

## Architecture + Design as a Means for Constructing an Experiential & Democratic Learning Environment in the Social Studies Classroom

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### Abstract

The purpose of this conceptual work is to explore ways in which K-12 classrooms can be used as a physical and abstract model for society in which students can practice becoming effective, participatory citizens. The authors framed this manuscript around ways in which the K-12 learning environment can be transformed into “a miniature community - an embryonic society” as envisioned by John Dewey (1916). More specifically, the authors seek to use this scholarship to address a gap in the literature between the field of architecture + design and the broad aims of education that often connect to principles of democracy and citizenship. Following a discussion on the intersection of architecture + design and the social studies, the authors present a lesson for how to effectively teach preservice social studies teachers about ways to both think about and manipulate their classroom for the benefit of their students as well as recommendations for the field going forward in this area of scholarship.

**Keywords:** Social studies education, learning environments, democratic practices

### Introduction

The field of education is often tasked with the responsibility of developing reform-oriented citizens prepared to live and work within a democratic, pluralistic society (Barton, 2012; Gutmann & Ben-Porath, 2014; Hess, 2009; NCSS, 2010). Students in K-12 classrooms, to that end, are expected to learn how to become citizens who are both participatory in democratic practices and tolerant of the views and beliefs of those who come from differing perspectives than their own (Gutmann, 1999; NCSS; 2010; Parker, 2005).

Though there certainly does not exist one sole method for accomplishing such lofty goals, scholars and teachers often cite the work of John Dewey when describing both the purposes of

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the field of education and the means for obtaining such aims. And while Dewey (1916) wrote on a number of topics in the field of education, a consistent theme throughout his scholarship was the value in learning environments conducive to students being able to “practice” living in a democratic society where they could learn to participate in shared decision-making and collective growth as part of the process of becoming ideal citizens. To that end, Dewey (1900) famously noted that the classroom should serve as “miniature community - an embryonic society” (p. 15). With this, Dewey expressed the need for students to have a context to practice citizenship through collaboration with peers on real-world projects and discussions that explored a wide-range of perspectives and ideas.

A small number of pedagogical approaches in recent years have begun to consider the built environment as a tool to support higher academic aims. These approaches, including Montessori, Reggio Emilia, and Waldorf, highlight the need for physical environments that support the active, social nature of learning (Bjørnholt, 2014; Cadwell, 1997; Ceppi and Zini, 1998; Schieren, 2010). Within these pedagogical approaches, the built environment is designed to create opportunities for students to actively engage in learning, interact with their peers, and possess the autonomy to manipulate the physical environment as a means to accommodate their own particular learning needs (see Table 1). Spaces organizationally and materially provide visual and physical connection to peers and the surrounding community, allowing for active learning, creativity, and interaction among peers. Here, the built environment is conceptualized as a model of society, celebrating the identity of the collective school and the well-being of its individual students.

**Table 1.**

*How selected pedagogical approaches consider the built environment as contributor to the learning environment*

	Pedagogical Approach		
	Montessori	Reggio Emilia	Waldorf
Age of students (in years)	2-6+	0-5	0-18+
Role of student	Active learner	Developing citizens	Physical learner
Role of caregivers	Guide, cooperater	“The first teacher”	Participators
Role of instructor	Guide, helper	“The second teacher”, facilitator	Leader, curator of learning context
Impact of the built environment	Supports confidence, creativity, and collectivity	“The third teacher”, Supports collaboration and open to individual	Supports emotions through openness, warmness, and collectivity
Function of classroom setting	Flexible, including levels of engagement	Workshop	Home of class and teacher
Organization of school	Open to provide transparency of function	Establishes individual identity within community	Articulated to support individual and community identity

Sources: (Al, Sari, and Kahya, 2012; Bjørnholt, 2014; Ceppi and Zini, 1998; Edwards, Gandini, and Forman, 1998; Montessori and Holmes, 1912; Schieren, 2012; Steiner and Bamford, 1996)

