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"A happier way of learning" : the Visual Instruction Movement, 1918-1928

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ABSTRACT

”A HAPPIER WAY OF LEARNING”: THE VISUAL INSTRUCTION MOVEMENT, 1918-1928

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The Visual Instruction Movement (1918-1928) was a constituent part of the field of visual education, which began in the early 1900s. With the further development of sound films and radio, it became audiovisual education; by the 1950s the field was known as educational technology. The Visual Instruction Movement experienced extensive growth during the decade 1918-1928. According to Paul Saettler, several key characteristics of contemporary educational technology arose during the Visual Instruction Movement (1918-1928): professional journals and organizations, research studies, formal courses in visual education, and visual education departments and extension services. In addition to Saettler’s list of developments in educational technology during the period immediately following World War I, we can add the appearance of visual instruction monographs and textbooks. The title of this dissertation comes from Charles Roach, who wrote, “Visual education is a means to an end, not the end itself. Some have called it a happier way of learning.” This dissertation employs content analysis on many of the primary documents of the Visual Instruction Movement to narrate the origin and early development of several characteristics of educational technology identified by Saettler.

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”A HAPPIER WAY OF LEARNING”:

THE VISUAL INSTRUCTION MOVEMENT, 1918-1928

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I composed these acknowledgements on my 25th wedding anniversary: March 16, 2015. My wife, Katharina Barbe, has been at my side and in my corner for every page of two dissertations. Since words fail me at this point, I dedicate this dissertation to our daughters, Hannah Johnson and Aletta Johnson…because education is important.

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CHAPTER ONE

"A HAPPIER WAY OF LEARNING":

THE VISUAL INSTRUCTION MOVEMENT, 1918-1928

The Visual Instruction Movement (1918-1928) was a constituent part of the field of visual education, which began in the early 1900s. With the further development of sound films and radio, it became audiovisual education; by the 1950s the field was known as educational technology (Butler, 1995). According to Nelson L. Greene (1922), founder and editor of *The Educational Screen*, the visual movement aimed "to broaden and deepen, by the use of visual aids, our national education in school, church, club and community center" (p.8). As Paul C. Reed pointed out, the goal of the "movement" was not merely to compel more educators to use visual aids; rather it sought to improve education overall. The leaders of the Visual Instruction Movement were not technicians, but educators who "knew and believed with religious zeal that the use of pictures would broaden and deepen education" (Reed, 1961, p. 17). The Visual Instruction Movement arose as an antidote to verbalism, or "verbal transfer" in the words of Joseph J. Weber, and sought to lend concreteness to education: "We can acquire visual experience from situations that are as concrete as reality and as abstract as the scheme of typical visual aids which follows: (1) actual reality, as we find it on a school journey; (2) pseudo-reality, as exemplified by artificial models and exhibits; (3) pictorial

realism, as depicted in drawings and photographs; (4) pictorial symbolism – similes, metaphors, and plain language" (Weber, 1928a, p. 126).

The Visual Instruction Movement experienced extensive growth during the decade 1918-1928. According to Paul Saettler, several key characteristics of educational technology arose during the Visual Instruction Movement (1918-1928):

- professional journals appeared;
- professional organizations were founded;
- research studies were undertaken;
- the first formal courses in visual education were offered;
- visual education departments and extension units were organized (Saettler, 1998).

In addition to Saettler's list of developments in educational technology during the period immediately following World War I, we can add the appearance of visual instruction monographs and textbooks (Butler, 1995; Yeaman, 1985).

The most prominent professional journal to appear during the Visual Instruction Movement was *The Educational Screen*, edited by Nelson L. Greene. The magazine took as its slogan, "The Independent Magazine Devoted to the New Influence in National Education," by which was meant visual instruction. In 1925, *The Educational Screen* stood alone in the field and changed its masthead to read, "The Only Magazine Devoted to the New Influence in National Education."

The inaugural editorial of *The Educational Screen* proclaimed: "The Educational Screen is not the official organ of anything or anybody. It is published to give American Education, and every American who believes education important, the thing that they have

needed ever since the so-called "visual movement" started – namely, a magazine devoted to the educational cause and to no other; a magazine distinctly intellectual and critical, rather than commercial and propagandist; a magazine written and produced exclusively by those whose scholarly training, experience, and reputation qualify them to discuss educational matters" (*The Educational Screen*, 1922f, p. 8).

The purpose of the magazine was "to get to the truth about visual education," "present a monthly survey of really significant visual activities," and "become the one impartial and authoritative source of information on the new field" (*The Educational Screen*, 1922f, pp. 5-6). *The Educational Screen* became the first official journal of the National Academy of Visual Instruction (NAVI), which later merged with the Visual Instruction Association of America (VIAA). *The Educational Screen* also dedicated space to the VIAA and later published books and pamphlets on visual education.

The title of this dissertation comes from Charles Roach, who wrote, "Visual education is a means to an end, not the end itself. Some have called it a happier way of learning" (Roach, 1928, p. 255). This dissertation, employs content analysis on many of the primary documents of the Visual Instruction Movement, *The Educational Screen* and various books, to narrate the origin and early development of several characteristics of educational technology identified by Saettler: professional journals and organizations, research in the field, coursework in visual education (including for-credit classroom instruction and professional development, administrative units (extension bureaus at the local, state, and university levels), and textbooks. The theory underlying the narrative is taken from German historicism in general and the concept *Verstehen* in particular. This will be discussed further.

Background to the Problem

As a doctoral student in the fall of 2006, I enrolled in a seminar which traced the history of educational technology from its early forerunners to the present time. One of the assignments for the seminar was to read a dissertation and give a short presentation about it. I selected Rebecca Butler's University of Wisconsin dissertation, *Women in Audiovisual Education, 1920-1957: A Discourse Analysis* (Butler, 1995). One of the women given extensive treatment in Butler's work was Anna Verona Dorris, longtime instructor at San Francisco State University. According to Butler, Dorris was in the vanguard of the Visual Instruction Movement (1918-1928) and her textbook, *Visual Instruction in the Public Schools* (Dorris, 1928), was an early contribution to it. For my class presentation, I obtained a copy of *Visual Instruction in the Public Schools* via inter-library loan and briefly reported on it.

Shortly thereafter, I began research on an article, "'Making Learning Easy and Enjoyable': Anna Verona Dorris and the Visual Instruction Movement, 1918-1928" (Johnson, 2008), which eventually appeared in *TechTrends*. During the course of doing the research for that article, I obtained a number of primary documents relating to the Visual Instruction Movement. Almost immediately, I noticed two factors: the role played by *The Educational Screen*, the first journal devoted to visual education, and also a paucity of scholarly studies treating the Visual Instruction Movement. At that time, I became interested in obtaining copies of *The Educational Screen* from its inception in 1922 until the close of the Visual Instruction Movement in 1928, with an eye toward further research and publication. When the

time arrived to select a dissertation topic, I decided I wanted to tell the story of the Visual Instruction Movement as seen through its primary documents.

Sources

Paul Saettler's *The Evolution of American Educational Technology* is perhaps the most comprehensive study of the history of educational technology (Saettler, 2004). Gerald Torkelson termed the first edition of Saettler's study a "monumental effort" (1992, p. 135) and that it should be required reading for "each person who aspires to being called a professional educational technologist" (Torkelson, 1992, p. 135). In another earlier study, Saettler traced the Visual Instruction Movement back to the period before the First World War (Saettler, 1998). In addition to Saettler's list of developments in educational technology during the period immediately following World War I, we can add the appearance of visual instruction monographs and textbooks. Andrew Yeaman identified several visual education textbooks from the 1920s, and, in many respects, these texts are the book-length primary documents of the Visual Instruction Movement (Yeaman, 1985). Other full treatments are generally confined to dissertations and theses, discussed below in the section entitled "Conduct of Study (Chapter Summaries) and Literature Review." *The Educational Screen* served as the source and departure point for primary documents. Other resources used in this dissertation were written by individuals identified by *The Educational Screen* as active in the Visual Instruction Movement.

Problem Statement

The purpose of this study is to provide a historical narrative of the Visual Instruction Movement (VIM), 1918-1928, based on primary documents. The VIM marked the transition from a predominantly verbal tradition to the extensive use of visual artifacts in American education and gave rise to the field of educational technology as we know it (Yeaman, 1985). This dissertation informs educational technology regarding the origin of its professional journals, organizations, and state departments of visual instruction by providing a contemporary account of these phenomena. This contemporary account of the Visual Instruction Movement, based in large part on material contained in *The Educational Screen*, goes beyond Saettler's discussion by its use of primary sources. Saettler (2004) devotes less than a page to the early research in visual instruction and neither cites an individual experiment nor mentions the research of F. Dean McClusky (Freeman, 1924). Saettler (2004) omits discussion of the Visual Instruction Department of Berkeley, California. I include an extensive treatment of the Visual Instruction Department in Berkeley and expand the discussion of urban extension services to include the Pedagogical Library in Philadelphia and the Department of Visual Education of the City of Detroit, Michigan. Saettler mentions in passing the textbooks of Bollman and Bollman (1922), Ellis and Thornborough (1923), Johnson (1927) and Dorris (1928) (Saettler, 2004). In this dissertation, I devote an entire chapter to the topic of visual instruction textbooks and also include the reception afforded these works in the professional literature of the day.

The theory employed is German historicism; the methodology, particularly category construction, is based on content analysis. The topics covered include professional journals and organizations, early research in the field, various avenues of professional development, extension bureaus, and textbooks.

Goal, Objectives and Framing Questions

Goal

The goal of this study is to provide a historical narrative of the Visual Instruction Movement *based on primary documents.*

Objectives

The primary documents of the Visual Instruction Movement will be analyzed to describe the following components of educational technology, 1918-1928:

- professional journals and organizations;
- early research in the field;
- coursework and professional development;
- extension bureaus (state, local, and university);
- textbooks.

Framing Questions

Several questions underlie my narrative (and are presupposed in the theoretical context) (Little, 2012):

- What is the nature of the reality of historical structures and entities I am studying?
- Is there a causal influence among historical events underlying the historical explanations?
- Is it possible to arrive at justified interpretations of long-dead actors and their actions?
- What did I discover as a result of my examination of the historical phenomena?

Theoretical Construct and Methodological Considerations

The study of history is dedicated to the collection of sources and the careful study of documents. At the turn of the twentieth century, graduate history seminars at Johns Hopkins University introduced European historical research into the American academy (Burke, 1996). These seminars followed the thought of Wilhelm Dilthey, who maintained that history was concerned with unique events that must be understood from within. In other words, historians must understand what was written before they can explain why it was written (Dilthey, 1975).

Theoretical Construct: Historicism and Hermeneutics

Historicism

The theoretical construct of this dissertation follows German historicism, dating from Johann Gottfried Herder (1744-1803). At the basis of German historicism lies the belief that the knowledge we acquire of our own actions and creations is radically different than that obtained by observation and investigation of the natural or physical sciences. According to Herder, the task of the historian is to provide "the true body of history as it is" (*wie er ist*) (Beiser, 2011, p. 119). History comprises unique acts and is our guide to understanding all things human.

History became an academic discipline in the 1880s, founded upon principles established by Leopold von Ranke (1795-1886) (Iggers, 1983). Ranke avoided a philosophical understanding of history, which imports broad concepts into the study and seeks to understand historical phenomena according to these external strictures. According to Ranke, institutions are not to be approached from the standpoint of an abstract theory, but in terms of their concrete existence. Methodologically, Ranke employed a limited empiricism and studied historical personalities for their own sakes, not to assess their role in world history. This limited empiricism employed a critical evaluation and analyses of documents as the beginning of the study of history (Iggers, 1983). Following Herder and Ranke, my aim is to narrate the history of the Visual Instruction Movement "as it actually happened" (*wie es eigentlich gewesen*) (Ranke, 1885).

Hermeneutics

Hermeneutics, or the art of interpreting, developed out of the requirements of the ancient Greek educational system and consists of a detailed exposition of a written text (Gibbons, 2008). The hermeneutical tradition traces its roots to nineteenth-century scholarly Biblical interpretation in Germany. Wilhelm Dilthey (1833–1911) was one of the foremost German historicists to apply the principles of hermeneutics to the problems of historical interpretation. As did other historicists, Dilthey maintained that the "human sciences and humanities" (*Wissenschaften*) were inherently distinct from the natural sciences. The study of natural sciences consists in the observation and causal explanation of non-intentional events. On the other hand, the study of humanities, in this case history, depends on the understanding of meaningful human actions. According to Dilthey, "A whole should be understood on the basis of the particulars and the particulars on the basis of the whole" (Dilthey, 1996b, p.231).

Following Kant, Dilthey maintained that the critic understands the author better than the author understands him- or herself. With the benefit of hindsight, a critic can investigate the intentions of the original author with the goal of understanding the past. "That is why the art of understanding centers on the exegesis or interpretation of those remains of human reality preserved in written form" (Dilthey, 1996b, p. 237). Exegesis provides a valid interpretation of written documents based on existent grammatical, logical and historical knowledge. Such a philological approach represents "the knowledge of what has been produced by the human spirit," or the knowledge of past knowledge (Boeckh, 1968, p.8).

Hermeneutics provides an alternative to a positivistic approach to history (Gibbons, 2008). Dilthey and Friedrich Schleiermacher (1768 – 1834), two of the earliest advocates of hermeneutics, practiced the "hermeneutics of recovery," which presupposes that the purpose of historical inquiry is to recapture the original intent of the author (Dilthey, 1975; Schleiermacher, 1998). The hermeneutics of recovery permits the historian to analyze historical documents and determine their life settings (*sitz im leben)* for their own particular contemporary audiences. According to Kraus and Wooden (2006), the meaning of the text is bound up with the community that produced it. For our purposes, hermeneutics permits us to read the primary documents of the Visual Instruction Movement within a particular chronological context and determine the meaning of these texts for American education during the period 1918-1928.

Methodology

The historian works with documents. "Documents are the traces which have been left by the thoughts and actions of men of former times" (Langlois & Seignobos, 1909, p. 17). As Marc Bloch notes, "We are told that the historian is, by definition, absolutely incapable of observing the facts which he examines. No Egyptologist has ever seen Ramses. No expert on the Napoleonic Wars has ever heard the sound of the cannon at Austerlitz. We can speak of earlier ages only through the accounts of eye-witnesses" (Bloch, 1953, p. 48). Hence, the search for and the collection of documents is the first task of the historian. As Langlois points out, the majority of documents have been preserved in public institutions (archives, libraries, and museums). In part, I follow the continental historians, Langlois and Seignobos, who

viewed history as the accumulation of primary sources. In this view, these documents are the raw material of history. This explains, in part, the methodology I have adopted. However, methodology without theory devolves to the mere accumulation of facts. Herein lies a difference between social science research and historical research. Although historians use theory, their theoretical assumptions are not always explicit, but are imbedded in specific professional classifications: for example, history of science, history of Germany, history of education, etc. Tuchman points out two distinct ways of viewing documents: *reproduction* and *representation* (Tuchman, 2004). Representation includes postmodernist views that regard historical documents as texts that take sides in struggles for power. Reproduction includes empiricist epistemologies (such as the one employed here) that contend that historical documents accurately capture the essence of a particular time and place.

Historicism, in this present form, incorporates the concept of understanding (*Verstehen*). It invites the historian to actively re-construct the meanings and intentions of the actors from their contemporary points of view (Outhwaite 1975). *Verstehen* dictates that historical knowledge depends upon interpretation of meaningful human actions (Little, 2012). Following Sherratt (2006), I seek to probe the historical events of the Visual Instruction Movement in order to discover the meaning that these human actions hold for the present.

According to Tuchman (2004), the study of history poses several broad methodological questions:

- Is the data appropriate to the question being posed?
- How was the data collected?
- How should the data be interpreted, and what is its contemporary meaning?

In order to answer these questions, in part, I will use the broad strokes of content analysis: "a research technique for the objective, systematic and quantitative description of the manifest content of communication" (Berelson, 1952, p.18). This study analyzes primary documents of the Visual Instruction Movement. Some of the documents, such as early textbooks, are in the public domain and readily obtainable from any computer work station. Other material, such as *The Educational Screen*, 1923-1928, was obtained via inter-library loan (in this case, from the Universities of Illinois and Wisconsin). I used Saettler's schema for category construction and coded the documents accordingly: professional journals and organizations, research in the field, formal coursework and professional development, extension bureaus, and textbooks (Merriam, 2009).

R. G. Collingwood asked how we specify the content of history. He argued that history is constituted by human actions undertaken as the result of deliberation and choice. He believed that historians are able to explain historical processes (Collingwood, 1946). In other words, historical actors are responsible for the process and progress of history. And, in this case, the historical actors active in the field of educational technology and American education created the Visual Instruction Movement, which in turn evolved into contemporary educational technology. Following Stephen Greenblatt (1991), I hope to glean historical insights from a close literary reading of the Visual Instruction Movement's primary documents.

Historical Context: The Progressive Era

The years 1900-1920, commonly termed the "Progressive Era," provide the immediate historical background of the Visual Instruction Movement. These decades were characterized by economic growth, urbanization, and immigration (Buenker, 2005). One of the great social issues of the Progressive Era was that of woman suffrage, or the right of women to vote on public issues (Fellman, 2003).

The American GNP (gross domestic product) increased eightfold from the beginning of the Gilded Age (the end of Reconstruction in 1877) until the end of the Progressive Age in 1920. By the end of the Progressive Era in 1919, the American economy was 230% greater than the next largest economy (Great Britain). On average, real wages grew 244% from the end of the Civil War until the close of the Progressive Era (Kerr, 2005).

Coincidently, the total urban population of the United States grew from 22,106,000 in 1890 to 54,158,000 in 1920. The urban population of the country grew nearly twice as fast as the total population during this period and by 1920 represented over half of the American populace. Especially noteworthy was the growth in the number of large cities (those with 100,000 residents or more). In 1860, there were nine such cities in the country. By 1920, that number had grown to 38 cities (Barrows, 2005).

Between 1880 and 1920 over 20,000,000 immigrants arrived in the Unites States, two-thirds of them between 1900 and 1920. The reasons for this migration were economic, whether because of the miserable economic conditions in the immigrants' native lands or the attractive standard of living in the United States. With the closing of the American frontier,

many of these immigrants settled in urban, industrial centers. By 1920, Buffalo, Chicago, Cleveland, Detroit, and Milwaukee all had large numbers of Eastern European immigrants (Greene, 2005).

