, and giving students this cozy space creates a warming, calm environment that stimulates students to do their best work.

Conclusion

Creating a classroom environment that is conducive to learning is an important job for teachers. Guardino and Fullerton (2010) prove this fact when they found a 42% increase in on-task behaviors in their classroom just by changing the physical design of the classroom furniture. Behavior and creative potential are benefitted when serious thought goes into classroom design. By creating multi-functional spaces and creative

learning center spaces, teachers develop Ekvall's Ten Dimensions of Creative Climate, which opens the door for students to be creative and take learning risks.

This project has room to grow in the future. In order to see if these designs are truly effective, I will need to implement the designs and try some of the activity centers. Since the building I used is currently empty, I could set the classrooms up as designed and see how the designs work (See Appendices H and I for hallway and building layouts). Another piece of research I could do involves observing in classrooms that have similar organization to my designs. I would observe the class to see what elements of the designs work and what needs improvement. By doing this research, I would be able to add statistical data to provide extra support for the rationale of my design.

This project taught me a lot about my passion for design. I thoroughly enjoyed the process of observing the empty classrooms and planning for the furniture placement. Doing this project has made me anxious to someday design my own classroom space.

Reference Section

Amabile, T. M. (1989). *Growing up creative: Nurturing a lifetime of creativity*. New York,

NY: Crown Publishers, Inc.

Amabile, T. M. (1996). *Creativity in context: Update to the social psychology of creativity.*

Boulder, CO: Westview Press.

Baird, D. A splash of color, a dash of learning. *The Journal, 33*(6), 38.

Clayton, M. K. & Forton, M. B. (2001). *Classroom spaces that work*. Greenfield, MA:

Northeast Foundation for Children.

Cornell, P. (2002). The impact of changes in teaching and learning on furniture and the

learning environment. *New Directions for Teaching & Learning, 92*, 33-43.

Cornett, C. E. (2007). *Creating meaning through literature and the arts: An integration

resource for classroom teachers*. Upper Saddle River, New Jersey: Pearson.

Dudek, M. (2000). *Architecture of schools: The new learning environments*. Woburn, MA:

Architectural Press.

Ekvall, G. (1996). Organizational climate for creativity and innovation. *European Journal

of Work and Organizational Psychology, 5*(1), 105-123.

Gardner, H. (1999). *The disciplined mind*. New York, NY: Simon & Schuster.

Gardner, H. (2006). *Multiples intelligences: New horizons.* New York: Basic Books.

Graetz, K. A., & Goliber, M. J. (2002). Designing collaborative learning places:

Psychological foundations and new frontiers. *New Directions for Teaching &

Learning, 92*, 13-23.

Grangaard, E. M. (1993). *Effects of color and light on selected elementary students*. (Doctoral dissertation). Retrieved from EBSCOhost. (Accession number: ED383445).

Guardino, C. A., & Fullerton, E. (2010). Changing behaviors by changing the classroom environment. *Teaching Exceptional Children, 42*(6), 8-13.

Herman, J. J. (1995). *Effective school facilities: A development guidebook.* Lancaster, PA: Technomic Publishing Company, Inc.

Lindberg, J. A., Walker-Wied, J., & Forjan Beckwith, K. M. (2006). *Common-sense classroom management: For special education teachers grades K-5*. Thousand Oaks, CA: Corwin Press.

McDonald, E. S., & Hershman, D. M. (2010). *Classrooms that spark: Recharge and revive your teaching*. San Francisco, CA: Jossey-Bass.

Merritt, E. T., Beaudin, J. A., Sells, J. A., & Oja, R. S. (2004). *The elementary school of the future: A focus on Community*. Lanham, MD: Scarecrow Education.

Starko, A. J. (2005). Creativity *in the classroom: Schools of curious delight*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Torrance, E. P. (1995). *Why fly: A philosophy of creativity*. Norwood, NJ: Ablex Publishing Corporation.

Appendices

Appendix A

**Questions to Ask Oneself when Designing the Classroom
Excerpt from McDonald & Hershman, 2010, p. 21**

Consider these questions to help you decide whether it is time to make a change:

- Is my current setup working? If not, should I change to rows or groups of desks?

