The Last Dramatic Instructional Innovation?  
The Chalkboard and Music Education in a Historical Prospective  
Juanita Karpf  
Case Western Reserve University

However inauspicious the introduction of the chalkboard into U.S. music classrooms may have been, teachers nonetheless came to appreciate its utility. Lowell Mason advocated the use of a chalkboard in the mid-1830s, and by the 1840s many teachers throughout the Northeast sang its praises. For example, in 1841, one teacher proclaimed that “the inventor or introducer of the blackboard system deserves to be ranked among the best contributors to learning and science, if not among the greatest benefactors of mankind.” This same writer effusively credited the chalkboard with the potential to “almost work miracles.”

Another proponent of chalkboard instruction, a New England teacher, summarized the influence of the chalkboard in classrooms with this glowing assessment:

The introduction of that simple instrument, the blackboard, into our schools, and the diffusion of a knowledge of the almost numberless uses to which it can be applied, will in itself effect a revolution in the modes of teaching some of the most important branches. Perhaps ingenuity has seldom, if ever, rendered a greater service to mankind, than when it turned a few feet of board and a little black paint into one of the most effective of all instruments for the rapid and vivid communication of knowledge.

Still another accolade came from Binghamton, New York, school superintendent O. B. Bruce, who declared, “I believe a blackboard to be as indispensable as clean water to children. . . . It is a silent but powerful auxiliary. . . . a mild yet thorough disciplinarian, [and] an interesting and impressive teacher.”

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No wonder, then, that in 2006 Andrew Coulson made the following provocative assertion: “Though computers have been introduced to many classrooms, their addition has been at best facilitative rather than transformative. . . . The last dramatic instructional innovation occurred while Thomas Jefferson was president: the introduction of the chalkboard, around 1801.” If, as Coulson suggests, chalkboards proved transformative in the classroom, how did music teaching and learning benefit from the use of chalkboards? What should we remember as we continue to replace chalkboards, in our music instruction, with computers and Smart Boards?

**History of the Chalkboard**

The exact origin of the chalkboard remains rather unclear. Nonetheless, the idea of writing on a classroom wall may well have originated with James Pillans (1778–1864), a teacher in Edinburgh, Scotland, who documented his adoption of a chalkboard for use in geography classes. Beginning in the early nineteenth century, the chalkboard steadily gained prominence in the United States, especially in the Northeast. In 1801, George Baron (1769–1812), a civilian math instructor at West Point Military Academy, most likely became the first teacher to employ a chalkboard in a U.S. classroom. As West Point historian Robert Charlwood Richardson (1882–1954) recounted, “perhaps no one method has so much influenced the quality of the instruction of the cadets as the blackboard recitations.”

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Chalkboards appeared in Boston schools during the second decade of the nineteenth century. Samuel Joseph May (1797–1871), an ardent abolitionist and education reformer, recalled his days as a math student of Rev. Francis Xavier Brosius at Harvard University in 1813–14. May expressed “being struck at the appearance of an ample Blackboard” in Brosius’s classroom “suspended on the wall, with lumps of chalk on a ledge below, and cloths [erasers] hanging at either side.” He added that he “had never heard of such a thing before.” May subsequently sponsored the introduction of chalkboards in area schools.

Among the first teachers in Maine to use a chalkboard, Samuel Read Hall (1795–1877) introduced students in the town of Rumford to a writing board in 1816, during an arithmetic lesson. His first chalkboard was actually a large sheet of dark paper which could be marked upon and erased easily. At first the inhabitants of the district ridiculed his novel method of demonstration, but he persisted in its use and to the entire satisfaction of all concerned. His object was to enable the scholar to have confidence enough in himself to demonstrate examples to others and thus become better qualified for teaching. He afterwards used this method of illustration in several other towns of Maine which made him successful and popular as a teacher. In 1822, at Concord [Maine], he had the [wall] plastering painted black and used in the same manner as black-boards are now used. About this time this method was adopted in a large number of the schools of this County [Oxford County], using boards as well as painting the plastering. . . . He also invented the [chalkboard] eraser, made of a small piece of board of convenient size and tacking on a piece of sheepskin tanned with the wool [left] on.9