The National Woman's Suffrage Association (NWSA), founded by 1869 by Elizabeth Stanton, Susan B. Anthony, and others, had long lobbied for full voting rights for women. The lobbying efforts of the NWSA made little headway in advancing the cause of woman suffrage. In 1910, only five states, Wyoming, Colorado, Utah, Idaho, and Washington, guaranteed women the right to vote in all statewide elections. That year, however, President William H. Taft addressed the national convention of the NWSA, lending the Association his tacit support (Kromkowski, 2005). Congress finally approved the 19th Amendment to the Constitution and sent it to the state legislatures for ratification. Many Southern legislatures quickly rejected the proposed amendment. The Tennessee legislature eventually cast the deciding vote for woman suffrage in 1920 when one legislator, Harry Burn, switched his position and voted in favor of the amendment at the behest of his suffragist mother (Neumann, 2005).

Education During the Progressive Era

Overview of Education

In 1900, more than two-thirds of American schools were rural, one-room schoolhouses and many teachers had little formal education. The typical school lesson consisted of verbal transfer: lectures, memorization of passages from textbooks, recitation, and numerous drills

(Whitescarver, 1996). Very few students attended high school in the early decades of the 1920s. In 1900, 11% of children aged 14-17 were enrolled in high schools and only 6.3% of seventeen-year-olds managed to graduate. By 1910, this rate had increased to 8.6%. By the end of the decade the average adult had attended school for slightly more than eight years (Whitescarver, 1996).

At the beginning of the Progressive Era, school teaching was a profession reserved primarily for women. In 1900, 70% of elementary and secondary school teachers were women, and this number increased to 79% by the end of the decade. In 1910 the average annual salary for American teachers was $485. However, this figured varied by gender and region. New York City ranked at the top of the national educational pay scale. Here, the average entry-level salary for a female elementary-school teacher in 1900 was $600, and her salary increased $40 for each additional year of experience. Men, on the other hand, started at the same base salary but received an extra $150 per year of experience. After ten years' experience, the average female teacher earned $1000, while her male colleague with identical experience earned $2,100. The salary schedule for a school administrator was skewed along similar lines. A male high school principal received an annual salary of $5,000 in 1900; a female principal could expect a salary between $1,750 and $2,500 (Whitescarver, 1996).

Edward Thorndike and John Dewey

Perhaps nothing was of greater importance to the men and women of the Progressive Era than formal education. Progressive education applied the findings of scientific research in the fields of psychology and the social sciences to teaching and learning (Jacobs, 2005). Two

well-known American educational researchers were active at the beginning of the twentieth century: Edward Thorndike and John Dewey. Thorndike (1874-1949) was among the first American educators to engage in quantitative classroom research and wrote the first handbook on the use of statistics in educational research, *An Introduction to the Theory of Mental and Social Measurements* (Clifford, 2003; Thorndike, 1904). Thorndike's *Educational Psychology* (1913-14) established many precepts which eventually dominated professional thinking: teaching practices, individual differences between students, and the pedagogical practice of grouping students according to ability (Clifford, 2003). In his view, the key to learning was positive reinforcement. Thorndike's educational psychology required the precise ordering of specific learning tasks, such as exercises and drills, and progress was measured by frequent testing (Clifford, 2003). Thorndike, in part, laid the groundwork for B. F. Skinner's behaviorism (Drisoll, 2000; Thorndike, 1913).

Dewey (1859-1952) founded the laboratory school at the University of Chicago. He developed a method of teaching which made a connection between the school activities and the life experiences of the student (Dewey, 1902). For Dewey, school was not only a place to obtain knowledge but also a place to learn how to live (Soltis, 2003). He wrote, "From the standpoint of the child, the great waste in the school comes from his inability to utilize the experiences he gets outside the school in a complete and free way within the school itself" (Dewey, 1900, p. 89). Dewey centered the attention of teachers on the nature and needs of the students. The focus of a school's activity should be the growth of the child, not the specific subject matter at hand (Newlon, 1929-1930).

The Progressive Education Association and Progressive Education

The Progressive Education Association was founded on April 4, 1919, when nearly 100 people met in Washington, D.C., to attend the first meeting of the Association for the Advancement of Progressive Education. Early members of the Progressive Education Association were either teachers or private school administrators. Membership in the Association grew from 86 members in 1919 to 800 in 1921 and peaked at 7,400 in 1930. The annual fee for an individual was $1.00, "contributing members" paid between $5.00 and $50.00 dollars, and "sustaining members" contributed $50.00 or more per year (Graham, 1967, p. 24). The Progressive Education Association sponsored annual conventions in Washington, D. C. (1920), Dayton, Ohio (1921), Baltimore, Maryland (1922), and Chicago, Illinois (1923).

Charles William Eliot, retired president of Harvard University, agreed to serve as president of the Progressive Education Association. As chair of the National Education Association's Committee of Ten, Eliot had been active in secondary education and penned *The Changes Needed in American Secondary Education* (Eliot, 1916). Gertrude Stevens Ayers served as the Association's voluntary secretary until 1924. Two years later, the Progressive Education Association appointed Morton Snyder as its first professional executive secretary. After the death of Eliot, John Dewey accepted the position of honorary president of the Association, which further elevated the Association's prestige and lead to its prominence as a national educational association in the 1920s (Graham, 1967).

With financial assistance from Queene Terry Conley, the Progressive Education Association published the first issue of its journal, *Progressive Education*, in April 1924. Progressive Education's audience was not restricted to progressive schools. Its readership included all those who desired better methods of education adapted to the contemporary needs of students. The journal sought to occupy a position midway between popular magazines, which "give space to only an occasional article dealing with education" (Cobb, 1924, p. 4), and strictly pedagogic journals, which were professional publications "concerned with perfecting educational technique" (Cobb, 1924, p. 4). Each issue of *Progressive Education* was dedicated to a single topic. The subject of the second issue, for example, was "The Project as an Educational Instrument." During the journal's first year, Gertrude Hartman (1924) issued a call for moving the curriculum beyond the traditional educational method of textbooks, lectures, and recitation and organizing it around student projects. Such a strategy, it was hoped, would elicit interest and a demand for knowledge on the part of the students in "geography, arithmetic, science, and the like" (Hartman, 1924, p. 60).

The Progressive Education Association had established three aims: (a) to propagate the principles of progressive education through an official publication, newspaper and magazine articles, and lectures; (b) to influence public policy on education; and (c) to be of general service to educators and lay persons cooperating with parents in solving educational problems. In time, the membership felt that these aims were not sufficient to serve as guides to the Association's activities, and so the Association adopted the "Seven Principles of Progressive Education," printed on the verso of the table of contents of each issue of *Progressive Education* (1924): (a) Freedom to Develop Naturally; (b) Interest, the Motive of

all Work; (c) The Teacher, a Guide, Not a Task-Master; (d) Scientific Study of Pupil Development; (e) Greater Attention to All that Affects the Child's Physical Development; (f) Co-operation Between School and Home to Meet the Needs of Child-Life; and (g) The Progressive School, a Leader in Educational Movements.

Conduct of Study (Chapter Summaries) and Literature Review

This dissertation seeks to tell the story of the Visual Instruction Movement from its primary sources.

Chapter Two: Professional Journals and Organizations

Several professional organizations devoted to visual instruction were founded during this period. Two of the first organizations were the National Academy for Visual Instruction (NAVI) and the Visual Instruction Association of American (VIAA). NAVI held its first annual meeting, July 14-16, 1920, in Madison, Wisconsin, and "Resolved, that we urge each institution engaged in or contemplating visual education work to become an institutional member of this Academy" (National Academy of Visual Instruction, 1922, p. 17). One of NAVI's chief concerns of the organization was the distribution of motion pictures, i.e., "the dream of a free public circulating film library" (Crandall, 1922, p. 16). Ernest L. Crandall (1922) hoped that NAVI would be financially strong enough to encourage demand and foster supply of educational films yet remain independent enough to act as a clearinghouse between film manufacturers and schools.

In 1922 the Visual Instruction Association of America was established and shortly thereafter (1923), the National Education Association's Department of Visual Instruction (DVI). Anna Verona Dorris served as president of the DVI in 1927, when the organization held its annual convention in Seattle. Her immediate predecessors included Harry B. Wilson (1923-4), W.M. Gregory (1924-5), Ernest L. Crandall (1925-6), and A. F. Balcom (1926-7). She was succeeded by John A. Hollinger, W.W. Whitinghill, and F. Dean McClusky (AECT, 2001). Anna Verona Dorris was the first woman to serve as president of the DVI, and the only woman to do so until 1934-1935, when Grace Ramsey held the office.

Dorris's presidential address was entitled "The Pedagogical Possibilities of Mass Instruction with Motion Picture," the substance of which reappeared two years later as "Visual Instruction in Classroom Teaching" in the *Journal of the National Education Association*. At this time, the motion picture as an educational factor was still in its infancy (Dorris, 1927). Anna Verona Dorris emphasized that visual aids were intended to complement education. The key, of course, was to determine "in what stage of the learning process each type of visual aid will render the greatest service to the child" (Dorris, 1929, p. 151). Before employing a visual aid, the teacher must "have a scientific conception of the nature of the child" (Dorris, 1929, p. 151). Whether a specific visual aid actually enhanced learning depended upon how the material was used. Illustrative material was best used, according to Dorris, during the preparation of assigned work. The material was meant to supplement research, not serve as a substitute for it. Visual material was particularly helpful in reviewing a lesson because visualization "will permanently fix correct mental concepts in the minds of students" (Dorris, 1929, p. 152). She warned against the superficial use of an

educational device, such as a motion picture, for the device's sake. Such exposure did not provide fundamental and lasting results. Regarding visual material, she concluded, "Let us use it, but use it wisely" (Dorris, 1929, p. 151).

During the decade 1918-1928 several journals entirely devoted to visual instruction appeared. Early titles included *Reel and Slide* (later *Moving Picture Age*), *The Screen*, *Educational Film Magazine*, *Visual Education*, *Visual Review* and *The Educational Screen*. *The Educational Screen*, which became the first official organ of the National Association of Visual Instruction (NAVI), began publication in 1922 and by 1925 was the only visual instruction journal still in print. *The Educational Screen* described its purpose in its initial editorial: "The purpose of The Educational Screen is single and emphatic. This magazine intends to get at the truth about visual education – in all its phases and all its aspects – and serve it up in a form that is palatable to the American public" (*The Educational Screen*, 1922f, p. 5). Six years later the editorial board concluded: "We believe that the incubation period for the visual movement is about over" (*The Educational Screen*, 1928a, p. 5). Although a decade previously, "the enthusiasms of a lonely minority for 'visual education' were laughed at or ignored by the high and humble alike in the educational ranks, the previous six years have been a transformation in the field" (*The Educational Screen*, 1928a, p. 5) of educational technology. *The Educational Screen* survived (in part) for three reasons: authors did not expect compensation for their submissions; its editorial column(s) remained free of commercial influence; and the periodical eventually obtained sufficient paid advertising (Kruse, 1962). Also, *The Educational Screen* not only chronicled significant events in visual instruction, it also made history (Saettler, 1962). For example, the journal published the first

authoritative research in visual education: Joseph J. Weber's "Comparative Effectiveness of Some Visual Aids in Seventh Grade Instruction" (Weber, 1922a).

In this chapter, I will use editorials and articles from Volumes 1 – 7 of *The Educational Screen* to describe the development of the Visual Instruction Movement as portrayed from this seminal journal. In the following chapters, I will also depend heavily on *The Educational Screen*.

Chapter Three: Research in Visual Instruction and Educational Technology

Joseph Weber and Frank Freeman conducted the early research in the field of educational technology. According to Saettler, J. J. Weber was the pioneering investigator who used pictorial media rather than verbal tests to measure the results of learning (Saettler, 2004). Weber thought that the problem of visual aids had become sufficiently important to warrant serious research. He carried out his experiments at Public School No. 62 in Manhattan. Weber noted the pervasiveness of verbal transfer in the classroom and questioned whether it was the most effective method of educating students. Did it make any sense to spend ten minutes describing a relationship which could be presented in half the time with a visual aid? Weber insisted that visual experiences provide the primary stimuli to learning. When such first-person experiences are not feasible, Weber advocated the use of visual aids (Weber, 1922). To demonstrate this point, Weber planned an initial cycle of three experiments, which he termed A, B, and C, which he subsequently expanded to include a fourth project, Experiment D (Weber, 1922a).

In April 1922, the educational committee of the Commonwealth Fund granted the University of Chicago $10,000 to carry out research on the educational benefits of motion pictures. Frank N. Freeman (1924) reported on the results of these thirteen experiments.

- Comparisons of Different Methods of Visual Instruction (F. Dean McClusky)
- A Comparison of Film and Oral Instruction (E.H. Reeder and Frank N. Freeman)
- The Relative Effectiveness of Six Forms of Lesson Presentation (Haddon W. James)
- Comparison of Six Modes of Presentation of Subject Matter (F. D. McClusky and H. Y. McClusky)
- The Effectiveness of a Motion Picture Film Consisting Largely of Tables, Maps, and Charts (Freeman, Reeder, and Jean A. Thomas)
- The Effectiveness of a Motion Picture Used as an Introduction or as a Summary (A. P. Hollis)
- The Use of a Motion Picture to Teach Position and Penholding in Handwriting (Freeman, Lena A. Shaw, and D. E. Walker)
- Comparison of Motion Pictures, Slides, Stereographs, and Demonstration in Teaching Handwork (McClusky and McClusky)
- The Effectiveness of the Film and Demonstration in Teaching Physics (Freeman)
- The Effectiveness of the Film and Demonstration in Teaching Cooking (Hollis)
- Stereographs and Slides in Teaching Oral English to Foreigners (Nina Joy Beglinger)
- Oral and Film Instruction in Health Education (Carolyn Hoefer and Edna Keith)
- Study of the Content of Educational Films (H. Y. McClusky).

Chapter Four: Coursework and Continuing Education

This chapter traces the development of for-credit coursework in educational technology during the Visual Instruction Movement. Also during this period, we see the rise of professional development and continuing education. First, this chapter describes one of the earliest courses in visual instruction, *Graphic Methods of Presenting Facts*, taught by J. Harold Williams at Stanford University during the summer 1918 (Williams, 1924). Second, two surveys, one by Anna Verona Dorris (1923) and the other by F. Dean McClusky (1924), show the provisions made for teacher education in visual instruction. Third, *The Educational Screen* (1924) reprinted course descriptions of Summer Schools Courses in Visual Instruction in the July 1924 issue. Finally, primary documents describe opportunities for professional development in various institutes offered around the country, both formally (conferences in visual education) (*The Educational Screen*, 1923a; National Academy of Visual Instruction, 1922) and informally (in terms of monographs and pamphlets) (Visual Instruction Association of America, 1925).

Chapter Five: Visual Instruction Departments and Extension Services

The Visual Instruction Movement gave rise to state and local visual instruction departments and university extension services. According to M.P. Vosskuchler (Assistant in Educational Extension at the University of Arizona), the University of Arizona's Visual Education Section acted as a distributing center for the state of Arizona, sending films to thirty-one institutions during the period 1920-1921 (averaging 250-300 attendance at each

showing) (Vosskuchler, 1922). In addition to 100 reels of film and 1,700 stereopticon slides, the section also could provide a standard-sized Powers projector and a portable Devry machine as well as a stereopticon and several portable screens. The section concentrated its collection development on industrial films, so as to depict "processes or the methods followed along certain lines of manufacture or production of utilities" (Vosskuchler, 1922, p. 118). Vosskuchler hoped that the Visual Education Section would expand to such an extent that it would soon be the largest and most important section of the university's extension activities.

A reading of the primary documents identifies other organizations promoting visual education and circulating visual aids: State Departments of Education (New York; Abrams, 1924c); school districts (Berkeley, California; Dorris, 1923b); urban extension services (Detroit, Michigan and Philadelphia, Pennsylvania; Barnes, 1926; Sigman, 1933); and college and university extension bureaus (Iowa State College in Ames, Iowa, and the University of Pittsburgh in Pittsburgh, Pennsylvania; Egner, 1921; Iowa State College Visual Instruction Service, 1925).

Chapter Six: Textbooks

In addition to Saettler's list of developments in visual education during the period immediately following World War I, we can add the appearance of visual instruction monographs and textbooks (Saettler, 1998). Andrew Yeaman identified several visual education textbooks from the 1920s (Yeaman, 1985). In many respects, the texts identified by Yeaman are the book-length primary documents of the Visual Instruction Movement (VIM). At the outset of the VIM, these books defended the use of motion pictures in the classroom.

Later texts moved on to discuss the mechanical and technical aspects of the movement. The texts include those written by Dench (1917), Bollman and Bollman (1922), Ellis and Thornborough (1923), Zirbes (1926), Hollis (1926), and Johnson (1927). Perhaps the most thoroughgoing book was Anna Verona Dorris's *Visual Instruction in the Public Schools* (1928). At the outset of the Visual Instruction Movement, these books defended the use of motion pictures in the classroom. Later texts moved on to discuss the mechanical and technical aspects of the movement.

Chapter Seven: Epilogue. Alma Viola Delany Discovers "A Happier Way of Learning": A Fictional Narrative of a Public School Teacher in the 1920s

The epilogue provides a narrative of the Visual Instruction Movement as seen through the eyes of Alma Viola Delany, a fictional character who began her in-service teaching in 1922. The epilogue also contains two further points of discussion: the contribution of this dissertation to the history of American educational technology and a suggestion for further research.

Definitions (and Abbreviations)

Content Analysis. "A research technique for making replicable and valid inferences from data to their context" (Krippendorff, 1980, p. 21).

Department of Visual Instruction (DVI). The DVI was founded in Oakland, California, at the 1923 NEA annual summer convention to promote visual education in schools (Saettler, 2004).

Educational Technology. “Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources” (Januszewski & Molena, 2008, p.1).

Hermeneutics. Hermeneutics assumes that the study of the historical world requires a different methodology than that used to study the natural world (Thompson, 1996).

Historicism. Assigns meaning to a text in terms of its context (Hens-Piazza, 2013).

Historiography. The practice of writing history, including the theory, methodology, and scope of historical work (Cotkin, 2003).

Instructional Media. The physical means through which instruction is presented to learners (Reiser, 2002).

Instructional Technology. “Instructional technology is the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning” (Seels & Richie, 1994, p. 1).

Moving Picture Age. Originally titled *Reel and Slide*, *Moving Picture Age* began publication in 1918 and merged with *The Educational Screen* in 1924 (Seattler, 2004).

National Academy of Visual Instruction (NAVI). The first meetingsof NAVI was held in Madison, Wisconsin, with the stated purpose of promoting nonflammable film (NAVI, 1922).

National Education Association (NEA). The NEA was founded in 1870, when the National Teachers Association merged with the American Normal School Association and the National

Association of School Superintendents. At present, the three million members of the NEA work to advance the cause of public education (National Education Association, 2014).

Visual Instruction Association of America (VIAA). The VIAA was organized in Boston, Massachusetts on July 6, 1922 and initiated demonstration centers at national conferences (Saettler, 2004).