- Should I use tables? Would they be more effective with my teaching style or

subject area?

- How easily am I able to move between students?

- Can we all get out of the classroom quickly in an emergency?

- Do I have/want a writing center?

- Do I have/want a reading corner?

- Do I have/want learning centers?

- Do I have/want an arts area?

- Do I have/want a time-out or conference area?

- Should I have a computer station? If I do, where will it go?

- How does my teacher area look?

o Are my desk, filing cabinet, and shelves in the way of the flow?

o Are my curriculum materials easily accessible?
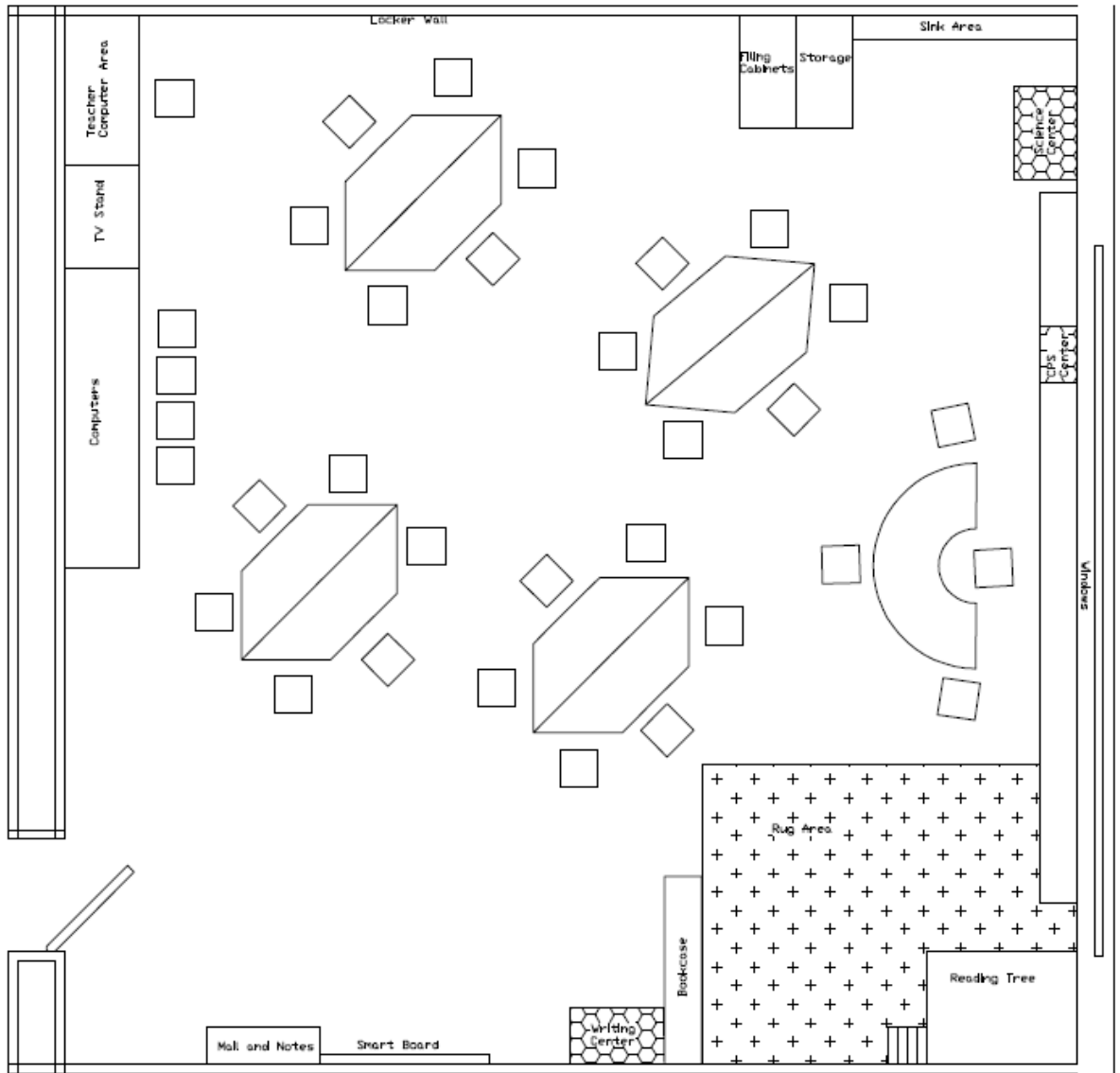
o Can I visually monitor students from my desk?