Word of the utility and adaptability of chalkboards spread quickly to other Maine communities. In 1824, William Smyth (1797–1868), a mathematics professor at Bowdoin College in Brunswick, Maine, installed a chalkboard in his classroom. According to Nehemiah Cleaveland (1796–1877) and Alpheus Spring Packard (1839–1905), the venerable historians of Bowdoin College, Smyth created a “novelty . . . [that] made a sensation” on campus. Cleaveland


and Packard added that Smyth’s “blackboard caused . . . an important change in the manner of teaching generally.”

Materials used to make some of the earliest chalkboards included stiff paper, cloth, wood and plaster; slate boards appeared later in the century. Samuel Read Hall’s use of a painted wall for a chalkboard typified a commonplace practice. To prepare a wall surface for such use, James Pyle Wickersham (1825–91), editor of the Pennsylvania School Journal and superintendent of Pennsylvania schools, offered this time-honored recipe:

4 pecks of white finish, or white coating
4 pecks of beach or other fine, sharp sand
4 pecks of ground plaster
4 pounds of lampblack
4 gallons of alcohol or good whiskey

This quantity will make a mixture sufficient to cover twenty square yards of surface. A little flour of emery will prevent the mixture from setting immediately, thus giving time to put it on the wall with the necessary care. . . . The wall which is intended to be covered with the black-surface should be plastered like the rest of the room. . . . After the black-surface is on the wall, it must be carefully dampened and rubbed, in order to fill up all the pores and make the surface hard and smooth.

As chalkboards became more prevalent, many school officials perceived the need not only for additional instruction on their proper use but also for lesson plans and suggestions for appropriate classroom activities. Beginning in the 1840s, publishers issued monographs devoted to the effective use of chalkboards. Among the first authors to issue such a manual, Boston resident Josiah Freeman Bumstead (1797–1868) published his book The Black Board in the Primary School in 1841. Referring to the chalkboard as “a luminous object,” Bumstead urged all schools to install at least one “as large as existing liberality


Another New Englander, William Andrus Alcott (1798–1859), a physician and education reformer, published his manual *Slate and Black Board Exercises* in 1843. A certain amount of competition existed between Alcott and Bumstead as the former introduced his book as “a pioneer work on the subject” of teaching with chalkboards as he claimed that he had completed his manuscript prior to the appearance of Bumstead’s publication. In his book, Alcott clarified that he did not intend to substitute the chalkboard “for books and all other implements”; rather he formulated his pedagogy “to prepare the pupils of our common schools for the right use of books, and proper benefits of study. . . . To promote thought and progress has been my object.” To the teachers who expressed reluctance to adopt chalkboards, Alcott offered this advice:

The word *black board* need not awaken in our minds the thought of any thing difficult, rare, or costly. Why, it is simply a black *board*. Is there any difficulty in painting a piece of board black? It is indeed desirable to have the board planed before it is painted, and to have it smooth and soft; but neither in this is there any thing very difficult and mysterious. The greatest difficulty to be encountered is that of finding a single board wide enough; for if we use several pieces, it requires some little tact to frame them together in such a way as to have them answer a valuable purpose; though even this is not beyond the art of the mechanic. Many have thought it better to paint black the whole end of the school room, near which the teacher’s desk is placed. . . . Yet, a smaller portion of the wall, of suitable size, painted black,—say six or eight feet square of it—would, in my view, be preferable. In either case, however, one or more moveable black boards would [also] be necessary.

As for what to use to write on chalkboards, Alcott recommended that

a simple piece of chalk will answer very well. There is no objection, however, to what are called, by some, *port crayons*. These keep the chalk from the fingers, and of course from the clothes. By *port crayons*, I mean tin or brass tubes, about as large as a common crayon . . . with two slits at the end, into which a piece of chalk might be pushed, where by the elasticity of the tube, it would be retained with sufficient firmness.

