

## 2.1 History of the Schoolhouse in the USA

*Jeffery A. Lackney*

### 2.1.1 Introduction

The history of the American schoolhouse reflects the history of education that in turn mirrors a plethora of contextual societal forces including social, economic, and political ones. The architectural form and layout of the school building has historically been influenced by the evolution of educational philosophy and goals, curricular objectives, instructional methods, and cultural values of schools. For example, the architecture of the small one-room country school building was an appropriate design response that served the basic educational and social needs of small rural communities for well over 200 years in the United States. As the social problems associated with the rise of the Industrial Revolution increased in the mid and late 19th century, the need for educating larger groups of immigrants in urban centers became central. Large multistoried classroom buildings provided the necessary educational and architectural response at that time to the common school movement. After World War II, societal changes created by the baby boom created an enormous demand for school construction. New methods of school building construction allowed for further experimentation in flexible and adaptable space for education. Innovations in educational delivery such as the Progressive Movement, lead principally by John Dewey (1859–1952), required school architecture to respond yet again with more child-scaled, flexible, and open environmental settings.

The general acceptance of various innovations and paradigms in educational design usually occurred several years following a specific innovation, and not without some social and political resistance. Many Colonialists did not see the need for a separate schoolhouse when they could teach their own children at home, since the objective was to learn how to read the Bible or be apprenticed in the family trade. The Progressive Movement in education beginning in the late 19th century did not significantly influence education or school architecture until the middle of the 20th century, and school design today still responds to outdated modes of instruction.

This chapter presents a history of educational architecture that follows three general periods of American social, economic, and political history: the agrarian Colonial period (1650–1849), the Industrial Revolution (1850–1949), and the so-called Information Age (1950–present). The focus is on general trends in education as they relate to educational architecture. Looking at the architectural design of schools provides us with an opportunity to infer what may actually have happened in the classroom and reveal the essence of the pedagogy that has influenced educational practice (McClintock & McClintock, 1970).

### **2.1.2 Educational Architecture in the Colonial Period**

Early American society consisted of village settlements where land was cultivated for agricultural purposes. The economy was decentralized and locally based. Politically, the village was typically under the control of a single authoritarian or a small group of social elite. Community life was organized around the social support of the village settlement pattern of semi-isolated communities. Houses were grouped around a central public meeting space containing public structures such as the church, a meeting hall, and a school.

Agricultural life required the family structure to be multigenerational and extended. Work life and home life were intermingled. The imperative of group survival required an individual's personal needs to come second to those of the group. People rarely left the confines of their own village. When they did, they were limited to walking or traveling on horse and wagon, or sometimes by boat.

Education during this period was informed by and focused on survival needs. The most informal process occurred in the farm families where children needed to contribute labor in order for the family to survive. The necessary skills and knowledge were learned from parents and older siblings as the child participated in the work of the family. Through apprenticeships, craftsmen and tradesmen would pass on their skills and knowledge to the next generation.

When English settlers arrived in New England, they quickly established Latin grammar schools and colleges (Herbst, 1996). The most formal structure involved the academy and university. Harvard College was established in 1636, while William and Mary followed in 1688. These opportunities were reserved for the elite and to some degree perpetuated the survival of the elite in the classicist society. State-mandated public education did not exist prior to the 19th century, but rather was run by parents and trustees (DeYoung, 1989).

The need for literacy in the village focused almost entirely on exposure of Christian morality and the teaching of the Bible. The Old Deluder Satan Act of

1635, a Massachusetts law, was the first educational legislation in the United States, requiring parents to teach their children how to read the Bible. The Sunday school movement in the early 19th century was one of several precursors to the common school (DeYoung, 1989). In the New England colonies, the first schools were set up in either private homes or churches (Graves, 1993). One form of informal school was the originally English institution known as the “dame school” (Johnson, 1963). Unmarried or widowed older women often held classes in their own homes, while wealthy parents hired tutors to come into the home to instruct their sons in the classics, i.e., texts written in the ancient Mediterranean world. In 1647, the government of Massachusetts Bay enacted the first statute in America providing for the establishment of a school system requiring for the provision for building school buildings (Gulliford, 1984).