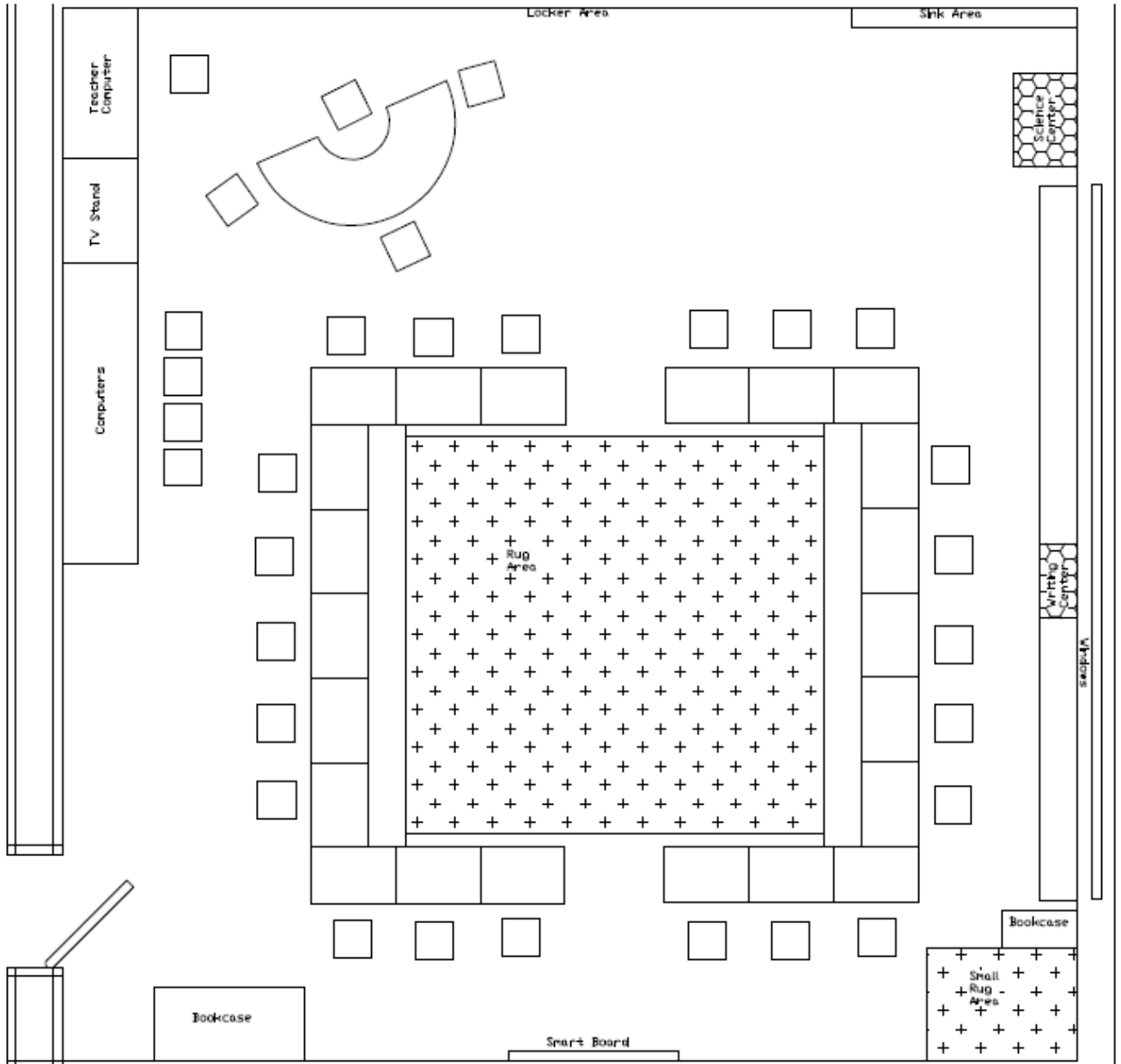**Appendix B**