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In another book of chalkboard pedagogy and exercises, published in 1847, New England teacher John Goldsbury (1795–1890) stressed the effectiveness of visual learning and the expediency of providing illustrations on a chalkboard:

The black-board is worth more than all the diagrams and other apparatus that was ever invented. . . . A piece of chalk . . . in the magic hand of a skilful teacher, can instantly be made to represent any diagram which is needed for the purposes of illustration; and, in an instant, the drawing can be made to disappear, and another to take its place. And these illustrations are visible to all the pupils at once. . . . Visible illustrations will do more than page upon page of verbal explanation, because illustrations are better understood than words.”14

During the 1850s, teachers in New Hampshire boasted about the number of chalkboards in their state. In 1853, Durham, New Hampshire, native John Smith Woodman (1819–71) happily observed an increase in the number of chalkboards in one-room schools.

We would beg leave to call attention to the greater use of the black-board in common school instruction. . . . The black-board is an indispensable assistant. . . . There [at the black-board] they [the students] may write their rules, learn to spell, write their exercises in grammar, learn the rudiments of singing, draw maps for their geography lesson, and learn to write and to draw. . . . In all this, the work is before the public eye, as it were, and the youth enjoys the reward of having his successful work admired by the whole school. There [at the black-board] the teacher may direct the course and correct the mistakes, and only take the work into his own hands when the subject is not sufficiently well elucidated by the best scholars in the class.15

By the 1870s, most classrooms in larger metropolitan areas in the Northeast and Midwest were equipped with chalkboards. Chicago resident Alfred Hinsdale Andrews (1836–1914), founder of the nationally respected school merchandise company bearing his name, profited from the widespread adoption of chalkboards and their attendant accessories. To boost sales of his chalkboard products, he used these lofty words in his advertisements:


No one article of apparatus for the school-room is more indispensable than the blackboard. It is the public bulletin-board. It is the tablet for recording mental processes of the pupil. It is the *mile stone* indicating the rate of progress. It is the *mirror* reflecting the workings, character and quality of the individual mind. It is the chief auxiliary of the teacher; the *aid[e]-de-camp*, the *monitor*, the *guide.*

As schools sought ways to increase chalkboard space, some found a solution with the employment of room dividers, one side of which could be finished as a chalkboard surface. Inventor James Godfrey Wilson, famous for his company that manufactured venetian blinds, introduced his "rolling blackboard partitions" to Chicago and New York schools in the 1880s. Made of wooden slats mounted on tempered steel bands, the partitions provided strength as well as flexibility, along with an attractive appearance and considerable utility. Wilson promised easy installation with adaptability to most any preexisting architectural configuration and the added bonus of (supposed) soundproofing between partitioned areas. Illustrations accompanying his company's advertisements show the apparent ease with which a partition could be used, pulled into position by a small child (fig. 1).17

Moveable and reversible boards also came into vogue, as endorsed by William Alcott. Mounted on an easel or bolted to a frame, an early type of reversible board could be easily flipped to expose a clean surface, thereby

Fig. 1. Wilson's blackboard partitions. *The Teachers World: A Journal of Methods, Aids and Devices* 6, no. 1 (September 1894): 392.


preserving the writing on one side for future use (fig. 2).\textsuperscript{18} Alcott also proposed that reversible boards could serve as room partitions and as a protective screen, either positioned by the entry door to divert outside drafts or near the schoolroom stove to shield students from extreme heat.\textsuperscript{19}

In 1871, Buffalo, New York businessman Martin Taylor introduced yet another type of moveable chalkboard. With several panels of writing surface, Taylor's Portable Revolving Blackboard (fig. 3) came with painted staff lines and could be folded for storage. Taylor described his patented board as follows:

This admirable Blackboard consists of four wings or boards, revolving upon a single standard of iron. Each wing presents on each of its two sides a surface of 16 \([and\] 1/4 square feet, and they afford together an aggregate of 130 square feet, the whole or any part of which may be used at one time. With the wings placed at right angles to each other, sixteen pupils can be employed, and eight can be employed without seeing each other's work. Any two opposite surfaces can be locked together to preserve or conceal exercises which the teacher has prepared for a class. . . . The whole apparatus revolves at will. . . . The Board moves easily on castors, and is raised or lowered to any desired height by turning it on its standard.\textsuperscript{20}