Outside of these relatively new environments, the traditional K-12 classroom has rarely reflected larger society either in either a physical or an abstract sense and, in this way, has done somewhat of a disservice to students in regards to their understanding of how the “real world” operates. With both physical spaces and classroom activities often perpetuating independent work, classrooms often teach students that compliance and autonomy are valued over collaboration and collectivity (certainly counter to how a progressive democracy ideally works). Thus, even without factoring teachers or other students into the equation, the traditional learning

environment has come to reflect a seemingly obsolete context whereby students are taught that learning is passive-in-nature and an individualistic processes and that growth comes on an individual level (as opposed to in a collective sense) (Hope, 1996; Gross, 2006; Kolb, 2014).

The authors of this article seek to build upon the contributions from each of these approaches to explore the extent to which the physical design of the social studies classroom can be manipulated to provide students with learning opportunities that will help them become the citizens that scholars in the field consistently advocate for in their research. Because, for that matter, the social studies is uniquely poised to provide students with opportunities to explore topics connected to the world around them, the context it which such learning occurs could benefit greatly from a rethinking of how those in the field approach physical spaces.

### **Purpose and Guiding Questions**

This manuscript was written to be applicable to both social studies teachers as well as scholars and teacher educators in the field of social studies education. To best do this, the authors divided the paper into two broad sections: One meant to provide a wide conceptual framework for which the main arguments will be grounded and another to describe a practical activity used to make the broad arguments applicable to teachers and teacher educators. More specifically, the purpose of the conceptual portion of this work is to explore ways in which K-12 classrooms can be used as a model for society in which students can practice becoming effective, participatory citizens. Expanding upon these ideas in the second section of the manuscript, the authors seek to take this theoretical information and use it to offer those in the social studies with a practical lesson for engaging social studies teachers in a meaningful conversation about how to manipulate their classroom space for the benefit of their students.

The purpose of this manuscript, therefore, was to both explore and emphasize the mechanisms through which the K-12 learning environment can be transformed into “ a miniature community - an embryonic society” as envisioned by John Dewey (1916). More specifically, the authors sought to use this scholarship to address a gap in the literature between the fields of architecture + design and the broad aims of education that often connect to principles of democracy and citizenship (with a specific emphasis on the social studies).

In an attempt to explore the physical design of learning environments, the two authors – one a former K-12 teacher and current professor of education and the other a practicing architect specializing in the design of educational spaces – seek to describe the ways in which the fields of education and architecture + design intersect and serve as a means for creating a classroom space more likely to promote democratic ideals and practices. It is with these aims in mind that the authors constructed the following questions as a guide for this conceptual scholarship:

- 1) To what extent do the fields of education and architecture + design intersect to create a “miniature community” in the K-12 classroom?
- 2) In what ways can the reconfiguration of the physical classroom space impact students’ learning and experience within a democratic, community-based space?
  - A. In what ways can the intentional design of a physical classroom space strategically assist students in modeling how to be a “good” citizen capable of participating in a democratic environment?
  - B. To what extent can those in the field of education prepare novice educators to understand the impact of design on students’ learning and the goal of achieving a democratic, constructivist space?

These questions served as the foundation of the current conceptual work and the authors’ aims of shedding light on how to best prepare educators to see value in design in the K-12 classroom as a means for building an environment reflective of the “miniature community” described by Dewey.

### **Literature Review**

In recent decades there has been a steady growth of scholarship in the field of architecture + design detailing the impact of the physical space and design of both schools and classrooms in terms of students’ health and well-being (e.g., Boese & Shaw, 2005), the integration of new and progressive technology (e.g., Brown & Long, 2006; Dede, 1995), and environmentally-friendly and sustainable design (e.g., Taylor, 2009). Textbooks, for that matter, have been written specifically about how to design an effective, practical school (Taylor, 2009) and countless articles have been published providing nuanced arguments about how to best create school and classroom spaces that will be beneficial to students (e.g., Bingler, Quinn, & Sullivan, 2003; Christopher, 1991; Dudek, 2012; Long, & Ehrmann 2005).