**Figure 1.** Bear Creek School (c. 1870), Iowa. (Iowa State Historical Society; Courtesy and permission of author Andrew Guildford (1984). *America's Country Schools*. National Trust for Historic Preservation.)

### *The One-Room Country Schoolhouse*

The typical educational facility of the Colonial period was the so-called one-room schoolhouse (see Figure 1). This school was multi-aged by necessity, due to the size of the village community, with the teacher presiding over instruction, emphasizing recitation and direct supervision. One-room schools often had very simple furnishings, poor ventilation, and relied on oil lamps for light and wood burning stoves for heat. Schoolhouses in urban areas were variations on the theme of the country schoolhouse often containing two, four, or six self-contained rooms,

often with their own entrances. Many of these larger structures housed a short-lived educational movement called the Lancasterian schools (Graves, 1993).

The school was a main social center of community where town meetings, voting, fund raisers and celebrations took place. The school integrated people into their community and provided an identity that continues to influence school design (Gulliford, 1984).

At the beginning of the 20th century, in response to urbanization, the process of school consolidation created much resistance in rural communities where the symbol of the one-room schoolhouse was the focus of rural life. According to Andrew Gulliford, by 1913, half of the schoolchildren in the United States were enrolled in the country's 212,000 one-room schools (Gulliford, 1984). By the end of the 20th century, less than 0.5% of all public school buildings in operation were one-room schools (Gulliford, 1996).

### **2.1.3 Educational Architecture of the Industrial Revolution**

The Industrial Revolution was fueled not only by the integration of the market economy, but also by the advancement in the technology of mechanization as well as the rise of the corporation. As production shifted and accelerated from the farm to the factory, higher levels of interdependency required collective efforts, highly specialized division of labor, coordination and integration of many different skills; from unskilled workers to an industrial caste system of technicians, secretaries, and clerks. Likewise, in the public sector, an abrupt shift was seen from autocracies and monarchies to highly centralized, hierarchical bureaucracies based outwardly on representative democracy but influenced by powerfully organized special interest groups.

As populations shifted from rural to urban, from village to city, urban life provided a forum for balancing private interests against public good. Urbanity also created a powerful school of social learning, and created a common ground for meeting strangers while at the same time creating alienation and casting doubt on values long experienced in the village. Due to economic and social pressures, smaller family structures began to replace the extended family. As health standards increased and the need for extra farm hands decreased, procreation needs decreased. Work was now taking place in other settings creating a work/home split. The rise of social institutions to standardize and centralize the care of the population segregated the entire society: the young in schools, the elderly in nursing homes, the sick in hospitals, the social deviants in prisons, and the workers in offices and factories.

### *The Common School Movement*

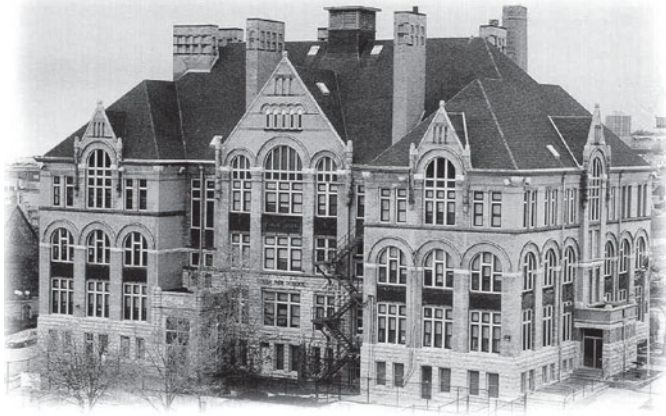
The common school movement took hold in America's cities starting in the 1840s. Educational reformers argued that rural community education was insufficient in America's industrial and urban areas where poor rural and immigrant children were grouped together. Horace Mann (1796–1859), Henry Barnard (1811–1900) and other educational reformers argued that public schooling was essential for the economic possibilities of both the individual and the nation (DeYoung, 1989).