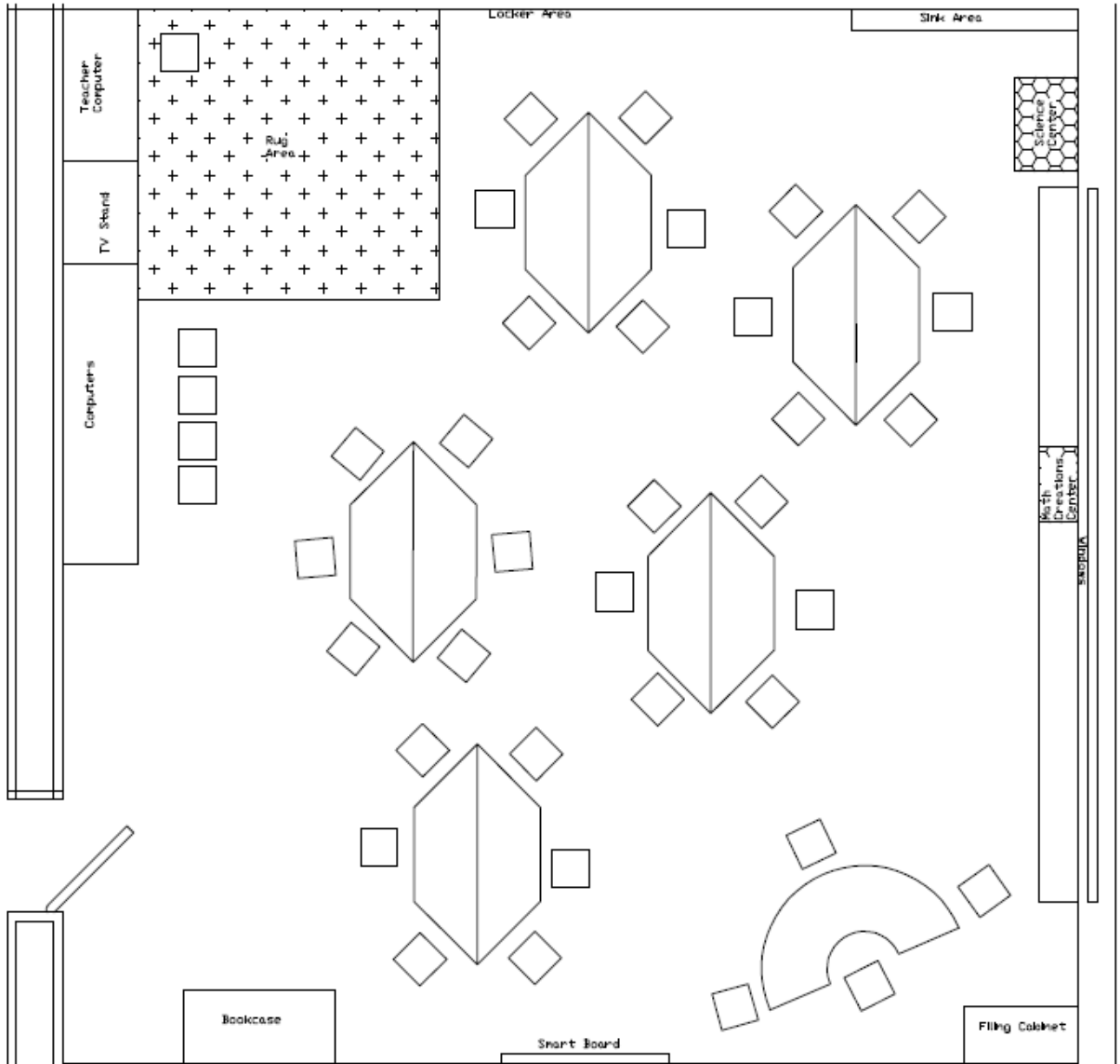**First Grade Classroom Layout**