Visual Instruction Movement (VIM). The Visual Instruction Movement (1918-1928) was a constituent part of the field of visual education, which began in the early 1900s. With the further development of sound films and radio, it became audiovisual education; by the 1950s the field was known as educational technology (Saettler, 2004).

Limitations/Delimitations and Chronology

Limitations

"A Happier Way of Learning", based on the German historicism of Herder and Ranke and the hermeneutics of Dilthey, can certainly be viewed as Eurocentric. Since it also adopts the view of history stated by Collingwood, its Anglo-American bias is also evident. This research does not involve human subjects, animal subjects, or recombinant DNA, and hence, no IRB approval is necessary.

Delimitations

Although this study follows the historical tradition of German historicism, I am not dependent upon the philosophy of history expressed by Georg Hegel. I intend to avoid Idealism (which provides an ontological axis for thought) and am not positing an idealistic "I" outside of the Visual Instruction Movement or myself. As a result, there is no inner teleology in this study (nor in the Visual Instruction Movement, for that matter). To that end, I am not adopting a Marxist interpretation of the Visual Instruction Movement. By the same token, the conservative approach taken to the primary documents of the Visual Instruction Movement indicates that this dissertation is not a social history (which seeks to understand social groups who have historically been powerless). Rather, historicism contends that historical questions must be settled within their particular social and cultural context (Hens-Piazza, 2013). In this case, I am taking primary documents of the Visual Instruction Movement and interpreting them within a framework which sees them as precursors to modern-day educational technology. I am attempting, insofar as possible, to avoid applying moral judgments and standards to the actors in the Visual Instruction Movement.

Chronology

Two events frame the Visual Instruction Movement: World War I and the Great Depression. President Woodrow Wilson asked Congress for a declaration of war against Germany on April 2, 1917. By that time, conflict had raged in Europe since August, 1914, between Germany and Austria-Hungary (the Central Powers) and Britain, France, and Russia

(the Allies). Eventually, two million Americans were stationed in France, and 120,000 of these perished: 60,000 in battle and an additional 60,000 of disease. After the war, President Wilson hoped that the United States would enter the League of Nations. The United States, however, took an isolationist turn after the First World War, and the Senate refused to ratify the treaty which would have authorized American participation in the organization (Hodges, 2003).

The onset of the Great Depression is traced to the crash of the American stock market on October 29, 1929. During the period 1929-1933, real GDP in the United States fell by more than 25%, erasing all economic growth of the previous twenty-five years. In 1929, over 28 million students attended either public or private schools in the United States. During the first two years of the Great Depression, most schools operated as usual. By the fall 1931, however, these schools began to experience financial difficulties. Unemployment and lower incomes in the United States resulted in falling tax revenues, which in turn meant less money for schools. In order to address the budgetary crisis, many communities shortened the school year from eight months to six months. School administrators slashed programs so that schools could concentrate on the basics of reading, writing, and arithmetic. School districts ceased purchasing textbooks, halted construction projects, and reduced both staff and salaries. To their credit, teachers and other educators attempted to preserve the quality of education. In Chicago, schools stayed open simply because the teachers showed up to work, even though they knew they would not get paid (Young & Young, 2007).

Educators did not self-consciously found the Visual Instruction Movement in 1918. The Visual Instruction Movement arose after the end of the Great War in 1918, when

educators considered how they could incorporate motion pictures into the classroom. By 1928, *The Educational Screen* could editorialize that the initial phase of the Visual Instruction Movement had come to a close: “We believe that the incubation period for the visual movement is about over. With the hatching process completed, we may expect real growth” (*The Educational Screen*, 1928a, p. 5). The next year, the stock market crash of 1929 ushered in the Great Depression. Schools across the United States no longer had the funds to purchase equipment and materials, and the National Education Association shifted its attention to teacher compensation and pensions (National Education Association, 2014). Also, by 1929, educators turned away from purely visual instructional materials and started to consider how to incorporate radio into the classroom (Saettler, 2004).

CHAPTER TWO

"A HAPPIER WAY OF LEARNING":

JOURNALS AND PROFESSIONAL ORGANIZATIONS

"A Happier Way of Learning" presents a historical narrative of the Visual Instruction Movement based on many of its primary documents. Two characteristic landmarks of the Visual Instruction Movement highlighted by Saettler (2004) include the founding of (a) journals and (b) professional organizations devoted exclusively to visual instruction. It is proper to begin the narrative with a discussion of journals and organizations, since journals may publish original research, review textbooks and monographs, and carry announcements about improvements in the field, including coursework and opportunities for professional development. Professional organizations, in turn, often sponsor these opportunities and publish the journals. An examination of the primary documents of the Visual Instruction Movement reveals that the development of journals and organizations are intertwined and thus need to be considered together (Lodahl & Gordon, 1972; Pierce, 1991).

Two early journals, *The Screen* and *Educational Film Magazine,* ceased publication in 1922. Three other journals contributed significant editorial content to the Visual Instruction Movement: *Reel and Slide*, *Moving Picture Age*, and *The Educational Screen*. The earliest professional journal in the field, *Reel and Slide*, was established in 1918 and shortly thereafter changed its name to *Moving Picture Age*. In 1923 *Moving Picture Age* was acquired by *The*

Educational Screen. *Visual Education*, the house organ of the Society for Visual Education, began publication in January1920 and merged with *The Educational Screen* in 1924. By 1925 *The Educational Screen* was the sole remaining journal devoted to visual instruction.

In addition to journals, two national organizations also were formed in the early 1920s to promote visual education. The National Academy of Visual Instruction (NAVI) and the Visual Instruction Association of America (VIAA). NAVI was dominated by college and university extension services from the Midwest and the VIAA grew out of the New York extension bureau (Crandall, 1923a). In time, *The Educational Screen* became the official organ of both organizations.

Journals

Academic librarians draw a distinction between academic, scholarly or peer-reviewed journals and trade or industry publications (Byrd, 1997). An academic journal traces the publication process of an article and usually includes the name of the author, an abstract, keywords, acknowledgements, references, and footnotes. An academic or scholarly article is written by a research expert in a particular field and undergoes a process of peer review, whereby it is reviewed by experts in the field to verify its methodology and conclusion. The article is written for other members of an academic discipline and its author assumes that readers have certain knowledge of the field (Western New England University, n.d.). Scholarly journals contain few advertisements and are published by universities, scholarly presses, or academic research organizations (Minneapolis Community and Technical College, 1999).

A trade or industry publication provides information to a particular industry. Its authors are practitioners in the field who write for other practitioners. This type of periodical will discuss current trends and products and contains statistics, forecasts, organizational and company information, and product reviews. The graphics in a trade publication include photographs, charts, tables, illustrations and targeted advertising (Minneapolis Community and Technical College, 1999). The journals published during the Visual Instruction Movement closely resemble industry publications. Although *The Educational Screen* published research regarding the use of visual aids in the classroom, the journal was for practitioners in the field of visual instruction.

Motion Picture Age

Early in 1918 the first issue of *Reel and Slide* was published: "a monthly magazine to make the screen a greater power in education and business" (Saettler, 2004, p.161). The title was retained until October 1919, when its name was changed to *Moving Picture Age* after a group of educators joined the governing board (Saettler, 2004). A common lament taken up by the visual instruction journals during the early years of the Visual Instruction Movement, including *Motion Picture Age*, was the general lack of educational film available for use in schools. W. M. Gregory, Director of the Educational Museum, School of Education in Cleveland, Ohio, took up this complaint in the January 1922, issue of *Moving Picture Age*. Gregory (1922) inventoried the material available in the Educational Museum and found old commercial films that had been junked and reworked into educational pictures, advertising films which gave a one-sided view of a particular product, government films (which included

not only generally excellent agricultural films but also out-of-date war and propaganda films), welfare films (which were produced by large corporations and were not suited for educational purposes), and finally, health films (which were too costly and too technical for use in schools). These films were often shown in school because of their novelty and were accepted for classroom use "*if it is low priced*" (Gregory, 1922, p. 20, italics in the original).

Gregory (1922) believed that the American K-12 curriculum called for well-made dramatic and literary masterpieces and discussed some of the criteria for their inclusion in school work (italics in the original): (1) "The purpose of each picture must be determined before its production begins" (Gregory, 1922, p. 20). For example, if the film was about wood-carving or pottery making, it must show the steps involved with a clear and proper explanation of these activities. (2) "The details of all educational pictures must be clear, accurate, and necessary to the accomplishment of the educational purpose" (Gregory, 1922, p. 20). If the picture was unsuitable for use in the classroom, Gregory warned against trying to rescue it by adding trivial titles or amusing details. (3) "Experts in education must prepare standards for educational films" (Gregory, 1922, p. 20). According to Gregory, "Schoolmen," or professional educators, provide the specifications for textbooks. These same individuals must also have input in the production of films (which should not be left to profit-motivated commercial interests). (4) "Action is the prime feature in films" (Gregory, 1922, p. 20). Screen material should comprise more than a condensing of textbooks.

Gregory's primary concern regarded the waste and inefficiency in the production of historical films of educational quality. He felt that producers and educators needed to cooperate in order to produce films of educational merit for classroom use. "Real educational

film cannot be produced by those remote from educational activities" (Gregory, 1922, p. 21) and the advice of teachers must be sought prior to the production of the film and "*not after the film is made*" (Gregory, 1922, p. 25, italics in the original). Gregory suggested a survey of the school curriculum to determine the types of historical material needed. It stood to reason, in his view, that elementary schools require a different level of material than do universities. Whatever the audience, the films must be historically accurate and the final version must provide the stereographic effects of depth and distance while the coloring must appear natural (Gregory, 1922). Gregory also believed that educational pictures did not fulfill their purpose when they were placed on a rigid circuit constantly circulating from town to town and he looked forward to the time when each community had a library of educational films (Gregory, 1922).

In another early article, A.G. Balcom anticipated the forthcoming research and textbooks on the place of motion pictures in education (see Chapters Three, "Research in Visual Instruction and Educational Technology", and Six, "Textbooks"). He posed (which I will summarize) and answered five questions that illustrate contemporary opinion on the place of motion pictures in the curriculum. First, to what extent will the film supplant present-day methods of teaching? During the progressive era, the typical school lesson consisted of verbal transfer: lectures, memorization of passages from textbooks, recitation, and numerous drills (Whitescarver, 1996). Balcom (1921) responded that it was impossible to answer this question definitively, but modern educators had to recognize that the educational landscape, which included film, was constantly changing. Second, will the use of film enable children to get an education with comparatively little effort? This was a critique often encountered by

proponents of visual instruction (Dorris, 1928; Roach, 1928). Balcom (1921) replied that if a film were properly used, it would lead to greater activity on the part of the pupils. Third, are educators likely to go to extremes in the use of film? This was certainly the case, according to Balcom (1921). As the research of Freeman (1924) would demonstrate, some subjects could not be taught as effectively and economically with film as other subjects. These other subjects were best taught with the use of other visual aids (stereopticons, for example).

Balcom's fourth query was whether educators had been ultra-conservative toward the use of film. In his opinion, educators and teachers had been too cautious in introducing film into the classroom. Finally, would films prove to be a panacea for many of our educational ills? Balcom noted the "many extravagant claims made as to what will be accomplished through the use of the film in education" (Balcom, 1921, p. 18). For example, according to its more avid proponents, educational films would reduce mental retardation and shorten the course of elementary and secondary education by a minimum of two years (Balcom, 1921). Balcom cautions, "Let us not allow our enthusiasm and optimism to warp our judgment, so that our expectations reach beyond the bounds of reason" (Balcom, 1921, p. 18).

The journal announced what it termed the "First University Course in Visual Instruction" in 1921 (*Moving Picture Age*, 1921a). According to a column in the *Moving Picture Age*, the Cleveland School of Education and Western Reserve University announced a course for Summer 1921. Iowa State College had previously announced a three-day course, but *Moving Picture Age* declared that the Cleveland course is the first one of "regulation length and conditions" adopted by an American college or university (*Moving Picture Age*, 1921a, p. 30). According to the description provided,

> The course consists of general lectures, dealing with fundamental principles of visual education, types of exhibits and classroom methods, etc.; special lectures delivered by experts of national reputation who will describe successful methods and summarize the principles upon which they were based; seminars, in which each week's work will be freely and critically discussed; and laboratory work, to consist of examination of and critical reports on visual-instruction exhibits furnished by various museums. (*Moving Picture Age*, 1921a, p.30)

The class also planned to visit the laboratories which produced the *Ford Educational Weeklies*, a collection of fifty-one films produced by Henry Ford for instructional use (Saettler, 2004).

Moving Picture Age provided news coverage of the film and slide service at the University of Pittsburgh (see Chapter Five of this dissertation: "Visual Instruction Departments and Extension Bureaus"), which offered visual instruction services throughout the state of Pennsylvania as well as the areas of eastern Ohio and northern West Virginia (Egner, 1921). The University collected 500 films and more than 6,000 slides on a variety of subjects (including agriculture, Americanization, oral hygiene, physical education, etc.), which it distributed to educational institutions, civic organizations, and individuals (Egner, 1921). The extension service at the University of Pittsburgh set up a cooperative plan, which entitled members to book up to five reels of film and one set of lantern slides per week. Members were responsible for lost or damaged material and were required to return borrowed items promptly (Egner, 1921).

Moving Picture Age also covered the activities of the National Academy of Visual Instruction (NAVI). In the September 1921 issue, *Motion Picture Age* announced that it had become the official organ of NAVI. The journal provided an account of NAVI's inception, a

roster of NAVI's officers, excerpts from NAVI's constitution, and announcements of the organization's activities (see below, this chapter; *Moving Picture Age*, 1921b).

The December 1922 issue marked the final appearance of *Moving Picture Age*. Starting in January 1923, its work would be carried on by *The Educational Screen*, which promised to honor the subscriptions of *Moving Picture Age* at the same price. New subscribers to *The Educational Screen* would also receive a copy of "1001 Films (Plus)," the 4,775 film non-theatrical listing compiled and distributed with *Moving Picture Age.* The most controversial editorial policy of *Moving Picture Age* proved to be that which prohibited editorial contributions from advertisers. In other magazines, the editors noted, "an advertiser has been accustomed to receive so much space for his editorial policy" as for his advertisement (*Moving Picture Age*, 1922, p. 5). In this last issue, the editors of *Moving Picture Age* acknowledged the existence of two national organizations: NAVI, which the editors considered a truly and distinctly national organization, and the Visual Instruction Association of America (VIAA), literally the offspring of the Visual Instruction Association of New York City, which, according to the editors, was a purely local group of visual instruction advocates (see below). The editorial called on the VIAA to give up its pretensions and merge under the umbrella of NAVI. "And with this admonition, we pass the torch to *The Educational Screen*" (*Moving Picture Age*, 1922, p. 5).

In addition to discussing the state of educational film, *Moving Picture Age* contained material on several of the hallmarks of the Visual Instruction Movement: teacher education, extension services, and professional organizations. *Moving Picture Age* ceased publication prior to the appearance of the research of Weber (1922a) and Freeman (1924) (see Chapter

Three). I did not find there any mention of the textbooks I reviewed in Chapter Six of this dissertation.

Visual Education

Visual Education was the second journal to contribute editorial content to the Visual Instruction Movement. By 1920, schools generally were increasing their use of motion pictures and lantern slides in instruction. Commercial concerns, however, were not producing quality pictures and schools were encountering difficulty in obtaining suitable material. *The Elementary School Journal* noted that a corporation had formed in Chicago comprised of academics who intended to do everything in their power "to work out in a scientific way the value of pictures and to bring together material which will be available for use in schools" (*The Elementary School Journal*, 1920, p. 630). This corporation, the Society for Visual Education, published *Visual Education*, "a magazine devoted to the cause of American education." Its first issue contained the infamous quote by Thomas Edison: "I expect that moving pictures will take the place of most books below the ninth grade" (Society for Visual Education, 1920b, p. 35).

Visual Education, under the general editorship of Nelson L. Greene, professed interest in the entire range of visual education and the editorial board believed whole-heartedly "in the educative capacity of the human eye" (Society for Visual Education, 1920c, p. 4). The magazine noted that maps, charts, diagrams, and prints had long been a part of the American educational landscape, and the stereoscope and stereopticon were also finding increasing use in classrooms as well. Only the motion picture needed defending in 1920, but the editorial

board of *Visual Education* was quite confident that "once the proper hands are upon it," this new invention would outstrip all of its predecessors in its total contribution to American education (Society for Visual Education, 1920c, p. 4). *Visual Education*, therefore, entered the field of educational magazines "with the solemn resolution to do its utmost toward the extension of all existing activities along the lines of visual instruction. It will also seek to promote by every appropriate means the sane and scholarly development of the new resources put within our reach by the Motion Picture" (Society for Visual Education, 1920c, p. 5).

Visual Education agreed with *Motion Picture Age* that more research was needed regarding the educational utility of motion pictures (Russell, 1920). Schools in the United States had been backward in the use of motion pictures in the classroom and films must be given a chance to succeed. "There is only one way to accomplish this. We must subject the use of the motion picture to the same scientific scrutiny to the teaching of spelling, to the use of drill work, to the use of phonics in the teaching of beginning reading, to the value of supervised study, to the measurement of results of teaching and problems of a similar sort" (Russell, 1920, p. 10).

F. R. Moulton (1920), echoing, in part, the argument made by W. M. Gregory in *Motion Picture Age*, laid out several principles which should guide the production of educational film. First, "*they must show what is true"* (Moulton, 1920, p. 46, italics in the original). Commercial films produced by showmen generally showed the exceptional, abnormal, and bizarre. Educational films, on the other hand, should portray the typical and the normal. Commercial films were meant to excite wonder; educational films were intended to help students get along in the world. For example, a good film on citizenship should

demonstrate contemporary governmental processes. A good film on health and sanitation should show the importance of personal hygiene and how infectious diseases are spread. According to Moulton, school films which are not true "are immoral" because "it is positively wrong and vicious to print erroneous pictures on impressionable minds" (Moulton, 1920, p. 46).

Second, "*Educational films must show what is important"* (Moulton, 1920, p.46). According to Moulton (1920), the time a student spends in school is limited and school days do not last long enough to waste time on trivial matters. In the brief time that a student is in school, that individual must be taught reading, writing, arithmetic, geography, science, and "numerous other things which are intended to prepare him to make his way in the world" (Moulton, 1920, p. 47). Moulton noted that movies are expensive to produce and "it would be a crime to employ in schools such precious and expensive means of education for showing simply trivial and amusing things" (Moulton, 1920, p. 47).