The common school movement, supported by local property tax, gave rise to the public education system as a result of popularizing the principle of free schooling (Herbst, 1996). Schools became highly formalized and hierarchically designed to sort students who were eligible for promotion to a higher level in the system from those who were not. At this time, agrarian immigration from Ireland and Southern Europe created a new demand for Catholic schools and the formation of a private Catholic school system as an alternative to the Protestant public school system that continues to this day.

It is customary to class Henry Barnard (the first United States Commissioner of Education), along with Horace Mann, as one of the great reformers of antebellum public schooling. With the publication of his book entitled *School architecture, or contributions to the improvement of schoolhouses in the United States* in 1838, Barnard is credited with raising the standards of school buildings serving the common school movement (Barnard, 1838, cited in McClintock & McClintock, 1970). Barnard is credited with defining the character of school architecture in the United States by integrating the concerns of architecture with pedagogy. He emphasized school “architecture” over school “building” by suggesting that the architect is ultimately concerned with the cultural, spiritual, and humane value of his work, while the builder is primarily concerned with its physical structure, reasonable cost, and the service of function (McClintock & McClintock, 1970).

Starting in the mid 19th century, urban schools could be found on tight sites of less than a quarter acre with no landscaping. Students were segregated by age into a graded organization. One hundred students might be housed in a single classroom. The classroom, other than corridor spaces, was often the only type of space in the school. The average class size may have been 50 or more students, with desks often bolted to floors in row and column arrangements.

Toward the end of the 19th century, school buildings began to be designed and constructed with other functional considerations. Golda Meir School in Milwaukee, designed in the Romanesque Revival style by architect H.C. Koch & Company, provides a classic example of these school designs (see Figure 2). Wide hallways were created to accommodate increased traffic flows, auditoriums



**Figure 2.** Golda Meir School (c. 1889). (Courtesy of Milwaukee Public Schools.)

were added to support large assemblies, and administrative offices appeared for the first time. Expanded offerings in art and science began the development of specialty classrooms. These are characteristics of the schoolhouse that have remained and expanded well into the 20th century.

Boston's Quincy Grammar School is an oft-cited example of early factory model design principles and a design replicated across the country throughout the 20th century. Built in 1848, Quincy Grammar School, the first graded public school in the United States (Graves, 1993) stood four stories high and housed 660 students with classrooms opening onto a common corridor. Each classroom housed 55 students in rooms measuring 9.4 m × 7.9 m (31 × 26 feet), a standard for self-contained classrooms many school districts still adhere to in their "modern" educational specifications. Each classroom had an attached closet. Individual desks, at the time an innovation in school design, were bolted to the floor, seven rows of them eight to a row. The top floor was a large assembly hall with benches to seat the entire student body, with the administrative office located on the first floor (Graves, 1993).

During the first quarter of the 20th century, as school populations grew due to urbanization, buildings designed to specialize in the housing of junior high school and high school educational programs were constructed, and many more types of auxiliary spaces were added. Auditoriums, laboratories, art studios, gymnasiums for physical education, and home arts spaces were routinely added to the educational building program.

In the 1890s, the National Council of Education of the National Education Association commissioned the Committee of Ten to define the nature and purpose of American secondary education (Herbst, 1996). Their report did not address the growing demand for nonacademic, manual or vocational education, believing that secondary institutions were feeders to college admission.

Advocates of vocational education quickly challenged the Committee of Ten recommendations and introduced public technical and industrial high schools, establishing new forms of schoolwork relationships through cooperation with industry (Herbst, 1996). By the turn of the 20th century, secondary education had become part of common schooling, giving rise to the development of the modern comprehensive high school (Herbst, 1996).

Another school organization invented in the early part of the 20th century, the junior high school, was created with the purpose of easing the transition from elementary school settings to the departmentalized high school settings, and solve the problem of general overcrowding in both elementary and high schools (Rieselbach, 1992).