![Fig. 2. Reversible blackboard. Henry Barnard, \textit{Reports and Documents Relating to the Public Schools of Rhode Island for 1848} (Providence, RI: N.p., 1849), 375. The board measured 2 ft. 6 in. wide by 3 ft. 6 in. tall; the frame stood 5 ft. 10 in. high.](image)

\textsuperscript{18} Henry Barnard, \textit{Reports and Documents Relating to the Public Schools of Rhode Island for 1848} (Providence, RI: N.p., 1849), 375.


\textsuperscript{20} \textit{The New York State Educational Journal: Devoted to Popular Education and Science} 2, no. 1 (November 1873): 57.
Another model, invented by rural Pickaway County, Ohio, resident James Reber, in 1873, could be raised, lowered, angled laterally and adjusted to a horizontal position, thereby doubling as a table. Hinges permitted the board to be folded for compact storage (fig. 4).21

Considerable affirmative publicity in educational periodicals notwithstanding, some teachers continued to express reservations about chalkboards. A well-known Connecticut teacher, William Swayze Baker (1814–86) recalled seeing blackboards in schoolhouses, which appeared never to have been soiled with chalk. . . . I have found teachers who said they did not think much of blackboards. I know one who has taught, or perhaps "kept" school more than fifteen years . . . who says he never derived much benefit from a black-board. No great wonder, because he never understood how to use it.22

Such sentiments persisted a surprisingly long time, even into the 1880s and 1890s. An anonymous writer quoted in the *West Virginia School Journal* in 1882 complained that “some of our teachers will hardly ask for a good black-board; when it is given to them they seem to have an elephant on their hands. They regard it as a thing to be looked at rather than used. Now, in our opinion, a black-board is of more value, in a primary school, than books;

and a teacher who doesn't know how to use it should proceed to learn from those who do.”

**Chalkboards in Music Teaching and Learning**

In his *Manual of the Boston Academy of Music*, published in 1836, Lowell Mason offered, arguably, the earliest endorsement for the use of chalkboards in music instruction. His recommendations for furnishing a music classroom included the installation of “a large black board, about six feet long and four and a half feet wide with the five lines of the staff drawn three or four times across it, the lines white or light red or yellow, and about an inch and a quarter asunder, . . . [the board] suspended in a manner that all the scholars may see it.”

In the absence of a chalkboard with painted staves, teachers needed some sort of gadget to assist in drawing straight lines. Several resourceful entrepreneurs responded to this need, among them, Massachusetts resident William Lawrence Murphy (1876–1959), celebrated as the inventor of the Murphy bed or the “Pull Down Bed.” Murphy’s Adjustable Blackboard-Liner (fig. 5) competed rigorously for sales with the Rapid Blackboard-Liner (fig. 6), invented by

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However, even with the aid of liners, many teachers admitted, with a bit of trepidation, that the process of writing music notation on a chalkboard correctly and legibly required an altogether new skill. Composer and Boston teacher Elbridge Ward Newton (1863–1940) assured teachers that

with slight preparation every teacher can copy music on the blackboard easily, legibly, and quickly. . . . To make a closed note head, such as the quarter-note head, take a piece of crayon about an inch in length and with its side to the blackboard make a short heavy stroke. Then by using the end of the crayon make the stem with a light stroke. As the copy gradually appears on the blackboard let the class study it, and by the time it is complete they will be ready to sing it at sight.  