Third, educational movies "*must be of interest*" to students (Moulton, 1920, p. 47). Children are naturally curious and dull movies, or any other educationally dull material for that matter, will not excite the students in the subject matter at hand. Educational films should serve to stimulate the curiosity, fire the imagination, and arouse the ambition of students (Moulton, 1920). "Education based on the theory that the naturally active mind of a child should be curbed until it becomes the passive receptacle for useless information will not lead to satisfactory results" (Moulton, 1920, p. 47).

Finally, educational films "*must be of artistic merit*" (Moulton, 1920, p. 48). This final point was so self-evident that Moulton felt it needed no explanation. In conclusion, Moulton,

on behalf of the Society for Visual Education, pledged that the Society would limit itself to producing film which met the standards he articulated (Moulton, 1920).

As did *Motion Picture Age, Visual Education* provided information on the various hallmarks of the Visual Instruction Movement covered in this dissertation. *Visual Education* reprinted verbatim the study of John V. Lacy, "The Relative Value of Pictures as an Educational Agency" (Lacy, 1919) (see Chapter Three, "A Happier Way of Learning: Research in Visual Instruction and Educational Technology"). The journal contained contact information for university extension centers and distribution centers, including Iowa State College in Ames, Iowa, under the direction of Charles Roach (Society for Visual Education, 1920f) (see Chapter Five, "A Happier Way of Learning: Visual Instruction Departments and Extension Services"). Further, *Visual Education* printed the annual program of the National Education Association held in Salt Lake City, Utah, which commenced July 5, 1920 (Society for Visual Education, 1920e).

Visual Education also announced coursework in visual instruction to be offered at Columbia University (Society for Visual Education, 1920d). According to the announcement, Professor E. K. Fretwell and Mr. Charles W. Hunt, principal of the Horace Mann Elementary School in New York City, would teach Education 217, "The Educational Value of Motion Pictures." Columbia University also planned to offer a second course during the summer. This second course, taught by Rowland Patterson, was concerned with the "fundamentals of making photoplays" (Society for Visual Education, 1920d, p. 70) and promised to address basic skills in the production of video material as well as "other tricks of the trade" (Society for Visual Education, 1920d, p. 70).

As a trade publication, *Visual Education* published news items of interest to practitioners of visual instruction. For example, *Visual Education* related that the Bureau of Education, Department of the Interior, had recently published a bulletin entitled *Motion Pictures and Motion Picture Equipment* to encourage visual instruction in schools throughout the United States. In other news, the journal reported that the Home Mission Board of the Methodist Episcopal Church incorporated visual materials in its presentation on the progress made in the rural church to its General Council, held in Des Moines, Iowa, on May 10 (Society for Visual Education, 1920d). *Visual Education* was also rife with advertising. The November issue of 1920 contained pages of advertising for products such as the Zenith Portable Project, sold by Rutledge & Company of Chicago, Illinois; the Classroom Stereopticon, offered by the Victor Animator Company of Davenport, Iowa; and Duplexalite Lighting, manufactured by Western Electric of New York City (Society for Visual Education, 1920a).

. *Visual Education* editorialized that the chief enemy of visual education was intellectual inertia. A “Mr. Pitts,” in the February 1914 issue of *The Colorado School Journal*, went so far as to write that movies “are not and never will be educative” (Zirkle, 1914, p. 11). In the early 1920s, critics of visual instruction contended that it sped up the educational process to the detriment of the students. In the view of some critics “a fundamental principle of pedagogy was that the pupil should learn by dint of laborious study” (Ellis & Thornborough, 1923, p. 46). Further, in the eyes of these critics, motion pictures had the tendency to relieve the teacher of personal effort (Ellis & Thornborough, 1923). The editors of *Visual Education* responded vigorously against this thinking and insisted that the time had

come to recognize that motion pictures were an essential component of education and were here to stay (Society for Visual Education, 1920g). The monthly column "What Superintendents Think" included a letter from E. A. Hurt, Superintendent of Schools, Philip, WV, who wrote, "We should have more visual instruction and less auditory. We forget that most of our information is visual. It has been well said, 'The eye is the window of the soul'" (Society of Visual Education, 1921b, p. 35). An advertisement for the company American Projectoscope (the brand name of a projector) stated "that we all learn more from pictures than from wordy explanations" and promised that when pictures are used, "sermons are strengthened, lectures made more interesting, sales made more quickly, lessons more thoroughly taught" (Society for Visual Education, 1920a, p. 65).

When *Visual Education* ceased publication in 1922, it left its readers with an appropriate farewell (Society for Visual Education, 1921a, p. 56):

Visual Education:

If you believe in it,

You want this magazine.

If you don't believe in it,

you need it.

The Educational Screen

The Educational Screen began publication in January 1922 under the editorial direction of Nelson L. Greene (and thus it briefly overlapped with both *Moving Picture Age* and *Visual Education*). The magazine cost 15 cents per copy, $1.00 per year, and 35 cents for

back copies. In its inaugural editorial it announced: "The purpose of The Educational Screen is single and emphatic. This magazine intends to get at the truth about visual education – in all its phases and all its aspects – and serve it up in a form that is palatable to the American public" (*The Educational Screen,* 1922f, p. 5).

In the inaugural editorial, the editors claimed the following qualifications on behalf of *The Educational Screen* (italics in the original): *"It will be impartial"* (*The Educational Screen*, 1922f, p. 6). *The Educational Screen* intended to remain free from commercial connections. It was interested solely in the cause of visual instruction and "we have nothing to sell except the magazine, which we intend to make worth more than the price" (*The Educational Screen,* 1922f, p. 6). "*It will be independent*" (*The Educational Screen*, 1922f, p. 6). The editorial board intended to retain cordial relations with all constituents of the visual industry and claimed, "We owe no obligation to any one interest which is not owed to every other" (*The Educational Screen*, 1922f, p. 6). "*It will be reliable*" (*The Educational Screen*, 1922f, p. 6). The journal promised to provide trustworthy information to readers, and any information contained therein would come from reliable sources and not from hearsay or newspaper reports. "*It will be complete*" (*The Educational Screen*, 1922f, p. 7). *The Educational Screen* promised to cover impartially the entire field of visual instruction, serving both educational and commercial interests. Finally, "*it will be authoritative*" (*The Educational Screen,* 1922f, p 7). *The Educational Screen* claimed to be the only magazine with adequate educational resources behind it and as such would be able to distinguish the true from the false and the important from the unimportant, and present this material in an agreeable form to its readers (*The Educational Screen*, 1922f). *The Educational Screen* accepted paid advertising but

would not permit commercial interests to influence editorial policy. “We receive no ‘commissions,’ no ‘subsidies,’ no ‘understandings,’” intoned the editors (*The Educational Screen*, 1922b, p. 5). The editors felt that they were in a unique position to occupy a middle vantage point between educators and commercial producers, and “only by close and cordial relations between these two economic elements (producer and consumer) can the cause of visual education advance to the fulfillment of its rich promise” (*The Educational Screen*, 1922b, p. 5).

In December 1924, the journal published “Our Most Important Announcement to Date” (*The Educational Screen*, 1924a, p. 379*)*: *The Educational Screen* had acquired the journal *Visual Education* (which had previously acquired *Moving Picture Age*) from the Society of Visual Education. This announcement noted that the Society for Visual Education had served the educational community by disseminating information regarding visual aids and best practices through the early stages of the Visual Instruction Movement. *Visual Education* was regarded as the dean of visual publications and in its brief tenure circulated nearly 400,000 copies. According to *The Educational Screen*, the importance of *Visual Education* could not be overstated. When the history of the Visual Instruction Movement is written, pride of place would be granted to *Visual Education*, which was “the sturdiest of all the pioneer publications and did much to blaze the way and *inspire thousands to follow the new path”* (*The Educational Screen*, 1924a, p. 379, italics in original).

Upon acquiring *Visual Education*, *The Educational Screen* announced several changes to the new, combined journal. The masthead of *The Educational Screen* would subsequently read “Includes *Moving Picture Age*.” The editors expanded the journal from 40 to 64 pages to

highlight additional material vital to the Visual Instruction Movement. This new material included "Among the Magazines and Books," a digest of journals and books in the field. "Our subscribers can then know that the literature of the field is under their eyes and within easy reach through the pages of a single periodical" (*The Educational Screen*, 1924a, p. 379). Most interesting, perhaps, was the new department covering extension bureaus. "This department should prove of real and growing worth to the many University and City Centers which now have no clearing-house through which to keep in touch with each other and with visual activities outside their own territories" (*The Educational Screen*, 1924a, p. 379). The merger of *Visual Education* and *The Educational Screen* was also announced by *The Elementary School Journal*, which believed that "consolidation in a special field like this represents journalistic strength" ("Editorial News and Comment," 1925, p. 413).

The content of *The Educational Screen* covered all of the key characteristics of the Visual Instruction Movement (research, textbooks, coursework, extension bureaus, and professional organizations). The journal provided dedicated space to the Visual Education Section of the National Education Association, which announced its program for the July 3 meeting to be held in Boston. Featured presentations included:

- Value of Visual Education in Terms of Educational Needs, by H. B. Turner (Superintendent of Schools, Warren, Ohio).
- Rationalizing through Visualizing, by S. H. Layton (Superintendent of Schools, Altoona, Pennsylvania).
- The Practical Side of Visual Education in the Public Schools, by W. W. Borden (Superintendent of Schools, South Bend, Indiana).

- The Pedagogy of Visual Education, by C. H. Garwood (Assistant Superintendent of Schools, Pittsburgh, Pennsylvania).
- Visual Instruction Equipment and How to Administer It, by Dudley Grant Hayes (Director of Visual Instruction, Chicago Public Schools, Chicago, Illinois) (*The Educational Screen*, 1922f).

The first article published by *The Educational Screen* was "Better Times Ahead" by William R. Duffy, Head of Visual Instruction Division, University of Texas. This article repeated the observations of *Motion Picture Age* and *Visual Education* regarding the poor selection and quality of educational film (Duffy, 1922). Duffy railed against the "poorer class of non-theatrical films" (Duffy, 1922, p. 10). He felt that too many schools screened these films regardless of their production values, and he eagerly anticipated the appearance of improved educational offerings which would be the equal of commercial releases.

Later in the same issue, *The Educational Screen* published reviews of many films and noted their applicability for classroom use. One of the films reviewed was *A Connecticut Yankee in the Court of King Arthur*. The reviewer noted a "tiresomely long introductory story" (*The Educational Screen*, 1922k, p. 30), which, were it cut, would render the film "entirely satisfactory to Mark Twain himself" (*The Educational Screen*, 1922k, p. 30). The magazine often highlighted the "Ten Worst Productions" (*The Educational Screen*, 1922j). The June 1922 issue reviewed a presentation of the play A Doll's House: "Faithful in settings, but absurd in every other respect. Mme. Nazimova gives us a series of ugly grimacing close-ups" (*The Educational Screen*, 1922j, p. 203).

The first issue of *The Educational Screen* also contained an account of Joseph J. Weber's course in visual instruction offered at the University of Kansas in Fall 1921. The topics addressed in the class include "History and Growth of Visual Education," "Types and Sources of Visual Aids," "Principles of Visual Instruction," "Special Methods in Visual Instruction," "Supervision of Visual Instruction," "Administrative Problems," "Picture Projection Technique," and "Research in Visual Education" (Weber**,** 1922b**).** Weber ended the description of his course with the opinion "the most promising soil for the growth of visual education is undoubtedly the elementary school" (Weber, 1922b, p. 16) and concluded that the biggest task now facing the field "is the actual elaboration of a specific methodology" (Weber, 1922b, p 17).

Another course profiled that first year was "Motion Picture Production," taught by Rowland Rogers at Columbia University (*The Educational Screen*, 1922d). The course dealt with the history and development of motion pictures and included a study of the following topics: (a) the physics of production (the study of light), (b) the chemistry of production (the manufacture of raw photographic stock, including developing, printing, and tinting), (c) the mechanics of production (the use of projection equipment), (d) the functions of production (the responsibilities of the screen writer, director, camera operator, and editor), and (e) the factors of production (including technical drawing and cartoons). The description of the course promised that various professionals active in the field, such as producers, directors and editors, would provide guest lectures and students enrolled in the course would be expected to produce a short movie (*The Educational Screen*, 1922d).

In addition to the eponymous journal, *The Educational Screen* published other material of interest to the Visual Instruction Movement. By January 1924, *The Educational Screen* had published four books: *Comparative Effectiveness of Some Visual Aids in Seventh Grade Instruction*, by Joseph J. Weber; *Visual Instruction in the Berkeley Schools*, by the Committee from the Berkeley Public Schools, Berkeley, California (Anna Verona Dorris, Chair); *Historical Charts of the Literature*, by Nelson Lewis Greene, editor; and the annual compilation, *1001 Films*. The size of the *Educational Screen* had increased; Volume II had twice as many pages as Volume I. Costs had risen, so the subscription price had increased 50% (from $1.00 to $1.50). *The Educational Scree*n also noted that subscriptions in the second year were four times the total of the first year (*The Educational Screen*, 1924c, p. 5). *The Educational Screen* attributed its very existence to the fact that the magazine remained independent of commercial interests. As the editors pointed out, no firm can logically put funds into an enterprise without some sort of return on its investment (*The Educational Screen*, 1924c). In this same editorial, to "Our Friends in the Publishing Field," *The Educational Screen* granted permission to reprint copyrighted material provided that customary credit was given to the journal (*Educational Screen*, 1924c, p. 7).

The Educational Screen mentioned William H. Johnson's textbook, *Fundamentals in Visual Instruction* (Johnson, 1927; see Chapter Six, "A Happier Way of Learning: Textbooks"). An advertisement for the book proclaims, "This volume presents, for the first time, what has long been sought by thousands of educators; namely, a resume of visual education to date, in thoroughly readable form, that is at the same time Concise, Comprehensive, Authoritative" (*The Educational Screen*, 1928b, p. 83). According to the

advertisement, Johnson covered the results of research in the field of visual instruction, the various types of visual aids available as well as the methods of using them, suggested strategies for using visual aids in the teaching of specific subjects, and provided a clear-cut exposition of what should and should not be attempted by visual methods. “The book is a stimulus and a time-saver for the progressive but busy teacher” (*The Educational Screen*, 1928b, p. 83).

A regular feature of *The Educational Screen* was the “School Department,” dedicated to the teachers “who are on the firing line of the new movement’s advance” (*The Educational Screen*, 1922h, p. 21). The editorial board opined that “visual instruction” was much more than a theory and included best practices carried out in hundreds of schools across the country and, accordingly, invited contributions from readers. The first installment was “A Presentation Lesson: An Introduction, through Pictures, to a Study of Norway in 7th Grade Geography” (*The Educational Screen*, 1922h). For this lesson, fifteen slides were chosen, showing views of Norway’s varied landscapes, farms, and cities. With this pictorial background, according to the lesson plan, a student’s understanding of the life and people of Norway was no longer dependent merely on a verbal description of that country (*The Educational Screen*, 1922h, p. 21).

In the years immediately following the First World War, many eminent educators continued to balk at the idea of visual instruction. *The Educational Screen* sought to overcome this indifference and aversion to visual education. To this end, the journal mailed questionnaires to 1,500 high school principals and superintendents early in 1922 to determine the present and future value of visual aids in formal education. By March of that year, 760

responses from 500 schools had been returned. The editorial board considered the returns evidence of what active educators think of visual education. Twenty-four schools considered visual education a passing fad. The other responses are given in Table 1 (*The Educational Screen*, 1922i).

Table 1

Present and Future Value of Visual Aids

With present facilities	Number of schools responding
Useless	29
Of some value	146
Of great value	67
With improved facilities will	Number of schools responding
Be a needless expense	2
Furnish more amusement	5
Be merely informational	14
Be really educational	184
Stimulate to better work	102
Save time in education	87
Give better education in same time	61
Be greatest influence since the invention of printing	39

The Educational Screen tallied the responses (686 favorable replies to 74 unfavorable) and found a ratio of 9/1 in favor of visual instruction (*The Educational Screen*, 1922i). Shortly thereafter, *The Educational Screen* sent a similar questionnaire to 5,000 schools to obtain data on visual equipment in high schools. Over 1,500 schools responded, summarized in Table 2 (*The Educational Screen*, 1922g).

Table 2

Visual Equipment in High Schools

Have only a stereopticon	120 (7.5%)
Have only a motion picture projector	126 (7.9%)
Have a stereopticon and plan to purchase a projector	41 (2.6%)
Have a projector and plant to purchase a stereopticon	7 (.4%)
Have neither and plan to purchase both	85 (5.4%)
Have neither and plan to purchase a stereopticon	92 (5/8%)
Have neither and plan to purchase a projector	137 (8.6%)

Total school reporting activity: 715
Total schools reporting no activity and no plans to purchase: 877
Total schools responding to questionnaire: 1,592

In hindsight, it is interesting to note that 55.1% of the respondent schools reported that they had no visual equipment and did not intend to purchase any in the near future. The editors surmised that many of the schools not responding to the questionnaire already had equipment or were planning to purchase it. Overall, *The Educational Screen* deemed the questionnaire a success and believed it strengthened "the evidence as to the progress of the visual movement" (*The Educational Screen*, 1922g, p. 170).

The Educational Screen covered a wide variety of visual aids. For example, "The School Department" in the February 1922 issue featured "Marionettes: A Project in Visualization" (Campbell, 1922). Marionettes are seldom mentioned in the literature of the Visual Instruction Movement and this article was offered as "a splendid example of motivated project-teaching" (Campbell, 1922, p. 23). The assignment described in this article, "Snow White and the Seven Dwarfs," was originally undertaken as an art project. The fourth-grade

class in East View School, Shaker Heights, Cleveland, Ohio, staged the play Snow White, which also used marionettes. This experiment proved so successful that the class planned to present a historical drama using marionettes (Campbell, 1922).

Conclusion: Journals

In March 1928, towards the end of the Visual Instruction Movement, F. Dean McClusky joined the editorial staff of *The Educational Screen*. He concluded that it had accomplished its mission: "We believe that the incubation period for the visual movement is about over" (*The Educational Screen*, 1928a, p. 5). A decade previously, "the enthusiasms of a lonely minority for 'visual education' were laughed at or ignored by the high and humble alike in the educational ranks" (*The Educational Screen*, 1928a, p. 5). The editorial staff surmised that the previous six years (1922-1928) "have been a transformation in the field" (*The Educational Screen*, 1928a, p. 5) of visual instruction and the conviction was widely shared that "the human eye should be, and is about to be, reinstated as the primary source of concrete learning in formal education" (*The Educational Screen*, 1928a, p. 5). *The Educational Screen* was at the literary forefront of the Visual Instruction Movement. It chronicled the rise of professional organizations, reported on research in the field, reviewed important monographs, and carried announcements about coursework and opportunities for professional development.