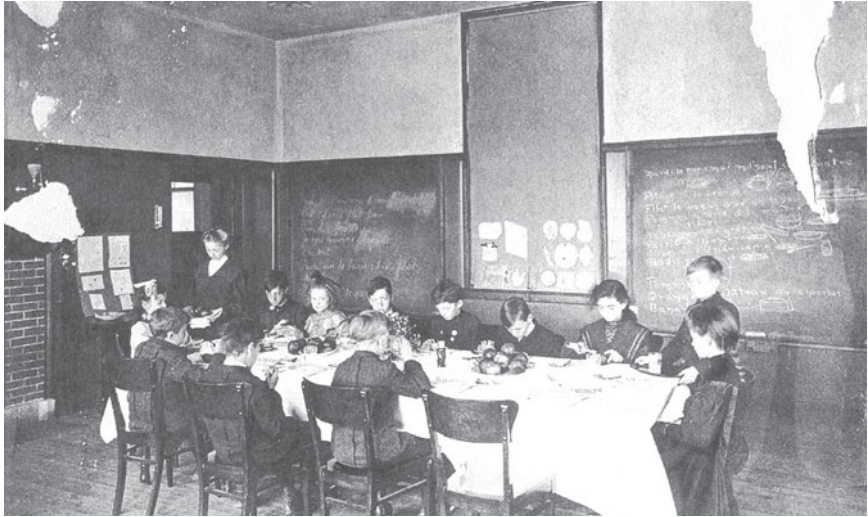
### *The Progressive Movement*

During the late 19th century, a progressive movement emerged in Europe as well as the United States as a general critique of the public educational system. A central principle of the progressive movement was the concept of child-centered education and the argument that the needs of the state, the church, or the economy should not take precedence in shaping child development (Saint, 1987). The Progressive movement is traced primarily to educators such as Friedrich Froebel (1782–1852) in Germany, Maria Montessori (1870–1952) in Italy, and John Dewey in the United States.

The objective of John Dewey's experimental school, called the Laboratory School, at the University of Chicago was to create a new curriculum in which developmental, intellectual, and social goals were integrated. Dewey developed the idea of the schoolhouse as a true home in which the activities of social and community life were expressed in the curriculum (see Figure 3).

## **2.1.4 Educational Architecture in the Information Age**

The current Information Age is a period of American history representing a time of great cultural transformation from the industrial factory model to a new paradigm that is rapidly unfolding.



**Figure 3.** Students eat a gourmet lunch they planned and prepared in their French class.  
(Reprinted by permission of the publisher. From Laurel Tanner, *Dewey's Laboratory School: Lessons for Today*, New York: Teachers College Press, © 1997 by Teachers College, Columbia University. All rights reserved.)

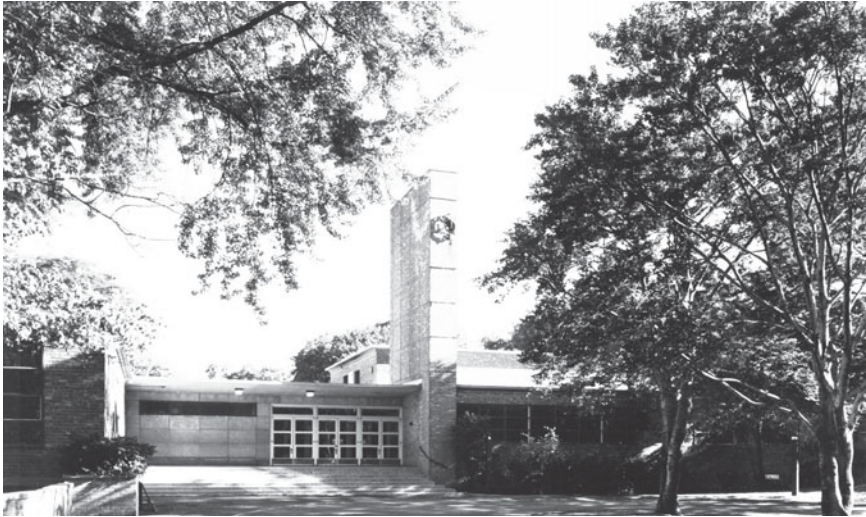
Educational approaches to accommodate the Information Age have created much experimentation and controversy. The 1960s witnessed the most dramatic educational reform in America's history in both educational research and practice of curriculum and instruction. Open education, community education, and the community school concept, the middle school concept, and alternative and magnet schools have been explored and re-explored.