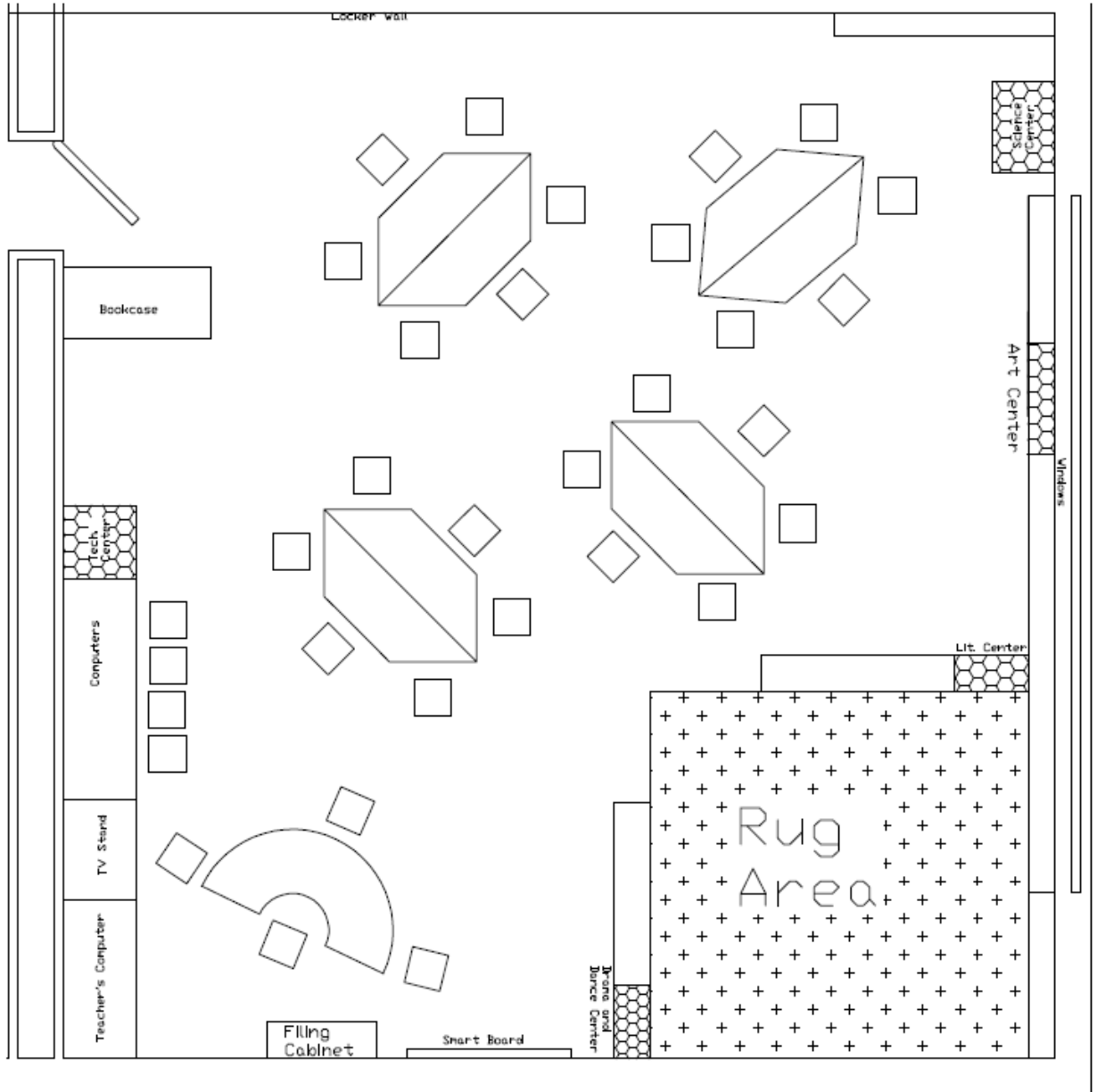
Appendix C