Professional Organizations

A professional organization maintains control or oversight over the professional practice of the organization and protects the professional interests of its members (Harvey, Mason & Ward, 1995). The oldest and largest professional organization devoted to public education in the United States is the National Education Association (NEA) (Cardinal, 2003).

The National Education Association

The National Education Association (NEA) was organized August 26, 1857, in Philadelphia, Pennsylvania, and became the NEA on February 24, 1886, when it was incorporated under the laws of the District of Columbia (Selle, 1932). The NEA moved its headquarters to Washington, D.C., in 1917 and under Executive Secretary J. W. Crabtree worked towards its goal of "100 percent membership in local, state, and national associations with every teacher at work on the problems of the profession" (Fenner, 1945). The NEA experienced a rapid rise in membership after the First World War, from 8,466 in 1918 to 193,145 in 1928 (at the close of the Visual Instruction Movement) (Selle, 1932). The NEA itself had expressed enthusiasm for the use of instructional media in the classroom and established the Department of Visual Instruction (DVI) at its summer convention in 1923. The DVI was "the direct result" (Saettler, 2004, p. 146) of a study provided by Charles H. Judd to the NEA. Judd reported that visual instruction was receiving insufficient financial support and that many schools had to turn to commercial film exchanges to obtain material (Judd, 1923).

In 1924, *The Educational Screen* was the major publication devoted to visual instruction, so Harry Wilson, the first president of the DVI, established the precedent of publishing DVI news in the journal, which shortly thereafter became the de facto journal of the organization. The DVI could claim a number of major accomplishments: (a) its members helped each other with job placement, (b) it successfully lobbied for the use of non-flammable film in the classroom, and (c) it served as liaison to other groups and commercial interests (something the National Academy of Visual Instruction was reluctant to do). The Association for Educational Communications and Technology (AECT) considers itself a direct descendant of the DVI, and according to the AECT, it was DVI who "solidified support behind the use of the term 'visual instruction' as the name for the field" (AECT, 2001).

The National Education Association took up a theme commonly expressed during the Visual Instruction Movement: the need for a basic course in visual instruction. In his February 1924 address to the Department of Superintendence of the NEA, W. M. Gregory, president of the department, proposed just such a course (Gregory, 1925). Gregory thought that this course should offer at least one hour of demonstration for every three hours of classroom meetings and each student enrolled in the course should have the opportunity of actually using the visual aids with pupils. Unfortunately, Gregory did not know of a single course where this practice was followed (Gregory, 1925). As of 1924, he observed that twenty odd courses were offered in visual education (for example Visual Instruction I and Visual Instruction II, taught by Anna Verona Dorris at San Francisco State Teachers College), and the majority of these classes devoted three-quarters of their attention to motion pictures. Only a very few of them demonstrated the other types of materials, such as lantern slides and stereopticons (Gregory,

1924). In Gregory's opinion, courses devoted entirely to the use of motion pictures and the operation of movie projectors failed to train teachers properly in the use of visual aids and could actually "deceive teachers who desire a course in the selection of visual materials and who need the practical demonstration of use with pupils" (Gregory, 1924, pp. 176-177).

Gregory noted further that many schools have "storerooms and closets cluttered with many different visual aids perfectly manufactured and endorsed by educators" (Gregory, 1924, p.176). However, these visual aids were useless unless the teacher knew how to use them. He said that the teacher must have broad latitude in selecting which visual aids to employ. Many schools relied on the "forced circulation of motion pictures from school to school," which Gregory believed violated modern educational practice (Gregory, 1924). Gregory thought that no single type of visual aid could satisfy the educational needs of students. Schools needed a wide variety of visual aids and teachers trained in their use, and the surest path to eviscerate visual education would be to force teachers to employ materials unrelated to instructional purposes. Visual materials unrelated to actual school work were, according to Gregory (1924), merely a waste of time and money.

Simply put, teachers should be trained to use the best material for the relevant instructional task and they must never be forced to accept a particular visual aid. The process of circulating films, for example, forced teachers to accept visual material at the convenience of the extension bureau, for Gregory a serious educational blunder. He pointed out that film circuits were implemented originally to get films in the hands of teachers. Films were expensive, and many schools could not afford to establish their own film library. So, in

Gregory's view, if schools were to encourage teachers to use motion pictures in the classroom, they must bite the bullet and purchase these materials (Gregory, 1924).

In 1925, Gregory further articulated a general plan for such a course to train teachers in the use of visual material (Gregory, 1925). He claimed that the largest use of visual aids took place in elementary schools, an indicator that the course should concentrate on the needs of elementary school teachers and pupils, be based on sound educational practice, and be required for all elementary school teachers. The course would consist of (a) general lectures on the principles and practices of visual instruction, (b) discussion of the various types of visual aids and their place in the classroom, (c) practice in creating and using exhibits, and (d) in-service use of visual aids (Gregory, 1925). The in-service demonstration of visual aids would be observed by all students enrolled in the basic course. Gregory's course was perhaps the first program intended exclusively for elementary school teachers.

The Department of Visual Instruction (DVI) of the NEA seconded the need for a basic course in visual education and issued a report to that effect. The report defined two aspects of visual education: the selection and construction of visual aids for use in teaching and the correct use of these aids in the classroom (Ankeney, 1926). Although most teachers saw the need for training in the selection and use of visual aids, agreement was lacking on how to accomplish this goal. The DVI report advocated that a unit, "Selection and Use of Visual Aids in the Teaching of Geography," should be a part of a special methods course in teaching geography (and a similar unit should be developed for history, science, and a host of other subjects) (Ankeney, 1926, p. 490). This plan had three advantages: (a) it did not require additional coursework in the crowded teacher training curriculum, (b) it did not necessitate

hiring additional faculty members to teach a course, and (c) it was pedagogically sound (Ankeney, 1926).

The DVI report suggested the following elements be included in the course: demonstration lessons given under actual teaching conditions, followed by a discussion of the demonstration (so the students could see why it was done this way), and finally, actual teaching by the student teacher under the direction of the supervising teacher. The DVI also suggested options for teachers already in service: they could either attend summer school or learn on their own by observing demonstrations by supervisors or reading books and magazines (Ankeney, 1926).

The DVI conceded that its proposal was rife with problems: (a) not all teachers in specialized courses had an opportunity for training in the use of visual aids, (b) the syllabus in special methods coursework often was so crowded that little time was left for visual aids, (c) teachers already in service should have the opportunity for continuing education, (d) materials and methodology in visual instruction were often so complex that unless one person was responsible for their development, nothing could be accomplished, and (e) special courses were necessary to focus attention on visual aids and stimulate interest in them. The DVI report contended that great danger could arise if visual materials were placed in the hands of untrained teachers (Ankeney, 1926).

National Academy of Visual Instruction

Two national organizations were formed in the early 1920s to promote visual education: The National Academy of Visual Instruction (NAVI) and the Visual Instruction

Association of America (VIAA) (Lembo, 1970). Diana Lembo (1970) traces the origins of NAVI to a conference held March 10-15, 1915, when representatives of university extension divisions met in Madison, Wisconsin, to discuss the use of visual aids in extension work. NAVI itself, however, traced its beginnings

> to a conference of between forty and fifty educators at Cleveland, Ohio, February 1920 at the time of the annual meeting of the Department of Superintendence of the National Education Association. As the result of an enthusiastic and deliberative conference, a committee of nine was appointed to take the necessary preliminary steps in organizing a national association. This committee met at the University of Michigan, April 7, 1920, drew up a constitution and by-laws, and completed an organization which was named NAVI. Temporary officers were elected. (Ankeney, 1921, p. 43)

The officers elected included William H. Dudley, President (Bureau of Visual Instruction, University of Wisconsin, Madison, Wisconsin), George E. Condra, Vice President (University of Nebraska, Lincoln, Nebraska), J. H. Wilson, Secretary (Department of Visual Instruction, Detroit Public Schools, Detroit, Michigan), and Charles S. Roach (Iowa State College, Ames, Iowa).

The first annual meeting of the National Academy of Visual Instruction convened July 14-17, 1920, in Madison, Wisconsin. This inaugural meeting included three days of presentations on visual instruction, with an average of nine speakers per day. The NAVI conference opened with a symposium: “Ideals and Purposes of the National Academy of Visual Instruction.” Topics addressed in the symposium included “Promotion of Visual Instruction” by J. H. Wilson (Detroit, Michigan), “Standards” by J. V. Ankeney (University of Minnesota, Minneapolis, Minnesota), “Formal Instruction” (M. L. Smith, Extension Division,

State Normal School, Emporia, Kansas), and “Research” by J. W. Shepherd (University of Texas, Austin, Texas) (National Academy of Visual Instruction, 1922, p. 2).

Individual sessions commenced on Wednesday afternoon, July 14. The first session featured: “The Use of Educational Films and Slides in Community Development Work” by W. C. Crosby (Director, State Bureau of Community Service, Raleigh, North Carolina), “Visual Instruction in Agricultural Education” by W. F. Handshin (Vice-Director, Agricultural Extension, University of Illinois, Urbana, Illinois), and “Motion Pictures in Rural Communities” by C.D. Lamberton (County Training School, Berlin, Wisconsin) (National Academy of Visual Instruction, 1922, p. 2).

Two sessions were held on Thursday, July 15. The morning session featured: “Lantern Slides in Classroom Instruction” by Mark Burrows (State Teachers College, Kirksville, Missouri), “What Has Been Accomplished and What Can Be Done in the Classroom with Motion Picture Films Now Available” by A. G. Balcom (Newark, New Jersey), “Visual Education in the Work of the Church” by Rev. Ray L. Smith (Minneapolis, Minnesota), and “Films and Slides in the Welfare Work of Industrial Plants” by J. H. Kelley (University Extension Division, Pittsburgh, Pennsylvania) (National Academy of Visual Instruction, 1922, p. 3).

Presentations were also presented on Thursday afternoon, July 15: “Educational Film in Household Arts” by Elizabeth H. Bohn (Columbia University, New York City), “Ideal School Equipment for Visual Instruction” by Superintendent S. G. Reinertsen (Alta, Iowa), and “Visual Instruction Tests and Standards” by J. V. Ankeney (Director, Visual Instruction

Bureau, University of Minnesota, Minneapolis, Minnesota) (National Academy of Visual Instruction, 1922, p. 3).

Friday morning sessions (July 16) included: “Production of Educational Films and Other Visual Instruction Aids in the Universities” by Director G. E. Condra (State Conservation and Surveys, Lincoln, Nebraska), “Work of the Y. M. C. A.” by G. J. Zehrun (International Committee of the Y. M. C. A., New York City), “The Sources and Values of Industrial Films” by Dudley Grant Hays (Department of Extension, Public Schools, Chicago, Illinois), and “The Contribution of Museums to the Efficient Use of Visual Instruction Aids” by C. R. Toothaker (Curator, Commercial Museum, Philadelphia, Pennsylvania) (National Academy of Visual Instruction, 1922, p. 4).

The Friday afternoon sessions were given over to extension services: “National Instruction Service Available from the United States Government” by F. W. Perkins (U. S. Department of Agriculture, Washington, D.C.), “How Will the Problems of the Distribution of School Films Finally be Solved?” by Ernest L. Crandall (Director, Department of Lectures and Visual Instruction in New York City), and “What the University Extension Divisions of the Country Are Doing to Supply Schools and Welfare Agencies with Visual Instruction Materials” by W. H. Dudley (Chief, Bureau of Visual Instruction, University of Wisconsin, Madison, Wisconsin) (National Academy of Visual Instruction, 1922, p. 4).

After the meeting, it was announced that *Moving Picture Age* was the official organ of NAVI. *Moving Picture Age* printed excerpts from NAVI’s constitution. The preface to the constitution read:

> The National Academy of Visual Instruction is an organization of men and women interested in a wider, more intelligent, and more systematic use of visual aids; in short, in the development of visual education as an art and science.
>
> The Academy is not engaged in promoting visual education commercially. Active membership and the control of the academy and its actions are vested solely in those engaged in educational, semi-educational, or welfare work, and who are actual users or are directing the use of visual aids for instructional purposes. No companies, dealers, agents, or persons financially interested in the sale of visual-instruction material shall be eligible to active membership. (National Academy of Visual Instruction, 1921, p. 17)

Article I of the NAVI Constitution lays out the purpose of NAVI:

> To establish and maintain an organization through which schools and other educational institutions, churches, parent-teacher organizations, clubs, welfare organizations, and societies engaged in educational or semi-educational work may co-operate in furthering better production of and more systematic and intelligent use of visual aids, such as lantern slides, motion-picture films, charts, art collections, exhibits, and models; to prosecute a research in visual instruction methods; to investigate sources of supply; to establish a clearing-house of information; to devise methods of co-operative buying and bargaining; to work out standards of method and practice; and to promote the knowledge and use of better films. (National Academy of Visual Instruction, 1921, p. 17)

Membership in NAVI was restricted to those engaged in educational work who were actual users of visual instruction aids, and NAVI's constitution specifically proscribed membership to commercial interests. The annual membership fee for an individual was $3.00 and universities, colleges, libraries and museums were encouraged to become institutional members for an annual fee of $25.00. Most of NAVI's members came from the ranks of university extension services and the association's primary goal was the promotion of visual education within university extension departments and urban school systems (Lembo, 1970).

After *The Educational Screen* absorbed *Moving Picture Age*, it granted NAVI column space to disseminate organizational news, including a report from a summer meeting held

August 10, 1923, at the University of California, Southern Branch (now known as UCLA). At this meeting, NAVI acknowledged the burgeoning world-wide interest in visual education. According to NAVI, visual education was more than a method of teaching: "It is concerned with acquainting the learner with objective reality in so far as the appeal is through the eye" (National Academy of Visual Instruction, 1923b, p. 486). NAVI recognized that visual education was not a panacea for all of the problems that beset education. However, "we believe that visual aids are destined to take an important place in public education of the future" (National Academy of Visual Instruction, 1923b, p. 486).

To these ends, the National Academy of Visual Instruction adopted resolutions addressing several areas of concern to the Visual Instruction Movement (research, teacher education, and state departments of visual instruction). Regarding research:

> Resolved, that Visual Education is in a position to profit materially by the study of the advantages and disadvantages, and the kind of materials to which it is particularly adapted.
>
> On experimentation, under proper control, depends the solution of the problems of visual education. Analysis of the field and measurements of the results will yield valuable information to school administrators, educators, and teachers interested in the development of the movement. (National Academy of Visual Instruction, 1923b, p. 486)

The National Academy of Visual Instruction also took up the need for full-credit courses in visual education and issued the following resolution:

> Resolved, that one of the problems the visual educator has to meet is that of method. The plan and purpose of the lesson have always been definitely worked out by pupil and teacher previously. A school may be elaborately equipped with every possible type of visual aid, but if the teacher does not know how to use this material, it is an unwise expenditure of public funds. There, be it resolved that every effort be made toward the establishment of teacher training in visual education in the universities and state teachers' colleges of the country, particularly in the state of California. That ways

> and means of furthering this work be undertaken by a committee appointed by the president of the National Academy of Visual Instruction. (National Academy of Visual Instruction, 1923b, pp. 486-487)

Finally, NAVI urged states to establish local visual education associations:

> Resolved, that for the furtherance of the interests of visual education, an organization be formed that will be a section of the California State Teacher's Association. Also, that a committee of three people be appointed by this group of students to draw up a plan for the formation of such an organization. (National Academy of Visual Instruction 1923b, p. 487)

In other actions, NAVI called for the establishment of a National Slide Negative Library, the production of "the right kind of educational film" (National Academy of Visual Instruction 1923b, p. 487), as well as cooperative standards for reviewing films (National Academy of Visual Instruction, 1923b).

Visual Instruction Association of America

In 1922, a second non-commercial organization arose in addition to NAVI: the Visual Instruction Association of America (VIAA). In March of that year, the Division of Superintendence of the National Education Association met in Chicago and voted to launch the VIAA, which was officially organized at the general convention of the National Education Association in Boston, Massachusetts, July 6, 1922. The VIAA elected officers and adopted by-laws. The officers included: Ernest L. Crandall (Director of Lectures and Visual Instruction in the New York City Schools), President; A. G. Balcom (Assistant Superintendent of New York Schools), Vice President; Don Carlos Ellis (formerly director of the Motion Picture Association of the United States Department of Agriculture), Recording Secretary; Charles H. Mills (Director of Publicity of the Boy Scouts of America), Treasurer;

and Rowland Rogers (Instructor of Motion Picture Production, Columbia University), Corresponding Secretary (Crandall, 1923b).

The Educational Screen noted that *Moving Picture Age* was the "official organ" of NAVI (*The Educational Screen*, 1922l, p. 281) and announced that it would also devote a portion of each issue to the Visual Instruction Association of America. According to Ernest L. Crandall, the first president of the Visual Instruction Association of America, the VIAA originated in the New York City school system (Crandall, 1923a). Many of the schools in New York owned lantern slides, and a few schools were showing motion pictures. However, little connection existed between visual aids and classroom instruction, which, according to Crandall, resulted in chaos. In order to rectify this situation, school principals and teachers joined forces with individuals possessing technical expertise in visual instruction to form a new association: the Visual Instruction Association of America.

Articles II and III of the VIAA's constitution summarized the purposes of the association formed by these principals, teachers, and technicians:

> Article II.
>
> The purpose of the Visual Instruction Association of America shall be to give all persons interested in the use of visual aids, including users, producers, distributors, and others the opportunity to (1) co-operate in the exploration and development of the whole field of visual instruction; (2) to evaluate the utility of visual aids in education; (3) to promote and increase the use of motion pictures, slides, stereographs and other visual aids by such means as may seem from time to time expedient; (4) to investigate and recommend sound pedagogical methods of using visual aids. (Lembo, 1970, p. 122)
>
> Article III.
>
> This association shall co-operate fully and heartily with all persons, institutions and associations interested in visual instruction. The activities of the association shall be

> carried on primarily in the fields of elementary, secondary and industrial education and in teachers' training schools and colleges. (Lembo, 1970, p. 122)

From the attendees at the Boston meeting, each state elected a respective state vice president of visual instruction, responsible for the formulation of local visual instruction associations similar to that already existing in New York. The VIAA sought to provide a general clearinghouse for visual aid ideas and experiences that Rowland Rogers, the corresponding secretary of the VIAA, believed would help solve "educational problems" (*The Educational Screen*, 1922e, p. 323), such as providing more efficient instruction, reducing the time of learning, and cutting the cost of teaching.