Despite this new and progressive body of literature exploring the design of school spaces and the increased consideration of the built environment in the pedagogical realm, there exists limited scholarship in recent years exploring the design of a classroom space and its effects on student learning alongside a democratic education (with specific references to the aims of education as widely-noted by scholars within the field). Moreover, the fields of architecture + design and educational foundations have largely remained mutually exclusive and little has been written about how the strategic design of the physical classroom environment can be used to improve classroom spaces to align with the primary aims and mission of the field of education. The conceptual paper seeks to bridge this gap by connecting classroom design with democratic principles of education as discussed by leading scholars in each field.

### **Conceptual Framework**

Since Dewey wrote about the importance of students “practicing” being citizens within an “embryonic society”, many scholars have echoed his calls by trying to reimagine learning environments and make recommendations for how to best achieve this critical pedagogical practice. However - over a century after Dewey’s writings - countless K-12 classrooms still rarely reflect the type of collaborative space Dewey wrote about in his scholarship. This is despite the fact that the environments in which students and citizens exist today is markedly different from that of a century ago and despite a wide-range of research supporting the notion that classroom spaces have a large impact on the experience of K-12 students (Burke, 2005; Lyons, 2001; Taylor, 2009). The way in which society operates in the twenty-first century is not the same as it was in the early-twentieth century. To that end, the old “industrial model” of physical spaces in schools is no longer viable given the changing environment that awaits students upon leaving school (Taylor, 2009). Therefore, the spaces in which students [ideally] practice citizenship should reflect modern spaces of a communal democracy and those both in the fields of education and architecture + design must work together to construct spaces that properly reflect Dewey’s vision of an effective learning environment.

The failure of physical learning environment configurations to evolve into the types of spaces that could truly lead to experiential learning, shared decision-making, and communal growth

could be attributed to a wide-variety of reasons including - though certainly not limited to - teachers having: (a) a lack of knowledge about classroom design and its connection to student growth, (b) the belief that rows help prevent classroom management issues, (c) little to no exposure to creative ways for how a classroom can be designed, or simply (d) the inability to rearrange a classroom space due to permanent fixtures.

Regardless of the reasons, however, scholarship in both the fields of education and architecture + design have demonstrated a strong connection between the physical design of a learning space and the experience of the students in the classroom (e.g., Lyons, 2001; Secretary General Organization, 2011). Such links have consistently proven how students learn and the impact that a teacher can have on their education (Darling-Hammond, 1997; Moore & Lackney, 1993). Because of the connection between classroom design and a students' opportunity for experiential learning, it is essential that classroom teachers are familiar with broad concepts and ideas underlying both fields.

### **Exploring Components of an “Effective Classroom Space”**

If one consensus exists in the field of education, it is that a one-size-fits-all approach to teaching and learning rarely works for students or teachers (Pratt, 2002). The same idea is true for the design of an effective classroom that has the potential to support students emotionally, socially, and academically. There is no one right answer about how to best design a classroom that is both welcoming to students and conducive to their growth as students and citizens (Taylor, 2009). However, certain elements to a learning environment can largely be viewed as necessary to create a space in which students have the best chance of succeeding. This manuscript does not claim to have all the answers, but it seeks to provide a broad overview of certain critical elements identified in the literature in order to justify the use of the provided lesson. To that end, the authors deduced that a ‘conducive learning environment’ contains the following properties:

1. *Conducive to collaboration and collectivity*: Upon completing their formal schooling – be it after high school or obtaining a formal degree - the vast majority of citizens will be expected to collaborate with colleagues on a daily basis to solve problems and increase efficiency. The ideal modern classroom offers students opportunities to practice collaborating with peers in a manner reflective of a miniature society (Dewey; 1916; Hess,

2009). This could effectively occur through collegial discussions on complex topics, collaborative efforts within a group project, or by having students campaign on a topic and reach out to local representatives with their aims. Regardless of the means, the impact of creating an environment that values opinions and collaboration is critical to the development of a classroom that is conducive to meaningful learning.