The ability to write notes and symbols clearly on a chalkboard, visible to all present, assumed increasing significance as instruction moved from exclusively rote methods to strategies that combined aspects of visual and aural learning. As summarized by William Channing Gannett (1840–1923), use of the chalkboard facilitated this transformation:

> Your thought is not clear to your own mind till it becomes an image. . . . Help out the ear by eye. Under the principles of teaching, . . . [with the] awakening of ideas—i.e., of things seen, . . . the dumb, dull, black[board] surface which can flash white an outline, a thought form, to the eye, is of immense help to the teacher and the taught. The blackboard is the humble canvas on which you can sketch to the eye your careful lesson as a whole, or can enliven your special points as you go along, . . . drawing a picture or a symbol to explain and impress your lesson. . . . Chalk helps talk—teach all teachers that. . . . The eye sees . . . the point you are trying to make through the ear. . . . Besides main points, there are certain details of a lesson, little facts, simply sure to slip away unless you bring the eye to help the ear.  

We can glean a considerable amount of information about the chalkboard as an aid in music instruction during the nineteenth century from surviving descriptions written by teachers. In 1864, a teacher related her experiences of teaching music in a rural one-room school in Maine and introducing a chalkboard to her classroom:

> As I entered my school-room, the first article of furniture I missed [seeing] was a blackboard. . . . [H]ow to make a blackboard with the [source of] lumber and paint fourteen miles distant, at the nearest village, was a subject of considerable concern; but the Yankee woman is never at a loss for ways to supply her needs. . . . I repaired to a lumberman's hut, and explained to him that I wanted a blackboard to assist me in teaching. . . . [T]aking his axe, he hewed . . . a board nearly three feet long, two feet wide, and about eight inches thick. Taking it to the school-room and placing it upon a block some three feet high, he said, "With a piece of charcoal, this will do for a substitute until I can go to [a] mill and get the stuff for a better [one]," and it answered very well for a week, at the end of which time a good pine blackboard was sent me by this noble old fellow. . . . After having taught them [the students] several simple airs, I one day drew a G clef and scale upon the board, and explained its use, next day, . . . the letters upon the base [sic] and treble staff and, a few days after, the notes and their names.  


Not only did the teacher detail the challenges she encountered when attempting to obtain a chalkboard, but we also learn how vital and effective it soon became as an instructional aid in her classroom. Owing to her effective chalkboard instruction in music reading, her students quickly learned essential fundamentals to the extent that they could eventually sing from the well-known instructional tune book, *The Singing Bird*, written by William B. Bradbury (1816–68). 30

In another account of combining rote and chalkboard instruction, Harriette Wilson made these recommendations for teaching a song to elementary school children:

> The words are first taught to the class, verse by verse; when the children are quite familiar with one stanza so that they can follow in their minds the fitting together of words and music, the teacher plays or sings for them the song once or twice. Then she writes it out on the staff on the blackboard; the children are interested in the “pictures of the tones,” and the up and down movement of the intervals will aid them in placing their voices. Let them follow the notes while they sing, and if possible keep the song on the blackboard until it is learned, so that the class shall have the opportunity of associating the sound with the universal image. The children are not in this way confused by detail, while at the same time they are unconsciously learning to read a little, and are at least becoming as familiar with the true representation of tone as they are with words which picture to them the objects they represent. 31

Still another influential pedagogue, Theodore F. Seward (1835–1902), also urged regular use of a chalkboard in conjunction with singing books:

> Lessons in music written on the blackboard the moment they are wanted are always more interesting to pupils than such as are contained in a book. The teacher should accustom himself to write with ease and rapidity, and should depend more upon the blackboard lessons than upon any others. The board should have the lines of the staff painted upon it, so as to save the time of the teacher. ... The time which is occupied in writing a lesson [on the board] is not lost in a well-regulated school, for the pupils will watch the movements of the teacher with interest, and will examine each note and character as it is written. It may also at times be desirable for the teacher to have his pupils name the tones as he writes them. No written lessons

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can possibly do away with the necessity for the blackboard. If ... every pupil should be furnished with a copy of ... [a] book, ... still the necessity for the blackboard would remain. ... It can never be given up by a good teacher; ... it would still be needed constantly for the illustration of such subjects as will be constantly coming up in teaching. The idea of giving up the blackboard is preposterous; and any one who entertains the thought of doing without one, proves almost conclusively that he cannot be a good practical teacher. ... That the black-board is an indispensable requisite in every well-furnished school-room, whatever be the subject taught, is the concurrent testimony of all good teachers. ... It is needed, too, from the beginning to the end of a course; it is not to be used for a few of the first lessons, and then to be given up; its use is never to be wholly discontinued.32