The VIAA sought to bring together producers, distributors and users of visual aids in order to promote the cause of visual instruction. To these ends the VIAA proposed to undertake several related tasks: (a) classify and index the material available for school use (including films, slides, charts, etc.), (b) conduct a similar project regarding equipment (such as projectors and screens), (c) determine the best pedagogical practices of using these visual instruction materials and make these results available to teachers, (d) notify schools and school systems of the services offered by the VIAA, (e) bring together all those who are working to further the cause of visual instruction, including commercial interests, (f) work for uniform and favorable legislation regarding the use of films and projectors in schools, and (g) assist in establishing state and local Visual Instruction Associations (Ellis, 1923).

The Visual Instruction Association of America thought that the Visual Instruction Movement was "advancing so rapidly and along such definite lines that an obvious need has developed for a periodical source-book of concrete information with reference to the

materials, methods, and the field, which neither the magazine nor the text book supplies" (Visual Instruction Association of America, 1924, p. 7). In response to this situation, the VIAA published *The Visual Instruction Handbook* "as a free offering toward the promotion of the cause of teaching by means of Visualization, which the association believes to be the most effective instrument of education" (Visual Instruction Association of America, 1924, p. 7.). *The Visual Instruction Handbook* also encouraged its readers to join the VIAA "because the Visual Instruction Association of America was established to promote the intelligent use of visual aids in education, which is in conformity with the best educational practice" (Visual Instruction Association of America, 1924, p. 8).

Relations Between the National Academy of Visual Instruction and the Visual Instruction Association of America

When the VIAA was proposed in March 1922, the response from NAVI was swift. Charles Judd published a sharp editorial in *Moving Picture Age*:

> Feeling among experienced visual educators who have no bias in the matter is that the Visual Instruction Association of America is a fifth wheel. At the time of its formation, at Chicago during the meeting of the N.E.A. Department of Superintendence (1922), Dudley Grant Hays and the writer protested the step on the grounds of duplicated effort. The answer that was given was that the new group would specialize in the work that the Academy had neglected – visual instruction in the elementary branches of education. Ostensibly, this answer was sufficient, for the Academy could not have done more with public school work than it had done up until that time. Another argument that was presented was that the commercial interests had no representation in the academy, and would be given a better opportunity in the new group. The upshot is that the Visual Instruction Association of America is composed of both educators and commercial men, on the basis of equal membership privileges for all. Obviously, such an off-balance grouping will never be accorded recognition or authenticity in educational circles. (quoted from McClusky, 1923, p. 5)

The National Academy of Visual Instruction viewed the Visual Instruction Association of America as a competitor and felt threatened by an organization backed by commercial interests (and money). A second source of contention was that NAVI was dominated by representatives of college and university extension services from the Midwest, while VIAA grew out of extension bureaus in the state of New York (Saettler, 2004). Crandall claimed that the origin of the VIAA "was the deep rooted conviction of those who had watched the organized growth of visual instruction under the fostering care of our local association here, that this idea was well worth transplanting to other sections of the country" (Crandall, 1923b, p. 322).

J. W. Shepherd took note of the looming dispute and called for unity in *The Educational Screen*: "The National Academy is already in the field. It has the definite backing of a large share of those most active. It stands pledged by its constitution to high ideals and lofty purposes. Its policies are still in the making and can be readily shaped to reach worthy ends. The organization, therefore, should be not only given an opportunity to prove its merit but it should also be given the definite support of all interests" (Shepherd, 1922, p. 107). Shepherd conceded that NAVI needed to take more interest in the problems of the classroom: "The demand for a new organization seems to have arisen out of the larger cities where conditions are very different from those existing in smaller cities, towns, villages, and rural schools. The larger cities are independent of university extension agencies and may therefore have become somewhat impatient, because university extension problems relating to these small school units have had considerable attention at the meetings of the academy" (Shepherd, 1922, p. 107).

In order to clarify the situation, Shepherd suggested that NAVI should become affiliated with the Department of Superintendence of the NEA and replace the so-called "visual instruction" section of the latter (which Shepherd felt had failed to function in an effective manner). According to Shepherd, NAVI also needed to recognize the interest of various stakeholders in visual instruction: larger cities, small towns, villages, and rural consolidated schools, university extension agencies, research interests, and other agencies such as churches and civic organizations (Shepherd, 1922). In order to maintain its organizational integrity, however, NAVI should continue to remain free from commercial interests and not accept membership fees from these concerns. Shepherd felt that the NAVI needed a secretary to direct the work of the organization and this individual should have broad educational background, experience, and executive ability. Finally, NAVI should be vested in a larger group represented liberally by both technical and practical interests (Shepherd, 1922).

Both organizations, the National Academy of Visual Instruction and the Visual Instruction Association of America, met in conjunction with the National Education Association at the Cleveland School of Education in Cleveland, Ohio, February 27-29, 1923. *The Educational Screen* considered the three-day program of the National Academy of Visual Instruction "by far the best it has offered during the four years of its existence" (*The Educational Screen*, 1923a, p. 101). Opening remarks in the morning of February 27 included "Visual Education: Its Scope, Meaning, and Value" by Dudley Grant Hayes (president of NAVI), "Practical Visual Instruction" by H. G. Jones (Superintendent of Cleveland Public Schools, Cleveland, Ohio), and "Visual Education in Berkeley" by H. B. Wilson (Superintendent, Berkeley Public School, Berkeley, California). During the afternoon session,

F. Dean McClusky and Frank N. Freeman previewed their research and elaborated on assessment procedures for testing the educational utility of moving pictures (see Chapter Three, “A Happier Way of Learning: Research in Visual Instruction and Educational Technology”) (*The Educational Screen*, 1923a).

The second and third days of the conference were dedicated to lantern slides and motion pictures, respectively. Presentations on lantern slides included “Demonstration Lesson with Lantern Slides” by Sherman Howe, “Using Lantern Slides in Visual Education” by A .A. Abrams, and “Building a Lantern Slide Collection for a City System” by an unknown presenter. The topics for motion pictures covered “Material for Film Instruction in City Classes” by E. H. Reeder, “Program for Statewide Film Instruction” by Charles Roach, and “Cooperation in the Foreign Film Loan, Plans for Practical Operation” by Charles Toothaker. At the end of the conference, demonstration lessons on the use of films, slides, and stereographs were presented (*The Educational Screen*, 1923a). In the opinion of *The Educational Screen*, the NAVI conference was thoroughly academic but “did much to bring down the visual idea from the realm of vague theory to vivid reality” (*The Educational Screen*, 1923a, p. 101).

The Visual Instruction Association of American offered no formal program at the Cleveland convention of the National Education Association, but rather served up “energetic propaganda…in forcing the visual idea upon the attention of a host of educators who had hitherto paid small heed to the question” (*The Educational Screen*, 1923a, p. 102). The VIAA concurred that it engaged in “frank propagandism” but claimed “we have no apologies to make” (*The Educational Screen*, 1923c, p. 170). The VIAA claimed that for the first time in

the history of the National Education Association, educational movies were screened in a large auditorium and that the NEA was astounded by "how comparatively few educators throughout the country have a really clear idea of what they can obtain in the way of visual material, or where they can obtain it, or how they should use it when they get it" (*The Educational Screen*, 1923c, p.170).

The Educational Screen noted "two national organizations were active, each operating in a somewhat different way to attain its ends, the one largely academic, the other largely professional" (*The Educational Screen*, 1923a, p. 101). The Visual Instruction Association of America expressed regret that it could not unite with the National Academy of Visual Instruction "on some common program of demonstration and elucidation at this convention and thus have presented a united front in the subject" (*The Educational Screen*, 1923c, p. 171) in which both organizations were so deeply interested.

After the Cleveland meeting, the National Academy of Visual Instruction adopted a defensive tone. W. M. Gregory, who succeeded Dudley Grant Hays as president of the organization, reiterated that the membership of NAVI consisted of educators "who are trying to solve the daily problems in visual instruction" (Gregory, 1924, p. 142) and could point to several accomplishments. NAVI (a) lobbied for the use of non-flammable standard gauge film which increased safety, (b) conducted research in the use of visual aids and thus established "the comparative value of different visual aids" (Gregory, 1924, p. 142), (c) established a visual education section in the NEA, (d) disseminated information about visual instruction through *The Educational Screen,* and (e) "focused public attention upon important educational problems for which a solution is sought upon a scientific basis" (Gregory, 1924,

p. 142). Gregory also noted challenges looming on the horizon: (a) methods of film distribution, (b) the need for more educational films, (c) the establishment of standards in the use of visual aids, (d) the need for further research in the field, (e) cooperation with museums, (f) the need for more state-wide organizations, and (g) the overall lack of teacher training in the methods and techniques of visual aids (see Chapter Four, "A Happier Way of Learning: Coursework and Continuing Education") (Gregory, 1924).

Conclusion: Professional Organizations

Content analysis (Berelson, 1952) of the primary documents of the Visual Instruction Movement identified journals and professional organizations as constituent components of the movement. This dissertation study reviewed a number of the documents pertaining to these journal and organizations and placed them within the context of the Visual Instruction Movement, 1918-1928 (Tuchman, 2004). In time, *The Educational Screen* became the official organ of the National Academy of Visual Instruction and the Visual Instruction Association of America. Both organizations achieved national prominence in promoting visual education even though they were seriously divided on the ways in which to do it (Lembo, 1970). One basic policy difference was the role commercial interests were to play in the Visual Instruction Movement. Individuals with ties to these interests were not permitted to hold office in NAVI, whereas the VIAA actively courted educators and business people alike. A second source of contention was that NAVI was dominated by representatives of college and university extension services from the Midwest, while VIAA grew out of extension bureaus in the state of New York (Saettler, 2004).

NAVI and the VIAA eventually merged in 1932, “probably the most significant event in the early history of the visual instruction movement” (Saettler, 2004, p. 147). The organizations sought to incorporate visual material into the classroom. Many professionals working in the field were members of both organizations and often questioned how this duplication furthered the aims and goals of either institution. The merger was made possible when F. Dean McClusky simultaneously served as president of NAVI and as a member of the executive committee of the VIAA. McClusky had the professional stature to facilitate the merger as a result of experience in the Visual Instruction Movement (Saettler, 2004).

CHAPTER THREE

"A HAPPIER WAY OF LEARNING":

RESEARCH IN VISUAL INSTRUCTION AND EDUCATIONAL TECHNOLOGY

My research seeks to write a historical narrative of the Visual Instruction Movement based on its primary documents. This chapter continues the narrative by looking at the research in visual instruction and educational technology undertaken by Joseph J. Weber (1922a), F. D. McClusky (1924b), and Frank N. Freeman (1924), who sought to examine the pedagogical effectiveness of visual material in the classroom. The research of Weber, McClusky, Freeman, and others formed a constituent segment of the Visual Instruction Movement and provided the original structured field of knowledge in the discipline of educational technology (Lodahl & Gordon, 1972). In my research of the primary documents of the Visual Instruction Movement, I did not find other examples of research corresponding in scope to that of Weber, McClusky, and Freeman.

Early Research During the Visual Instruction Movement

Advances in the science and practice of photography provided a powerful impetus to the Visual Instruction Movement, giving rise to the stereograph, lantern slide, and motion picture. Both F. Dean McClusky and Frank N. Freeman called for research into the educational use of visual aids. McClusky, in his own words, sought to contribute "impartial

and scientific experimentation for the purpose of determining the relative merits of visual aids in instruction" (McClusky, 1923, p. 8). He declared a need for further research to "establish with a large degree of certainty the educational value of the stereograph, the slide, the moving picture, and other forms of visual instruction" (McClusky, 1923, p. 11) and hoped that funds for such a project would be forthcoming. Frank N. Freeman eventually obtained these funds and published this research in *Visual Education: A Comparative Study of Motion Pictures and Other Methods of Instruction* (Freeman, 1924). Freeman called for restraint in passing judgment on visual aids in education, particularly motion pictures, until reliable data concerning their educative value could be established (Freeman, 1922). He was afraid that much contemporary research into the use of motion pictures in the classroom was no more than propaganda (Freeman, 1922).

An example of such "so-called" (McClusky, 1923) research was supervised by L. M. Belfield and E. H. Bausch, teachers at Lincolnwood and Noyes Street Schools in Evanston, Illinois. Belfield and Bausch obtained a fifteen-minute movie on the life history of the Monarch butterfly in October 1920. Prior to this, in September 1920, the students had studied the Black Swallowtail butterfly, supplemented by mounted butterflies and specimens of larva and chrysalis. After viewing the film on the Monarch butterfly, the students engaged in a five-minute discussion and then wrote an essay giving their opinion of the film and "the motion-picture way of teaching nature-study" (Belfield & Bausch, 1921, p. 16). A class of fourth graders got wind of the proposed screening of the movie and pleaded with their teacher that they be permitted to see the film. Their teacher acquiesced, with the proviso that they write an essay describing what they had learned. The teacher wanted to "satisfy herself just how much

they were really able to get from the screening without the preliminary study that is considered essential even with the higher grades" (Belfield & Bausch, 1921, p. 17).

Before the picture was screened, the students were provided with a few prompts to aid them in composing their essays. The first prompt asked, "Would you rather study science from the screen or from actual specimens and textbooks? Why" (Belfield & Bausch, 1921, p. 18). In his essay, Preston K. wrote that he preferred movies because "*they make me understand the subject about twice as much as the textbook*" (italics in the original, Belfield & Bausch, 1921, p. 18). Raymond L. concurred, "*You learn more when you actually see it done than when you have to turn, say, to page 146 or 298 and read all about it*" (Belfield & Bausch, 1921, p. 19). The authors concluded their study with a quote from Jane P., "who travelled further into the domain of modern pedagogy than she knew" when she wrote, "*Me for school movies, because you get more out of your lessons*" (Belfield & Bausch, 1921, p. 62). After examining the essays, Belfield and Bausch claimed, "Whether the screen or the textbook is more desirable and effective in nature-study teaching has just been put to the children in two public schools. One hundred and seventy out of the one hundred and eighty voted in favor of the screen as a choice of method" (Belfield & Bausch, 1921, p. 16). Belfield and Bausch did not test whether the students learned anything; rather, they investigated whether students preferred watching a movie or reading a textbook.

Charles H. Judd, author of the Judd report, issued a scathing review of the research of Belfield and Bausch (McClusky, 1923): "The country has been flooded of late with propaganda material for visual education. Much of this material has been of the cheapest and most sensational type" (McClusky, 1923, p. 8). In his review, Judd alluded to Thomas

Edison's infamous dictum that motion pictures would eventually replace textbooks in the classroom: "The most egregious fallacy of the visual educators is that which they make when they try to vend their wares as complete substitutes for textbooks…After all, are all of the visual educators of the Simon-Pure variety going to gain their point by putting out this sort of stuff? Visual education is too good a possibility to fall into this kind of quackery. The textbook is too good a scientific instrument to be elbowed around in this way" (McClusky, 1923, p. 8).

More serious experimental studies on educational film were carried about by (a) David Sumstine, who devised a memory test to determine the value of motion pictures as a form of instruction (Sumstine, 1918); (b) Johns Hopkins University, which was awarded a $6,600 grant by the United States Interdepartmental Social Hygiene Board to study the effect of educational film on "the control, repression and elimination of venereal diseases" (Lashley & Watson, 1922, p. 3); and (c) John V. Lacy, Secretary for Sunday School Work, Board of Sunday Schools of the Methodist Episcopal Church, Seoul, Korea (Lacy, 1919).

Lacy's work bears mention, since it was reviewed by both *Visual Education* (Horn, 1920) and McClusky (McClusky, 1923). Lacy began his study by noting that motion pictures, and in fact, "motion picture theaters, particularly in the cities, have become the adult continuation schools and the real social centers" (Lacy, 1919, p. 452). No one will deny, Lacy wrote, "that motion pictures have some moral and pedagogical value, so the problem really reduces itself to a comparison of these values with those of other agencies" (Lacy, 1919, p. 452). In order to test these values, Lacy proposed to present a story to pupils using three typical methods of presentation: (a) a silent reading of a story by pupils, (b) the teacher or

researcher telling the story to pupils, and (c) a presentation of the story to pupils by means of a motion picture (Lacy, 1919).

The subjects for Lacy's experiments were three hundred and fifteen boys from Public Schools 64 and 95 in New York City. Lacy selected a five-minute film, *The Hoosier Schoolmaster*, for his experiment. A woman who majored in English in college viewed the motion picture and wrote up the story, "taking care to include all essential facts as a basis for prospective test questions" (Lacy, 1919, p.457). The story was multigraphed and served both as written copy and the basis for the storytelling. Lacy assures his readers that "the story teller was a grade school principal above the average in native ability, though not a trained story-teller" (Lacy, 1919, p. 457).

After the lesson, the students took a test which measured their responses to (a) questions of fact, (b) questions of inference, and (c) questions of moral discrimination. For example, students were asked, "Was Mrs. Means' house neat and in order?" (Lacy, 1919, p. 459). A very untidy home was pictured in the movie and a statement to that effect was made in the story. After tabulating the results of the tests, Lacy determined that the students in the storytelling group scored the highest on the test, followed by the silent reading group and then the motion picture group (Lacy, 1919).

Visual Education reviewed Lacy's work and felt that it left several questions unanswered which would have to be addressed subsequently by researchers in the field:

- If a student sees a motion picture of a story he or she has not read, will the motion picture act as an incentive to read the story?

- Can the human experiences portrayed in the story be taught as well by motion pictures as by print?
- Will the introduction of motion pictures into the curriculum increase the quality of literature read (Horn, 1920)?

The problem, as the journal saw it, was that schools in the United States were backward in the use of motion pictures in the classroom and motion pictures should be given a chance to succeed. “There is only one way to accomplish this. We must subject the use of the motion picture to the same scientific scrutiny as to the teaching of spelling, to the use of drill work, to the use of phonics in the teaching of beginning reading, to the value of supervised study, to the measurement of results of teaching and problems of a similar sort” (Russell, 1920, p. 10).

In order to pose these historicist questions, it is first necessary to reproduce the research of Weber, McClusky, and Freeman (Tuchman, 2004). These researchers attempted to subject motion pictures (and other visual material) to the same scientific scrutiny as other pedagogical devices and strategies and, in so doing, firmly established the role of research in the field of educational technology. Academic disciplines are devoted to original research and scholarship (Krishhnan, 2009), and the work of Weber and McClusky represents their respective doctoral research.

J. J. Weber

According to Saettler, J. J. Weber was the pioneering investigator who used pictorial media rather than verbal tests to measure the results of learning (Saettler, 2004). Weber thought that the problem of visual aids had become sufficiently important to warrant serious

research. He carried out his experiments (termed Experiments A, B, C and D) at Public School No. 62 in Manhattan. Weber noted the pervasiveness of verbal transfer in the classroom and questioned whether it was the most effective method of educating students. Did it make any sense to spend ten minutes describing a relationship which could be presented in half the time with a visual aid? Weber insisted that visual experiences provide the primary stimuli to learning. When such first-person experiences are not feasible, Weber advocated the use of visual aids (Weber, 1922a). To demonstrate this point, Weber planned an initial cycle of three experiments, which he termed A, B, and C, which he subsequently expanded to include a fourth project, Experiment D (Weber, 1922a).