### *The Modern School Building*

The Information Age has seen new innovations in educational architecture, although many school boards continue to miss opportunities to create better school facilities as they struggle to cope with ever increasing enrollments. Many schools were built too inexpensively, creating poorly insulated roofs and walls and poor-quality building systems (Brubaker, 1998). Like the building boom earlier in the century, the 1950s saw a proliferation of standardized plans that has characterized educational architecture of that period.

The school building that more than any other defines modern educational architecture in the United States is Crow Island School in Winnetka, IL, which





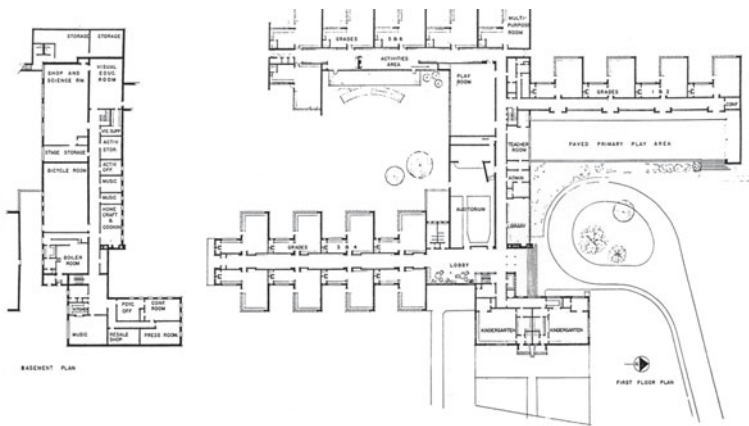
**Figure 4.** Crow Island School building entrance emphasized by a large vertical clock tower.  
(By Steven R. Turckes, AIA, LEED AP, REFP - Principal, Perkins + Will.)

opened in 1940 (see Figures 4, 5, and 6). It demonstrated a new kind of architecture for education. It is in stark contrast to the traditional multistory masonry buildings at the turn of the 20th century. The most significant contribution of the Crow Island School is the progressive and innovative educational program that it contains and supports to this day (Brubaker, 1998).

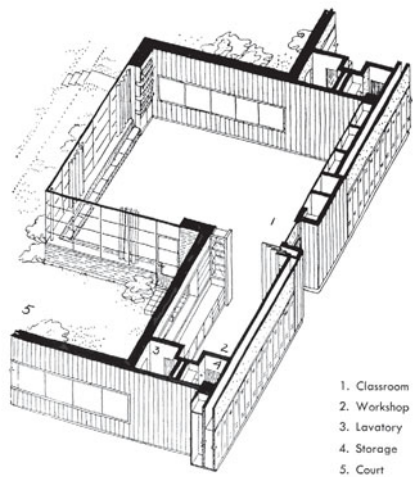
The school emphasizes child-scaled environments throughout the building, with classrooms designed to support a variety of learning activities and provide a sense of belonging. The classroom is designed in an “L»-shape that provides for an entrance foyer with storage and an adjacent bathroom, a separate kitchen project area and a main classroom space with exterior glass wall on two sides of the classroom and a door to a semi-enclosed outdoor classroom. Crow Island served as a model for many schools after World War II when the baby boom began and thousands of new schools were needed.

### *The Open Classroom*

American educators’ interest in the English “infant” (elementary) schools and their use of what the English called “informal education” lead to the open education movement of the mid-1960s. Informal education, the “integrated day,” and other progressive ideas had evolved in England since the 1920s, influenced by



**Figure 5.** Crow Island School floor plan illustrating the classroom “finger plan” concept.  
(By Steven R. Turckes, AIA, LEED AP, REFP - Principal, Perkins + Will.)



**Figure 6.** Crow Island School axonometric drawing illustrating a typical classroom pod that separates wet from dry spaces (2), windows on two sides of the classroom that provide high-quality natural daylight (1), and an exterior door to an outdoor court that serves as an outdoor classroom (5). (By Steven R. Turckes, AIA, LEED AP, REFP - Principal, Perkins + Will.)

Schools for the Future

Design Proposals from Architectural Psychology

Walden, R. (Ed.)

2015, XIII, 297 p. 155 illus., 46 illus. in color., Softcover

ISBN: 978-3-658-09404-1