Similarly, Charles Eddy Leslie (1845–93), better known as “C. E. Leslie,” offered these comments about using a chalkboard in a music classroom:

No teacher or conductor should do without a black-board. You cannot afford to do it. You cannot afford it, because the proper use of one will add largely to your success in teaching. ... By the use of a board you may make your work so simple that even a child can understand it. If you succeed in pleasing the children, older persons will be edified and the parents filled with enthusiasm for you and your work.33

Many music teachers traveled from school to school and carried their own equipment with them. The unique needs of itinerant teachers opened up a new market and manufacturers and a few enterprising teachers designed several portable chalkboard models made of a durable material known as “Lapilinum” (sometimes called stone cloth or slate cloth) or rubber cloth that could be written on, erased, and rolled for ease of portability and storage. Not really boards at all, these classroom instructional aids hung on a wall like a map and retracted like a window shade.34 Leslie, one of the most prominent traveling teachers of


the 1880s and 1890s, developed his lightweight Leslie’s Music Blackboard (fig. 7) which he characterized as a “wonderful blessing to all singing teachers.” He further described it as follows:

| The board is made of the best rubber cloth, is 5 feet long and 3 feet wide; mounted on rollers, with rings attached ready to hang up in any room; is easily carried from one place to another, as it rolls up like a map. It is blank on one side so the teacher can write upon it any exercise he may wish to use. On the other side is a complete form or diagram of the principles of vocal music. This board was the foundation of my success and I would name many teachers who attribute their success . . . to this board. It should be in the hands of every teacher. It is the open path for the beginner to the art of reading music. |


The exercises shown on Leslie’s board were also printed in a few of his tune books, along with explanations and suggestions for employing them in the classroom. Given the complexity and thoroughness of the material on the preprinted side of his board, we must assume that he intended its use for more advanced students, perhaps adult learners and aspiring music teachers. The visually cluttered appearance of his board’s contents would seem to render it less than appealing for younger students.

Epilogue

From this brief historical overview, we can draw several conclusions about the introduction of chalkboards in music classrooms: First, chalkboards provided teachers with an effective and simple means of displaying music reading exercises before their students; this aid to instruction became particularly significant if a school or region could not afford to provide books, music, or staff paper for each student. Second, chalkboards allowed music instruction to move from strictly oral and rote strategies to include the integration of visual learning. Third, by working on music activities at the chalkboard, students became transformed from passive to active learners. Fourth, by using the chalkboard, students became more confident music learners. Fifth, chalkboards helped
with classroom management and discipline as board content encouraged students to attend, collectively, to the images displayed before them. Sixth, chalkboards gave music teachers more flexibility and freedom as to subject content and pace of lessons. And finally, chalkboards inspired creativity and imagination in the classroom, from both teachers and students.36

Andrew Coulson’s assertion, quoted in my introduction, inspired this echo, from Microsoft researcher Bill Buxton:

There is a plausible argument that the innovation of the blackboard has had more impact on classroom education than any innovation since. . . . The blackboard fundamentally changed the social and physical organization of classroom education, by better supporting teaching and demonstrating to the group, rather than the individual, and by enabling timely support material to be displayed in the visible periphery.

Buxton aptly reminds us that chalkboards introduced and supported a “new type of social network” in classrooms.\textsuperscript{37} The new social network to which Buxton refers represented one of the most dramatic changes in music classroom dynamics and interaction. With the arrival of chalkboards, students shifted their attention from the slates or music before them to the board in the front of the room and their teacher standing nearby. All students in a class could view the same image(s) at the same time. Their collective gaze toward and attention (hopefully) riveted on the board offered them an opportunity to experience a shared activity, as all watched something appear on, or disappear from, the board. Through the exercise of collective attention, students learned the basics of appropriate communal behavior. Or, in another scenario, students were encouraged to divide their attention, as appropriate, between their own personal space and activities at a desk or bench, and the chalkboard before them. Sometimes, they ventured to the board to write notes on staff lines. That they did so in full view of their classmates and teacher added yet another dimension of communal participation and sharing to the process of music learning. Thus, the completion of tasks at the board and their simultaneous viewing became another experience entered into by all present.