Experiment A

Experiment A, begun on February 21, 1921, was designed to measure the educational value of a film employed as an aid to verbal instruction. For the first unit of the experiment, Weber selected a twelve-minute film dealing with life in India: *The Country of the Mahattras, and Other Scenes in India.* Weber examined the film frame by frame and jotted down detailed notes between the subtitles. Five hundred 7A-grade pupils (six classes of boys and six classes of girls) participated in the experiment. Weber divided the students into three groups: Group A, Group B, and Group C. Group A was taught the lesson "The Town of Lucknow" (which covered the same material as the film *The Country of the Mahattras*) for twenty-five minutes, after which they took a twelve-minute review quiz. The review quiz was a substitute for the film, which gave the teachers "the opportunity to compete with the effectiveness of the pictorial presentation" (Weber, 1922a, p. 17). Group B viewed the movie and then was taught

the same twenty-five-minute lesson (by the same teacher) as Group A. Weber reversed process for Group C: these students were taught the lesson first and then viewed the film.

Weber provided a copy of the lesson plan. Scenes from the thirteen-minute film, *The Country of the Mahattras, and Other Scenes in India,* included: "The Grain Market," "Arrival of a Caravan," "Cutting the Sugar Cane" (after this scene, the film had run for six minutes), "Oudipur, the Maharadja's Summer Palace," "Through the Town of Oudipur," "A Mahratta Potter," and "Wild Boars in the Maharadja's Hunting Preserve" (the final scene in the thirteen-minute film) (Weber, 1922a, pp. 18-19). The lesson plan for the twenty-five minute lesson entitled "The Town of Lucknow," which covered the same material as the film, discussed the following topics: "The Market," "Hindu Café," "Grinding Corn," "Lapidaries at Work," "Chasing on Copper," "Hairdresser," "Carding Wood," "Wool Market," "Palace and Gardens at Nossinhabad," "Watering the Palace Garden," and "Sacred Boat of the Maharadja" (Weber, 1922a, pp. 19-20).

Each of the students took a sixty-question test. Selected questions included:

- "At the grain market, do the natives carry bundles of grain on their backs?"
- "Are the camels in the caravan trotting thru the streets?"
- "Is the machinery for cutting sugar cane driven by man power?"
- "Does the Maharadja's summer palace at Oudipur look like our capitol building in Washington, D.C.?"
- "At the hindu café, are the tables outdoors?"
- "Does the potter make his jar by kneading the clay?"

- "Do the wild boars in the Maharadja's hunting preserve feed on field mice?" (Weber, 1922, pp. 21-22)

Experiment A continued the following week. The topic for the second unit of this experiment was "Chinese Scenes." Weber discovered that the attention span of the students wavered over the course of the twenty-five-minute lecture, so he interspersed questions from the review quiz with the lecture material. The experiment concluded after week three's topic: "Japan the Industrious." As was the case after the first unit, the students in each group took respective sixty-question tests after the lesson. The averaged means of the students' scores for the three lessons were as follows:

Lesson-Review	45.98
Film-Lesson	51.84
Lesson-Film	49.88 (Weber, 1922a)

Weber drew two conclusions from Experiment A. First, including a film with the lesson was more effective than presenting a lesson alone. Second, showing the film before the lesson was more effective than having it follow.

Experiment B

Weber followed up Experiment A with two further investigations, Experiments B and C, to determine "how much learning…a picture alone effects in presenting a certain new idea or a complex of ideas" (Weber, 1922a, p. 50). In Experiment B, Weber investigated the value of a simple diagram in creating a composite visual image. Weber began the experiment by drawing a large picture of a composite animal and then proceeded with a game of make

believe: “Let us suppose that a new island has just been discovered among the south seas islands, and that the men who discovered the island found a strange animal, one that has never been seen before” (Weber, 1922a, p. 50f). Weber then proceeded to describe the fictitious beast. Subsequently, one group of students was asked to draw the animal based on the description provided. With no visual point of reference, these students produced pictures resembling a dragon, elephant, pig, rhinoceros, etc. A second group of students was shown the picture (with no description) and a third group was shown a picture and heard the description of the animal. The students were then asked to draw the animal. Regarding these final two groups, Weber wanted to see whether the students included all of the features of the animals contained in the description and incorporated the correct length to height ratios of the animal into their diagrams. After assessing the diagrams produced by the students, Weber concluded:

- In developing composite images, pictorial presentations are more effective than verbal ones, characterized by better organization and fewer misrepresentations.
- Verbal description accompanied by a diagram was the most effective of the three methods tested (Weber, 1922a).

In retrospect, Weber felt he missed an opportunity to better measure the effectiveness of different methods of presentation. In addition to the drawing response, he wished he had also asked for a free-recall written description of the beast.

Experiment C

Experiment C measured the value of a diagram in developing an abstract concept. The goal was to develop a concept of an artesian well. Weber divided the students into five groups. Each group received a different variation of instruction:

- Variation 1 (description alone): “I am going to tell you what an artesian well is and how it works, and why” (Weber, 1922a, p. 58).
- Variation 2 (exposure alone): “I am going to show you a (lantern) slide from which you are to figure out what an artesian well is, how it works, and why” (Weber, 1922a, p. 58).
- Variation 3 (exposure, then description): “I am going to explain an artesian well. First, I’ll show you a slide. Then I’ll tell you in words what an artesian well is, how it works, and why” (Weber, 1922a, p. 58).
- Variation 4 reverses the process of Variation 3: “First I’ll tell you what it is, how it works, and why. Then I’ll show you a slide” (Weber, 1922a, p 58).
- Variation 5 (exposure with description): two-minute description, followed by a one-minute summary, ending with the slide.

After instruction, the students were shown a diagram of an artesian well and asked to identify such things as the underground flow of water and various layers of the well. Based on the results of the questionnaire, Weber concluded (1922a):

- Verbal description accompanied by a diagram was more effective than verbal description alone.

- If the diagram is simpler than the description, it should appear in the beginning of the presentation.
- If, on the other hand, the diagram is more abstract than the description, it should follow it in the presentation (Weber, 1922a).

Experiment D

Weber's final experiment (Experiment D), "Comparative Effectiveness of Four Different Methods of Presentation," expanded upon Experiment A. In this last experiment, Weber wanted to measure the factors against one another rather than in combinations. He selected four factors: (a) a printed lesson, (b) the same lesson presented orally by a teacher, (c) the lesson depicted in a film, and (d) the film accompanied by explanatory comments. Weber divided six hundred 7B-grade students into four groups (which he termed Groups A, B, C, and D). Four films were chosen, which formed the basis of the lesson and subsequent assessment: *The Study of a Mountain Glacier*, *The Earth and the Worlds Beyond*, *The Southern States*, and *The Growth of Cities and Their Problems*. The students took Yes-No tests (which Weber believed favored verbal presentation) and were asked to provide simple drawings based on the lessons.

The purpose of the lesson, *The Earth and the Worlds Beyond* (the title of the lesson as well as the movie), was to give the student "a clear understanding of the motions of the earth and its relations to the sun and moon" and "a few glimpses of the worlds beyond as they are seen through the largest telescope" (Weber, 1922a, p. 72). After the lesson, the students took a variety of tests. Examples of the Yes-No questions are:

- "Is the diameter of the moon 8,000 miles?"
- "Can the Milky Way be seen with the naked eye?"
- "Does the solar system consist of the sun and four planets?"
- "Does the moon give off any light of its own?" (Weber, 1922a, pp. 75-76).

The test also asked the students to

- draw a diagram of the earth and moon and indicate the four changes – First Quarter, Full Moon, Last Quarter, and New Moon (and the students were instructed to show the position of the sun at each change).
- write a short composition on *The Earth and the Worlds Beyond* (Weber, 1922a).

The students took similar tests on the other lessons: *The Study of a Mountain Glacier*, *The Southern States*, and *The Growth of Cities and Their Problems*.

In the summary of the results of his final experiment, Weber concluded that the average scores for the film-lecture groups were invariably higher than the other three methods. This finding coincided with the results gleaned from Experiments A, B and C, which Weber contended proved the teaching value of pictures. Also, the medium, in no small part, affected the test scores. Students who received a verbal presentation and saw pictorial artifacts scored higher on the verbal tests than students who did not (Weber, 1922a).

Discussion of Weber's Research

Weber's peers considered his doctoral thesis at Columbia University, *Comparative Effectiveness of Visual Aids in Seventh Grade Instruction* (published by *The Educational Screen*), to be the initial study in the field of visual education (Hollis, 1926). Freeman reviewed Weber's work and believed it constituted "the most careful and comprehensive report of a study in visual education which has thus far been published" (Freeman, 1923, p. 162). Weber (1922a) acknowledged Edward Thorndike's assistance in preparing his dissertation, and the copious use of statistics to measure the effectiveness of various lesson plans helped demonstrate the nascent importance of assessment introduced, in part, by Thorndike's *An Introduction to the Theory of Mental and Social Measurement* (1904). Weber also followed John Dewey (1902) in recognizing the importance that experience played in the education of the student. Where such experience is lacking, Weber believed that the vicarious experience provided by visual aids provided an effective substitute which could serve to enhance learning. He observed, for example, that it would be impossible to transport an entire geography class to Egypt to study the pyramids. The invention of photography provided a partial solution to this situation and made vicarious visual experience possible. Although the students could not travel to Egypt, Weber noted they could view the pyramids in pictures and film (Weber, 1922a).

Weber himself posted an empirical, historicist question: "Will the use of pictures along with verbal instruction effect economy in the learning process: and if so, how" (Weber, 1922a, p. 7)? Weber confessed reservations regarding his research to readers. First, the

conclusions he reached are valid only for the experiments he conducted under the circumstances he described. The results obtained by Weber may not be applicable to other classrooms and he cautioned that the methods employed in the experiments are inflexible and not practical for actual classroom teaching. Second, pictures are aids to learning and not a substitute for the teacher. This repeats a theme common through the Visual Instruction Movement: visual material is intended to assist the classroom teacher. Finally, it remained to be seen whether visual aids are cost effective, since the cost of many visual aids may outweigh their educational value.

Given these reservations, Weber noted that the value of visual aids can only be inferred (rather than stated categorically). He drew four inferences: (a) pictorial presentation is often more effective than verbal presentation; (b) the increase in learning which accompanies the use of visual aids is characterized by more memories, clearer images, better organization, and less misinterpretation; (c) verbal description accompanied by pictorial presentation is more effective than either verbal description or pictorial presentation alone; and (d) visual aids create interest regarding the subject matter and prevent many deplorable misconceptions.

Weber wanted to augment verbal transfer rather than to do away with it. Based on Weber's research, it is safe to conclude that visual aids contribute to the effectiveness of learning in certain situations. Visual aids (including films) are not a replacement for the classroom teacher. Instead, a visual aid, properly employed, is a means to make classroom learning more effective.

F. Dean McClusky: "Comparisons of Different Methods of Visual Instruction"

The second individual who conducted extensive research into visual instruction during the Visual Instruction Movement was F. Dean McClusky. He claimed that the materials of visual education could be divided into three groups: (a) objects in their natural settings, (b) objects taken from their natural settings, and (c) representations of those objects, whether by means of movies, stereopticons, or photographs, etc. During the Visual Instruction Movement, research into visual education was most concerned with the third group, particularly the instructional use of motion pictures. McClusky also identified five research topics of interest for the Visual Instruction Movement: (a) integrating visual materials into the curriculum, (b) determining the pedagogical effectiveness of these materials, (c) the study of teaching with visual material, (d) the mechanics of presenting visual material in the classroom, and (e) the administrative issues involved in handling visual materials (McClusky, 1924b). By his own admission, his research attacked topics two and three, "namely, a comparison of the relative effectiveness of the different materials and a study of different methods of using visual aids" (McClusky, 1924b, p. 84).

McClusky began his series of fourteen experiments, "Comparisons of Different Methods of Visual Instruction," in the Evanston, Illinois, public schools as part of his doctoral research in 1920 (McClusky, 1922) and continued the work in Urbana, Illinois, until 1924 (McClusky, 1924b). For each experiment, McClusky described (a) the topic addressed, (b) the instructional materials used, and (c) the results and conclusions of the experiment. A total of 649 students from the fourth through eighth grades participated in the experiments, many of

them in two or three different experiments. McClusky lumped the students together on the basis of grade, age, and scores on intelligence tests: the Illinois Examination (McClusky, 1924b; Monroe, 1921) or the Chapman Intelligence Examination (Chapman, 1920; McClusky, 1924b).

McClusky's general procedure was to show a film to the students and then to assess them with either (a) a question test and/or a map/chart test or (b) have the students write a free composition covering the subject matter of the lesson. The map or chart test required the students to (a) sketch objects shown during the lesson, (b) trace sequences of events shown in the maps and charts, and (c) show locations on a map. The chart or map test measured non-language responses of the students, whereas the composition test measured spontaneous responses of the pupils to the lesson. The movies McClusky screened included *French Explorations in North America* (History), *The Life History of the Monarch Butterfly* (Nature Study), *The Panama Canal and Its Historical Significance* (Economic History), *Canals in the United States* (Economic History), *Waste Disposal in Cities* (Health and Sanitation), *The Story of a Mountain Glacier* (Physical Geography) and *The Steamboat in United States History* (Economic History) (McClusky, 1924b).The topics of the lessons corresponded exactly to the titles of the movies.

McClusky conducted the first five experiments in Central and Lincoln Schools in Evanston, Illinois. The rest of the experiments were carried out in Thornburn and Leal Schools in Urbana, Illinois. My reproduction of each experiment will include: (a) the comparisons McClusky made between the different types of visual material, (b) the instructional materials he used, and (c) the results or conclusions of each experiment. With

one caveat, the numbers assigned below to the experiments are McClusky's and indicate the order in which he conducted the experiments and not the order in which they appear in this study. Experiment 9 (chronologically the tenth experiment carried out) covered the same material as Experiment 3 and repeated the process of Experiment 8 (in a different school) and so is omitted in this section of the dissertation.

Experiments 1 and 2

The topic for Experiments 1 and 2 was "French Explorations in North America" (McClusky, 1924b). Experiment 1 compared film instruction with oral instruction accompanied by classroom maps. McClusky divided the class into two groups. As an introduction to the topic, each group of students engaged in a preliminary five-minute discussion on French exploration in North America. Group A had an oral-map lesson and Group B viewed the film *French Explorations in North America* (both the oral lesson and film ran twelve minutes). For the oral-map instruction, the classroom teacher told the history of French exploration and traced the routes taken by the explorers on a classroom map. The film showed an animated map of the route taken by the French explorers and contained action scenes of Niagara Falls, a portage, and a canoe on the upper Mississippi. After the lesson, each group took a map test on French exploration in the Great Lakes region. The results of the tests gave a slight advantage to the oral group, which indicated to McClusky that the teacher in this case provided map instruction more effectively than did the film (McClusky, 1924b).

Experiment 2 expanded upon Experiment 1 by comparing three types of instruction: (a) two showings of the film *French Exploration in North American*, (b) oral instruction

supplemented with maps, and (c) oral instruction combined with the film. After the five-minute introduction to the lesson, Group A viewed the film (*French Explorations in North America*) twice, Group B had an oral-map lesson, and Group C viewed the film and received the oral instruction (each group received twenty-four minutes of instruction). Once again, the students took a test on French exploration. A sample question from the test read, "Trace on your map the first route these explorers took in reaching the Great Lakes" (McClusky, 1924b, p. 89). McClusky found that the groups taught wholly or in part by teachers scored higher than the group which only viewed the film, which confirmed the results obtained in Experiment 1 (McClusky, 1924b).

Experiments 3 and 8

The topic for Experiment 3 was "The Life History of the Monarch Butterfly." This experiment compared the efficiency of teaching natural history using the film *The Life History of the Monarch Butterfly* with (a) a stereopticon lecture and (b) an oral presentation accompanied by still pictures and blackboard sketches. The film covered the life-cycle of the butterfly, starting with the larva and continuing until the butterfly broke out of the chrysalis. Both the stereopticon lecture and the oral presentation followed the outline of the film. The oral instruction was illustrated with pictures taken from the book *Ways of the Six-footed* (Comstock, 1903) and by pictures the teacher drew on the blackboard. The stereopticon lecture contained eight slides. After instruction, the students took a test on the life stages of the Monarch butterfly. The first two questions on the follow-up test were: (a) "What is larva?" and (b) "Where does the monarch larva get its food?" (McClusky, 1924b, p.88).

The experiment was carried out in two schools and the length of each period of instruction was twelve minutes. In the first school, Central School, McClusky felt that the results were corrupted because of a disturbance in the auditorium where the experiment was conducted (seventeen of the twenty-one students taking part in the experiment claimed that they could not hear the oral presentation). In the other school (Lincoln School), the oral group scored better than the stereopticon group, which in turn scored better than the film group (McClusky, 1924b). McClusky compared the results of Experiments 1 and 2 with those of Experiment 3 and found that "the butterfly film made a better showing in Experiment 3 than French explorations did in Experiments 1 and 2" (McClusky, 1924b, p. 103), which led him to conclude that the *Life History of the Monarch Butterfly* was better suited to classroom use than was *French Explorations in North Americ*a (McClusky, 1924b).

Experiment 8, conducted at the Thornburn School in Urbana, Illinois, essentially repeats the research done in Experiment 3 in Evanston. In Urbana, McClusky compared three types of instruction: (a) a single projection of the film, (b) an oral lecture illustrated by pictures copied from the film, and (c) a single showing of the film accompanied by a lecture. Each group listened to a three-minute discussion on the life history of the Monarch butterfly. The first group watched a single showing of the film, which lasted twelve minutes; the second group listened to a twelve-minute informal talk on the topic, accompanied by six charts copied from the film; and the final group watched the film and engaged in oral discussion while the film was running (the entire presentation also lasted twelve minutes). What McClusky found most interesting about the Urbana experiment was that the residual scores of the follow-up test ranked the film-lecture group highest, followed by the lecture-chart

group, which in turn scored higher than the film group. According to McClusky, “This result is contrary to the statement always made by film enthusiasts, that it is psychologically wrong to talk to a group while a film is being shown” (McClusky, 1924b, p. 138).