2. *Open to varying opinions and belief systems:* The phrase “safe space” is often used in the field of education to describe a classroom in which students feel comfortable sharing their own belief systems without concern of being ostracized or criticized (Dalton & Fairchild, 2004; Holley & Steiner, 2005). This idea is one that aligns with the aim of creating an environment in which students feel comfortable to a point in which they feel free to express their opinions without fear of consequence. Teachers can create this type of environment both in the abstract (by placing value on every opinion and showing students respect) and through the physical design of the classroom (by encouraging discussion and group-talk in which every individual can participate). Such an environment increases the chances for students to feel supported in a social sense, where they can feel confident in their own belief system and free to seek assistance from those around them when there exists disequilibrium (Ghaith, 2002).
3. *Emotionally Supportive:* A classroom conducive to learning, ideally, creates a space in which students feel safe and comfortable on an emotional level. Broadly speaking, an emotionally supportive classroom provides context “for the development of positive perceptions of student-teacher relationships” (Gasser, Grutter, Buholzer, Wettsetin, 2018, p. 82) The teacher has designed a space – both in an abstract and tangible manner – that is welcoming. This includes encouraging respect and open-mindedness, valuing everyone’s opinion, hanging up artwork from students, and providing a bright, colorful space (Fedorenko, 2014; Milkie & Warner, 2011).

These three elements are certainly not the sole answer to what creates an environment conducive to learning, but they reflect a broad attempt at defining physical and abstract characteristics to an effectively designed and constructed classroom space. If even one of these pieces is not up to a certain standard, a students’ ability to succeed within the classroom becomes largely hindered – thus making it essential that teachers are aware of the ways in which a classroom space can impact a student’s ability to learn.

### **Preparing Social Studies Teachers to Manipulate Classroom Spaces**

The fields of architecture + design and social studies education are both extremely complex and gaining a mastery of either takes years of both exploration and practice. However, preservice teachers (and those who are in-service) can easily be exposed to the basic premises that link the two fields together in a manner that will help them to manipulate their classroom spaces to best achieve the aims of the field of education. It was with this belief in mind that the two authors designed the following lesson. The intent was to combine both theoretical underpinnings of the power of classroom design with a practical approach to have educators ‘practice’ how to construct an environment conducive to meaningful learning.

The lesson described here has been used in multiple teacher preparation classrooms in the United States as a way to expose future teachers to these ideas in an engaging and meaningful way. Though the design of schools within the United States can certainly differ based on the region of the country, the lesson itself presents ideas that are transferable to educators regardless of where they are teaching.

Initially, students are asked to broadly consider their aims as an instructor and to write 1-3 sentences describing their particular pedagogical approach. Students of this lesson are then briefly exposed to how classrooms tend to be designed in the twenty-first century (reflecting much of the first half of this manuscript). Questions are posed to students about how they remember their traditional K-12 classrooms being set up as they were going through their formal schooling and whether they had frequent opportunities for collaboration within these spaces. This process is briefly paired with the broadest aims within the field of social studies education (e.g., citizenship skills, reform-oriented ways of thinking, collective action). Ideally, these beginning pieces of the presentation take only a few moments and serve solely as a foundation to the full experience.

Once this content has been covered, students are broken into groups of three or four and asked to create a hypothetical “program sheet” of what their ideal classroom would contain (e.g., 20-desks, 24 chairs, 1 teacher desk, cabinets). Such documents are standard in the process of

designing and constructing schools and provide architects and designers with both guidelines and specific requirements as they design and construct academic buildings. Figure 1 demonstrates what one of these could look like.