Second Grade Classroom Layout

Appendix D

Third Grade Classroom Layout

Appendix E

Fourth Grade Classroom Layout

Appendix F

Fifth Grade Classroom Layout
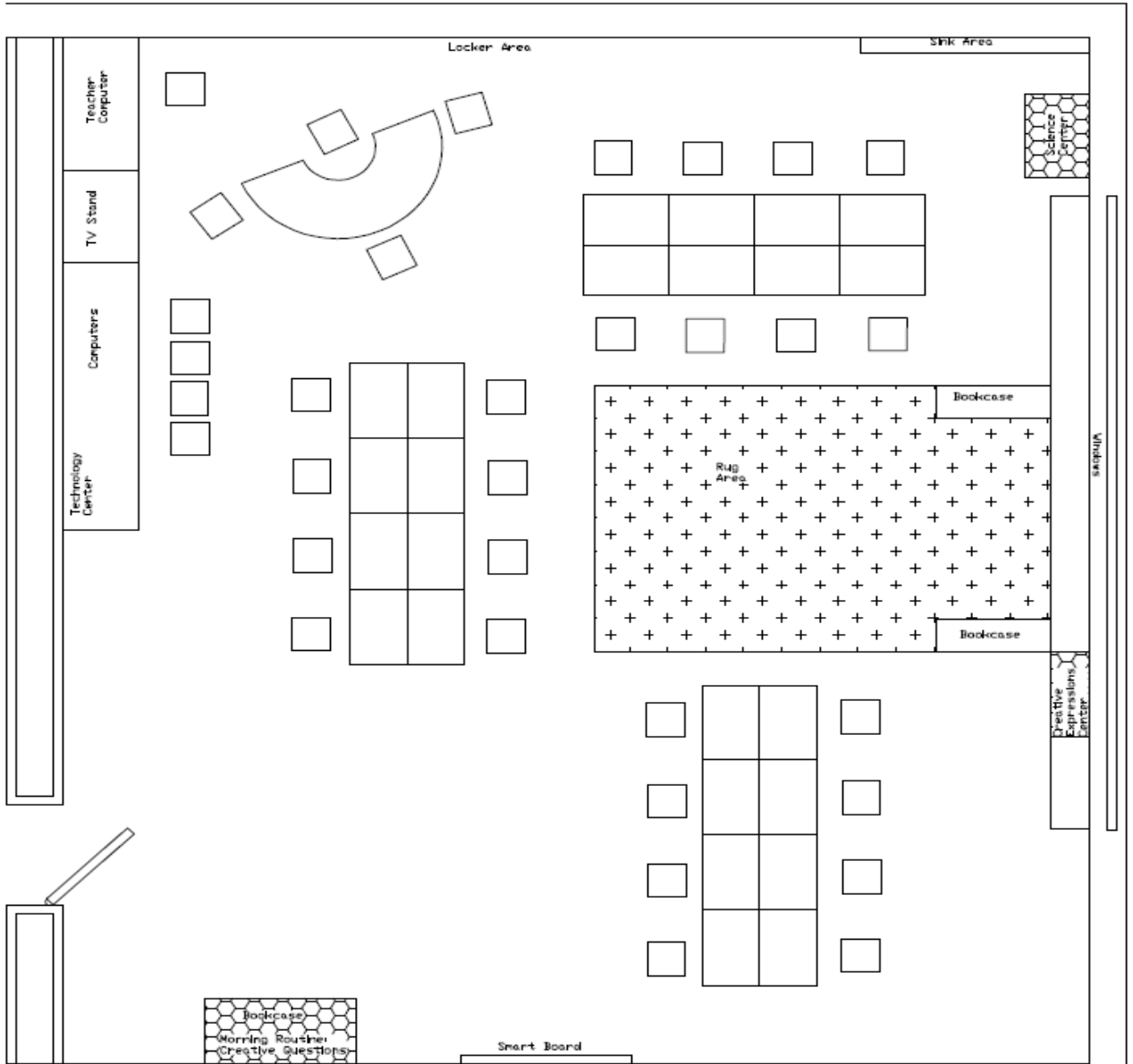
Appendix G

Sixth Grade Classroom Layout
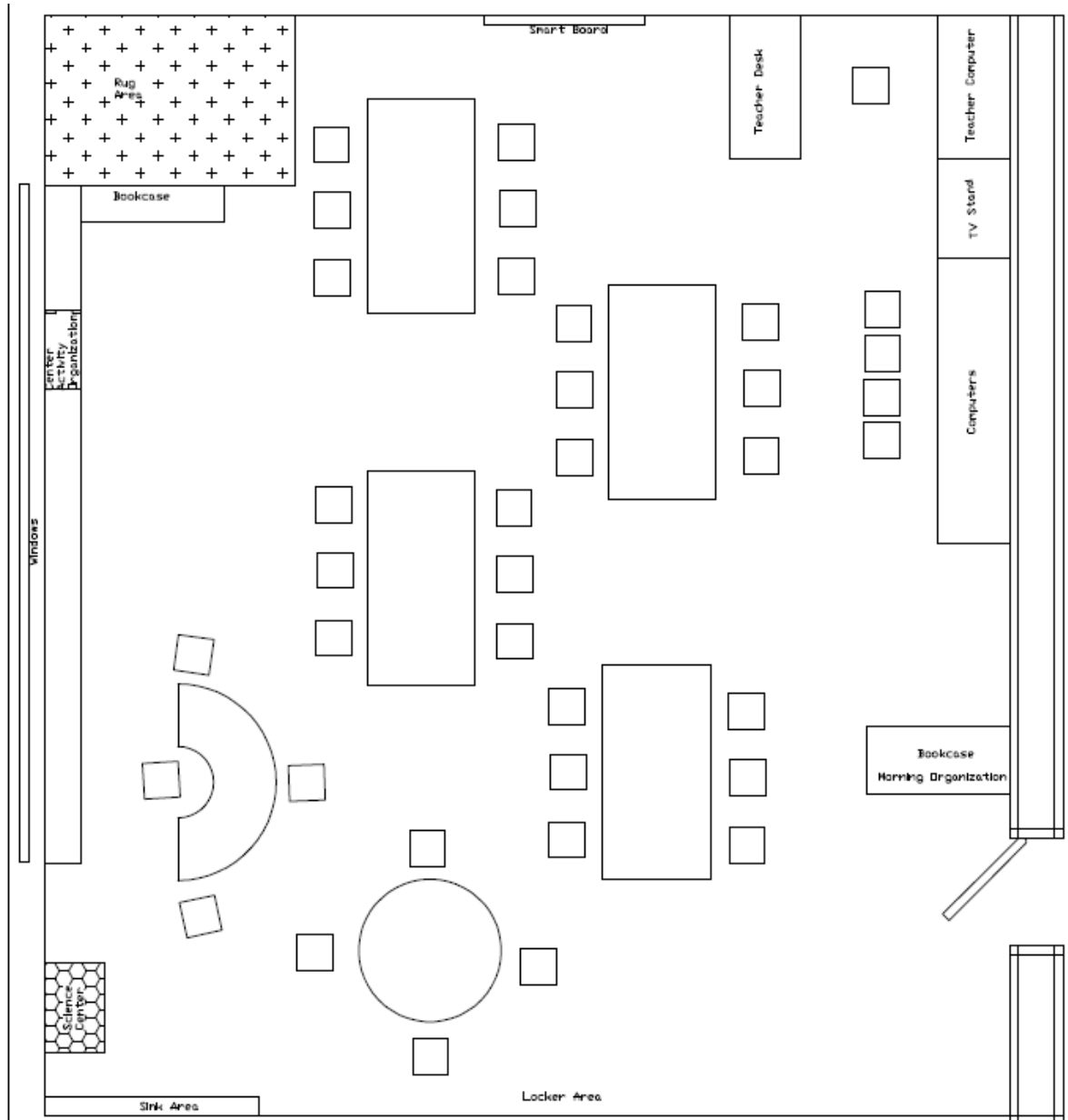
Appendix H

Central Avenue Hallway Layout