Regarding these changes in student interaction and classroom dynamics, Michael O’Hare recommends that we remain cognizant of the benefits brought about by the use of chalkboards, particularly as we increase our reliance on computer technology in music classrooms. He reminisces about some of the ways chalkboards affected his teaching and learning, and how students experienced chalkboards at school in ways virtually absent in homes. Thus, school music activities associated with chalkboards offered new and distinctive modes of learning and interaction that complemented, rather than duplicated, common home and family activities. According to O’Hare, chalkboards encouraged students to focus and concentrate on a particular task more effectively. The utility of a chalkboard became especially significant during class singing exercises. A skillful teacher could use a chalkboard with evident advantage, writing down student contributions and thus producing a record of a dialogue among all those present. Writing students’ ideas on a board endowed them with legitimacy, thereby including students in the process of teaching and allowing them to contribute to and expand subject content. The relative time required to write comments on the board helped control the pace of the lesson, thus encouraging contemplation and comprehension and, additionally, accommodating a variety of learning styles and capabilities. Being easily erasable, chalkboards provided a nice balance between permanency and spontaneity. They facilitated consensus

building, validated experimentation and nurtured the revision process. Hence, O'Hare lauds the chalkboard as a catalyst for intellectual creativity and exchange, and as a tool by which we can observe, engage in, and celebrate the uniqueness and intrinsic value of thinking aloud.\textsuperscript{38}

The place we might be today with regards to computers in classrooms bears uncanny similarity to some critical opinions about chalkboards in circulation during the nineteenth century. In the quote below, the writer rendered astute observations about the fashionable status of instructional aids, the pressure to adopt classroom innovations, and the reluctance on the part of some teachers to conform to progressive trends.

Blackboards are fashionable. Every one praises them and every school has them; but how often do they not serve chiefly to darken the walls, to cast a gloom upon the school, instead of light upon the understanding of the scholars. No teacher now dares question their utility; but how many teachers prove their utility by daily use? To how many are they a constant necessity, not an occasional convenience? What a contrast there is between the master ensconced behind an open book, prosing over the words of another, and the live teacher, full of his subject, relying upon his own resources, and rousing his class by the power of blackboard illustration! With the one is dull monotony; with the other, the earnest face—the skillful hand—the hasty diagram in isometrical perspective—the suggestive outline which the mind must fill up—the witty invention which leaves no grade of ability beyond its reach. Every teacher ought to be compelled to teach something without a textbook, for his own sake—for the sake of his own habits of instruction. Nothing else will keep him from becoming a passive bearer of recitations—the very opposite of the earnest teacher.\textsuperscript{39}

However hyperbolic the words just quoted may sound, I hope we nonetheless remain mindful of the benefits, dramatic changes and pedagogical transformation brought about by the introduction of the chalkboard to music instruction. In the very least, we should remember the sheer fun of writing and drawing on a chalkboard, and the attendant joyous possibilities of spontaneity and humor such activities foster. As Illinois teacher Lida Brown McMurry (1853–1942) confirmed:


\textsuperscript{39} "Use the Blackboard," \textit{American Educational Monthly} 3, no. 2 (February 1866): 76.
The children, during intermission [recess], use the chalk and blackboard a great deal, and are free to draw whatever they please. The effect of allowing them to express their thoughts is shown in the character of these productions. Very rarely is a meaningless picture placed on the board... We have been repeatedly astonished by the number and ingenious arrangement of the objects in these pictures. 

More to the point, the simple and inexpensive chalkboard taught students how to divide their attention between the images on a board and those in the music, paper or slates on their desks. In short, chalkboards introduced us to the art and skill of multitasking and prepared us psychologically, pedagogically and socially for the arrival of computers and other forms of educational technology. Music education owes much to this humble classroom innovation.

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