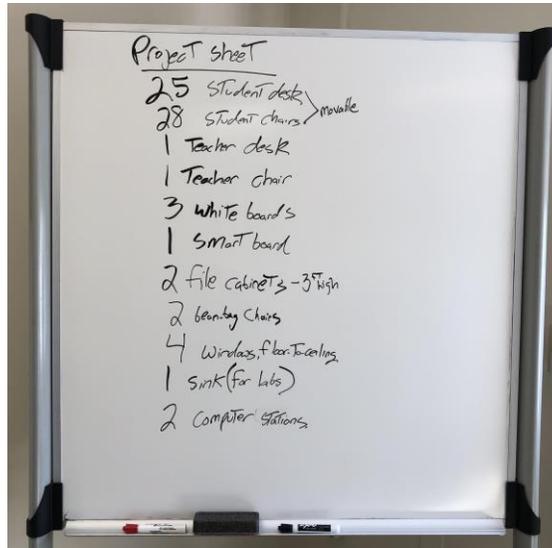


Figure 1: *Example of a Project Sheet*

Once each group has created a project sheet, groups are asked to ‘trade’ their project sheets with another group. The purpose of this is to simulate the fact that, more often than not, teachers are given a classroom with a set of objects and restrictions and asked to create a space conducive to learning with what they have been given. In other words, students are asked to work within unanticipated parameters that they will likely experience when they begin teaching.

The next step in this activity involves students using the parameters they have been given to physically design a classroom space that could lead to experiential and democratic learning. To do this, students should be provided materials to both construct their classroom to meet the requirements of the project sheet they are working with while, simultaneously, serving as a classroom capable of providing a democratic space capable of fostering experiential learning. Though the types of materials used can certainly vary based on the facilitators means and interests, students are typically given markers, construction paper, glue-sticks and scissors. Once provided with these supplies, students are asked to create a birds-eye view of their classroom (for examples, see Figures 2 and 3). Typically, students are not shown examples in advance, as doing so much influence the way in which they think about the project.

Figure 2: *Example of “ideal” classroom.*Figure 3: *Example of “ideal” classroom.*

Once groups have had ample time to both design and construct their ideal classrooms, they are asked to present their “new” classroom models and describe how their newly-designed space can better lend itself to the types of learning written about by scholars in the field of education. The groups, therefore, must do more than simply stand up and describe their classroom. Rather, they are expected to justify their decision-making and directly connect those choices their initial pedagogical statement. If, for instance, the facilitator of the classroom has repeatedly described the academic benefits to having students discuss content, students will be expected to detail how their model classroom could lead to more opportunities for discussion than a traditional classroom environment where students are, in many cases, facing forward in rows. Ideally, this will allow students the opportunity to reconsider how their classroom is set-up, connect the lesson to broad themes in the social studies, and get feedback from peers who may have creative ideas of their own.

### **Further Recommendations**

Suggesting that novice educators or seasoned professors of education become experts in architecture + design is an impractical solution for upending the traditional ways in which classrooms are physically manipulated. However, it is reasonable to imagine an environment in which new teachers are at least exposed to the various ways in which a classroom’s design is inextricably linked to previously-noted aims of creating citizens capable of entering into society as participatory and tolerant individuals. Brief activities resembling the one described in this article are a good way to get preservice social studies teachers to contemplate how they can and should manipulate their classroom to benefit their students. However, more work needs to be

done to help teacher education and architecture + design find a clearer and more accessible intersection. As such, the authors of this work have several recommendations:

1. *Preservice teachers' education:* A more concerted effort needs to be made by those in higher education to model how physical design can impact a students' learning experience. In other words, instructors need to use the spaces they are provided to demonstrate to novice educators about how a classroom can be used as a way to positively impact students' classroom experiences. If teachers teach how they were taught (Reflecting Lortie and Clement's 1975 'Apprenticeship of Observation' theory), it is also fair to assume that teachers will design their classroom in the ways in which they experienced learning environments throughout K-12 and higher education. Thus, those in teacher education need to model how a classroom space can be used to stimulate discussion, encourage collaboration, and promote a more fluid and progressive environment for academic and social growth.
2. *In-service teachers' professional development:* Professional developments should be offered to in-service teachers as a way to introduce them to strategies and designs for making the most out of their classroom space. Such sessions could be done by pairing architectural firms and local design-based academic programs with teachers and districts or by simply having professional developments that offer educators with opportunities to learn how to manipulate their classroom spaces. As has been noted throughout this manuscript, it is impossible to imagine that a single session or course can teach educators how a classroom space can improve the experience of K-12 students. However, exposing educators to the fundamental ideas that can shape a students' experience in a physical space in a way that improves both their ability to practice being an effective citizen and their social and emotional well-being is reasonable.
3. *Academic research:* More scholarship - either empirical or conceptual - needs to focus on the links between Dewey's vision of a classroom serving as a "miniature community" and the physical design of a classroom space. While there has certainly been good work completed in the field of education regarding the value of schools in creating good citizens, there has been limited empirical research that has sought to connect classroom spaces with such goals. Future research by researchers in both fields needs to explore the

extent to which the physical classroom design can help achieve the primary goals of education.

Preservice teachers need to be introduced to the idea that the physical space – albeit a critical component to a successful and effective classroom – is not the only piece to the proverbial puzzle that is an effective classroom. As with many components of effective teaching, classroom space extends beyond simply the organization of desks and whiteboards. Rather, the abstract nature of the space needs to be constructed in a manner that lends itself to the social and emotional well-being of the students in the class (Boese & Shaw, 2005; Fedorenko, 2014; Milkie & Warner, 2011). Such an idea is reflected in many of the aims of the social studies which, at their foundation, promote inclusivity, reform-oriented action, and openness to new perspectives and belief systems (NCSS, 2010; NCSS, 2013). To that end, a classroom that is set up in a progressive and modern way can only reach its full potential if the students in the classroom feel comfortable in the classroom and free to participate amongst their peers.

Again, it would be impractical to assume that the three recommendations listed above could fully assist K-12 educators to understand why and how to design their classroom in the vision of Dewey. However, exposing educators at all levels in their career to the importance of using classroom space in a way that reflects modern society has the potential to make a significant difference in the way K-12 students experience their education. Students who may have only experienced a classroom in which they passively listen to a teacher’s perspective can have a better chance of participating in an environment that reflects that types of spaces they will frequent after having graduated from their formal schooling. If educators, for that matter, can better understand the parallels between modern and progressive classrooms and the way in which society operates within the contexts of diversity and collaboration, then they can be better prepared to use the classroom space as a way to prepare students to be “good” citizens. Further, educators who have gone through this type of training can help students practice collaborating with peers and participating with individuals holding different values and beliefs – both inevitabilities the further one goes in their personal and professional lives. This understanding allows teachers another powerful tool to help them create truly effective learning environments.

## **Conclusion**

As Duke (1998) eloquently notes, “even if no links between learning and facilities could be demonstrated scientifically, our society still would have a moral obligation to assign young people to safe and well-designed schools” (p. 4). Albeit referring to the physical design of school facilities in the broadest sense, Duke’s works can and should be related to the design of the classrooms in which students spend up to eight hours in each day. Because of this, both preservice and in-service teachers are often well-intentioned in their aims and ambitions as classroom teachers. However, without the proper exposure to the possibilities for the K-12 classroom, it is unlikely that they can reach their full potential as educators. Because of this, it is critical that novice educators are introduced to a wide-variety of theories and strategies prior to entering into the classroom as an in-service teacher. And while teacher preparation programs are notoriously robust programs, it is essential that the physical space and design of the classroom is explored in the curriculum as a means for exposing new teachers about the power of space and design in the largely context of constructing a democratic and experiential learning environment for K-12 students.

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