Sixth
Grade

Fifth
Grade

Fourth
Grade

Third
Grade

Second
Grade

First
Grade
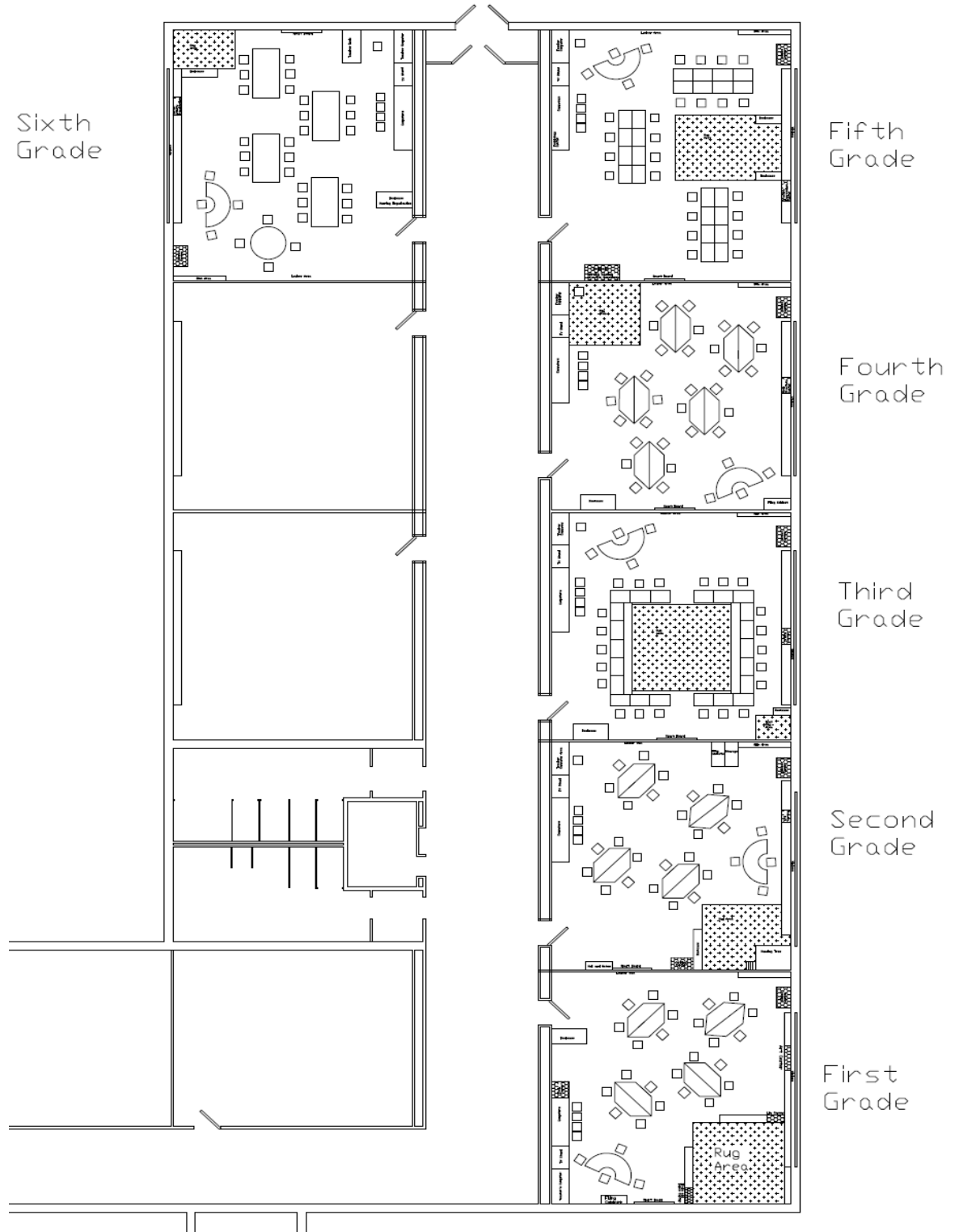
Appendix I

Central Avenue Building Layout