Experiments 4 and 5

Experiments 4 and 5 used the film *The Panama Canal and Its Historical Significance* to teach a lesson of the same title. Experiment 4 used three forms of presentation: (a) two showings of the film, (b) a stereopticon lecture plus a single screening of the film, and (c) an essay read to the pupils plus a projection of the film. The film was fifteen minutes in length, the stereopticon presentation consisted of twenty-five slides, and the essay was material shipped with the syllabus of the film. After the instruction, the students were asked to draw a map of the Panama Canal, which was to include the other countries of Central America and the northern portion of South America. In this experiment, the oral-film group received the lowest scores. McClusky attributed this to the printed material (supplied by the Society for Visual Education), which he felt was too complicated for grade-school children. He cautioned that printed material accompanying films must be closely correlated with the film if it is to provide suitable background material for the lesson. Experiment 5 compared the information gained from a single showing of *The Panama Canal and Its Historical Significance* with the information gained from a stereopticon lecture covering the same topic. Each student listened to a five-minute presentation on the Panama Canal, and then one group of students viewed the film from Experiment 4 and a second group heard the stereopticon lecture from the same experiment. The students then took a map test that covered the material. The scores for the

stereopticon group were higher than for the film group, which prompted McClusky to conclude that stereopticon slides were often more effective than film in teaching students to interpret maps (McClusky, 1924b).

Experiment 6

After conducting the initial five experiments, McClusky moved from Evanston, Illinois, to Urbana, Illinois, to carry out his doctoral research at the University of Illinois. For his sixth experiment, McClusky showed the film *Canals in the United States* to two seventh-grade and two eighth-grade classes. One class from each grade viewed the movie twice (with subtitles) and the second class viewed the movie once, accompanied by oral explanation (the film was stopped at each scene). Each projection of the film lasted fourteen minutes and each group received twenty-eight minutes of instruction. After instruction, each group took a map test. McClusky wanted to answer the question "whether or not it is more effective to stop a film and talk about it during the course of its presentation than to let it run straight through without comment or stopping" (McClusky, 1924b, p. 113). Interestingly enough, the seventh-grade film-talk group scored twice as high on the maps test as did the film group. The two eighth-grade groups scored similarly on the map test. Otherwise, "a careful analysis of the answers failed to reveal any data of importance" (McClusky, 1924b, p. 115).

Experiment 7

According to McClusky, the data from the first six experiments indicated "film was not as effective as a combination of visual aids with oral instruction in teaching locations and

sequences on *maps*" (italics in the original; McClusky, 1924b, p. 115). In Experiment 7, McClusky wanted to see if a single screening of a film containing animated charts was more effective than oral instruction supplemented by the same charts in teaching a given topic. With this research question in mind, he organized his seventh experiment for the purpose of ascertaining whether a single showing of a film containing animated (or self-drawn) charts would be more effective than oral instruction accompanying the same charts in teaching the topic "Waste Disposal in Cities." McClusky created five charts illustrating the process of waste disposal. Two groups in the seventh grade and two groups in the eighth grade took part in the experiment (McClusky, 1924b).

McClusky provided a copy of the subtitles for the film *Waste Disposal in Cities* and an outline of the lecture. Examples of the subtitles (italicized) and outline include:

- *Waste Comes from the House*

  Refer children to a typical house by illustration.

- *From the Sink, Washboard, Water-closet, Bathtub, Refrigerator, and Washtub*

  Refer Children to Chart 1.

- *It Flows to the Street Sewer*

  Illustrate by calling attention of pupils to streets outside window where sewer pipes run under ground. Also refer to Chart 2.

- *Boston Sewage Is Collected in Tanks at Moon Island*

  Point out to children the fact that cities on sea coasts can collect the sewage in large tanks by the sea or ocean.

- *The City of Brockton Is Not Near the Water*

Cities and towns which are not near a large body of water must use some other means of waste disposal.

- *Its Sewage, Therefore, Must First Flow Down to a Pumping Station*

  Explain how sewage comes from house through street sewer to pumping station (McClusky, 1924b, pp. 116-117).

After the instruction, the students took two tests: one, a twenty-two-item test and the other a chart test with two items. The twenty-two item test included such queries as:

- "From what places in the house does the waste come?"
- "Where does it flow to from the house?"
- "Boston sewage is collected in _____ at Moon Island."
- "How does the city of Brockton differ from Boston?"
- "Where must the sewage of the city of Brockton first flow to?" (McClusky, 1924b, p. 118)

For the chart test, the students were asked to (a) "Make a diagram…showing how dishwater poured into the kitchen sink would go from place to place until it reaches the ocean" and (b) "Show in another diagram how waste coming from an inland city would go until it reaches its destination" (McClusky, 1924b, p. 118).

The average scores on the tests demonstrated that the oral-chart group out-scored the film group in each test. In the seventh grade, the oral-chart group out-performed the film group by 1.08 points (7.0%) in the question test and by 2 points (19.0%) in the chart test. In the eighth grade, the respective margins were 1.03 points (6.3%) and 3.94 points (29.6%).

Overall, the seventh-grade students obtained higher scores in the tests than did the eighth-grade students.

Experiments 10, 11, and 12

The topic for Experiments 10, 11, and 12 was "The Story of a Mountain Glacier." McClusky sought to refine his technique in Experiment 10. He confessed "The deeper one digs into a research problem…the more critical he is of his own digging" (McClusky, 1924b, p. 142), and so he switched gears in Experiment 10. He selected two groups each from the seventh and eighth grades. One group from each grade watched the thirteen-minute movie *The Story of a Mountain Glacier*, a motion picture of Professor W. W. Atwood giving a lecture. McClusky prepared the identical lesson, including a chalk talk, and presented it in person to the other group in each grade. After the lesson, the students were given a test. Examples of the questions asked of the students were, "Where does snow accumulate?" and "Of what are glaciers composed?" (McClusky, 1924, p. 88). During the presentation, McClusky had assistants sit in front of the groups and estimate (in one-minute intervals) the number of pupils *not* paying attention to the instruction. McClusky discovered that the seventh-grade students paid slightly better attention to the film but overall were not as attentive to the lesson as they should have been. The eighth-grade group paid slightly better attention to McClusky's lecture than they did to the film. According to McClusky, Experiment 10 belied the claim that motion pictures are a superior medium for holding the attention of pupils (McClusky, 1924b).

Experiment 11 mirrored Experiment 10 with one added element. After instruction, each pupil was asked to draw a cross section of a glacier. Six weeks after the lesson, the students were given a memory test to gauge their retention of the lesson. McClusky discovered that the group which saw the film retained more of the lesson and were able to draw a more accurate cross section of a glacier than did those who sat through the lecture and did not view the film (McClusky, 1924b).

In Experiment 12, McClusky used three different visual aids to teach the topic: (a) a stereopticon (with a lecture), (b) stereographs (also accompanied by a lecture), and the film *The Story of the Mountain Glacier*. Both the stereographs and slides were taken from the Keystone View Company's "600" set (see Chapter Six, "A Happier Way of Learning: Textbooks"). The students each received thirteen minutes of instruction and after the presentations they took a test. Six weeks later, the students took a second test over the same material. In the first test, the groups which viewed the stereograph and lantern slides had higher scores than did the film group. However, in the follow-up test, the scores reveal that the students who viewed the film experienced the least loss of memory (McClusky, 1924b, p. 153):

Group	Average Scores (2 tests)	Percentage Loss
Stereograph	14.18/11.97	15
Slide	14.68/12.35	15
Film	12.08/11.22	7

Experiment 13

McClusky wanted to compare the information students received from selected scenes from a movie with information garnered when those same scenes were presented as still pictures. For Experiment 13, he selected the film *The Steamboat in United States History*. He selected four scenes (the subtitles are italicized with McClusky's description of the still picture in parentheses): (a) *In the early days, transportation was slow and laborious* (Picture shown of a man in a canoe). (b) *John Fitch proved that a boat could be propelled by steam power. His invention had paddles like oars* (Picture of early model, animated). (c) *Robert Fulton built the first steamboat to achieve real commercial success. The "Clermont" launched on the Hudson in 1807* (Picture of an animated model of "Clermont"). (d) *The "Holyoke" a type of the stern wheel steamer built for inland rivers* (Picture of an animated model) (McClusky, 1924b, p. 156). After the instruction, the students took a question test based on the material contained in the stills. One of the questions asked the students, "In the space below describe the 'Clermont' in detail. Draw a picture of it on the back of this sheet" (McClusky, 1924b, p. 89). As was the case in Experiment 11, the group which viewed the film scored the highest on the test administered after the lesson and experienced the least memory loss after a ten-week lapse between instruction and assessment.

Experiment 14

McClusky's final experiment departed from the procedure he employed in Experiments 1-13: he used no motion pictures. Experiment 14 compared the ability of

students in two geography classes to obtain information using stereographs and stereopticon slides, both supplied by the Keystone View Company. Over the course of several days, February 27 – March 9, 1922, Miss Wiley, principal of the Leal School in Urbana, Illinois, taught the unit *The Middle Atlantic States* to two classes. She prepared identical study questions for both groups, and in both cases, the classes used Brigham and McFarlane's *Essentials of Geography*, Book II, pages 73-77, for their text (Brigham & McFarlane, 1920). One class used stereopticon slides for review; the other used stereographs. A sample of the study questions for the test questions included: (a) "Compare Middle Atlantic States in size with Colorado," (b) "What mountains are in the Appalachian highland?" and (d) "Show where each river (in the Appalachian plateau) rises and into what each flows" (McClusky, 1924b, p. 159).

The tests revealed that the students who used stereographs in their review sessions (N=20) scored slightly higher than the students who reviewed with slides (N=20). Unfortunately, an influenza outbreak hit the Urbana schools in March of that year, which affected student attendance and skewed the results.

Discussion of McClusky's Research

McClusky's experiments addressed the pedagogical effectiveness of different types of visual material. He felt that the films selected for use in the experiments were perhaps not the best films to teach to the particular topic at hand, the students were not prepared to learn from motion pictures, and the assessment instruments did not test the desirable outcomes of the instruction. These observations are due, no doubt, to the fact that McClusky attempted to

construct a lesson plan based on the subject of the film, rather than looking for a film suited to the lesson plan. The introduction of new instructional media often requires the use of updated curricular planning. (Chapman et al., 2004).

A historicist reading of McClusky's (1924b) research leads to several general conclusions:

- Oral instruction by the teacher can be very effective without the use of motion pictures (Experiments 2, 6, 7).
- Oral instruction accompanied by a film is more effective than film instruction alone. It is also more effective to provide verbal explanation during the film than to show film without comment (Experiments 1, 2, 3, 8, 9, 10).
- It is often more effective to use a variety of visual aids during a specific lesson than repeated use of a single type of visual aid. A stereopticon lecture followed by film instruction may be more effective than showing the same film twice (Experiments 4 and 5, 12, 14).
- Films containing a high percentage of action pictures are more effective than still pictures for presenting certain types of information. Films are more effective in demonstrating action and motion than are still pictures (Experiments 12 and 13).

Other areas of research interest mentioned by McClusky for the Visual Instruction Movement are discussed in subsequent chapters of this dissertation: improvement of mechanics of demonstration (Chapter Six, "A Happier Way of Learning: Textbooks"), the study of the technique of teaching with visual aids and integrating them into the curriculum (Chapter Four, "A Happier Way of Learning: Coursework and Continuing Education"), and

the investigation of problems associated with administration of handling visual aids (Chapter Five, “A Happier Way of Learning: Visual Instruction Departments and Extension Services”).

Frank N. Freeman

The third main cycle of research in visual instruction and educational technology conducted during the Visual Instruction Movement was supervised by Frank N. Freeman (1924). Freeman considered the early years of the twentieth century a turning point in the history of American education. The catapult of this change was the application of scientific research to the investigation of educational problems. On April 1, 1923, Freeman obtained a $10,000 grant from the Commonwealth Fund to study educational motion pictures. The experiments, which compared various forms of visual education, were conducted at the University of Chicago Elementary School, Chicago, Illinois, and in the public schools of Evanston, Urbana, Joliet, and Chicago, Illinois; Detroit, Michigan; and Cleveland, Ohio. For each experiment, I will list first the name(s) of the researchers, title of the project, and bibliographic reference, and then reproduce and summarize the research question, methodology, and results of each.

E. H. Reeder and Frank N. Freeman*: A Comparison of the Teaching Value of Film and of Oral Instruction in the Case of Two Short Projects and One Longer Project* (Reeder & Freeman, 1924)

Reeder and Freeman asked the question, “Are educational films a more effective means of providing information than either lectures or textbooks” (Reeder & Freeman, 1924,

p. 167)? To answer this question, Reeder and Freeman carried out two projects (one shorter, the other longer). For the shorter project, they established two groups of forty fourth-grade students from Doty School in Detroit (Reeder & Freeman, 1924). One group of students viewed two films, *Reclaiming Arid Lands by Irrigation* and *Orange Culture*. After viewing the movies, the students were given two tests: one based on the information given in the subtitles of the movies and a second test based on the information provided by the pictures themselves. A second class of forty students received parallel oral instruction from Miss Lillian Norconck, the social science teacher in the schools, who prepared a lecture based on the subtitles of the films. Reeder and Freeman scored the tests and discovered that the median scores for the two groups were practically the same. As a result of this project, Reeder and Freeman concluded that there is little if any difference between visual and oral methods in presenting facts (Reeder & Freeman, 1924).

Reeder and Freeman's longer project dealt with the geography of Egypt and was conducted over the course of four weeks in two schools. As with the shorter project, Reeder and Freeman established two groups. One group was taught with the aid of motion pictures, stereopticon slides, and stereographs. The parallel group received only oral instruction. The same subject matter and same tests were used in both schools. In the Lingemann School, the researchers found no difference between the effectiveness of oral instruction and instruction which also used visual materials. In the second school (the Columbian School), Reeder and Freeman found a slight advantage to the use of visual material in the effectiveness of instruction in geography. Reeder and Freeman concluded that visual material provided

pedagogical aid for instruction in geography, but they could not determine which types of visual material (movies, slides, or stereographs) were most effective.

Haddon W. James*: The Relative Effectiveness of Six Forms of Lesson Presentation: Film, Lecture, Still Picture, Film-Lecture, Film-Music, and Reading, with Particular Emphasis on the Suitability of Different Types of Material for Film Presentation* (James, 1924)

Haddon W. James wanted to compare the instructional effectiveness of three motion pictures (*Queen of the Waves*, *A Woolen Yarn*, and *Cuba, the Island of Sugar*) and the presentation of the same subject matter in the form of oral lecture (James, 1924). Originally, James conducted his research in grades three through six of the University Elementary School at the University of Iowa in Iowa City, Iowa. Each class was divided into two sections, one for visual instruction and the other to act as a control group. After this first round of experiments, James refined his technique and repeated the exercise in the Detroit Public Schools in Detroit, Michigan (with 370 pupils: eight sections of eighth-grade students and two sections of ninth-grade students).

As the title of James' study suggests, six different types of presentations were used (film, film combined with lecture, film combined with music, oral presentation, reading, and still pictures). In order to prepare the oral instruction, the film was screened twice "to a group of advanced students who had had considerable teaching experience" (James, 1924, p. 101). These students created an outline of the film and then prepared the oral presentation based on the outline. The tests based on the outline were given both before and after the instruction.

James provided an example of the outline and test questions for each unit. For example, one of the eight sections of the outline for *Queen of the Waves* was as follows:

I. Fording rivers and streams with logs.

   a. If you came to a stream and nothing but a log was available, could you use it for getting across the stream?

   b. Indians used this method, which was the simplest method of water navigation, and first step to the boat.

      i. Indian would sit astride log and paddle with hands or small paddle.

   c. Discomforts of this method.

      i. Log would go under water.

      ii. Couldn't carry much (James, 1924, pp. 193-194).

The test comprised seventeen questions, two of which were, "The simplest method of Indian water navigation was by_____," and "The dugouts were propelled by: oars, paddles, poles, sails, treadmills" (James, 1924, p. 194). Generally, James discovered that film was the superior medium, and "oral comment and music each appeared to add slightly to the effectiveness of a film" (James, 1924, p. 228).

F. D. McClusky and H. Y. McClusky: *Comparison of Six Modes of Presentation of the Subject Matter Contained in a Film on the Iron and Steel Industry and One on Lumbering in the North Woods* (McClusky & McClusky, (1924b).

As did Haddon James, McClusky and McClusky compared the effectiveness of six different types of instruction: film, film accompanied by oral instruction, slides with subtitles

(without oral comment), slides with subtitles and oral instruction, photographs (without oral instruction), and photographs with oral instruction. They carried out their experiments in the North Doan and Mount Auburn Schools of Cleveland, Ohio, and the Thomas Herzl School of Chicago, Illinois. The instruction was based on two movies, *Lumbering in the North Woods* and *Iron and Steel*. The slides were made directly from the film, and in turn, the photographs were made from the negatives of the slides. Thus, McClusky and McClusky felt confident that the sequence of instruction was the same for all six types of instruction (MClusky & McClusky, 1924b).

Each student received nineteen minutes of instruction per unit, including a four-minute introduction by the teacher. After instruction, the students took a test. The verbal section of the test on the lesson *Lumbering in the North Woods* included a number of multiple-choice items:

- Which country uses the most wood per capita and has the richest useful forests (Great Britain, Canada, India, Brazil, United States, Germany, Russia).
- The greatest forests of the United States are found in five of the following states (Louisiana, Wisconsin, Washington, Michigan, Oregon, Kansas, Rhode Island, Nebraska, North Dakota, South Dakota) (McClusky & McClusky, 1924b, p.233).

The students were also instructed to draw a diagram, tracing the route taken by a log until it is sawed into lumber. The diagram was to show such things as the location of the lumber mill, where the logs are stored until needed, and how the logs are transported by water. McClusky and McClusky's results were mixed. They determined that films, slides, and prints present no real advantage over one another. Given the expense of films at the time, McClusky and

McClusky advised cash-strapped schools to use slides and prints in teaching about certain industries, such as lumbering (and the iron industry) (McClusky & McClusky, 1924b).

Frank N. Freeman, E. H. Reeder, and Jean A. Thomas*: An Experiment to Study the Effectiveness of a Motion Picture Film Which Consists Largely of Tables, Maps, and Charts, as a Means of Teaching Facts or Giving Abstract Information* (Freeman, Reeder & Thomas, 1924)

Freeman, Reeder, and Thomas wanted to determine whether motion pictures were more effective in presenting straightforward factual information than charts and maps, etc. They showed the film *Railroads in the United States* to a group of students; students in another group received a lecture, accompanied by maps and charts, on the same topic. Freeman, Reeder, and Thomas made two comparisons: (a) between a film and a lecture and (b) between the film and a reading lesson. Both the lecture and reading lesson mirrored the information contained in the film. The researchers provided a list of (sub)titles and descriptive comments. Scene number 10 was as follows (the descriptive comments which do not appear in the film are included in parentheses; italics in the original):

> *The locomotive of 1860, weighed 15 tons – today 180 tons*.
>
> (View of two locomotives side by side. Modern locomotive viewed from end and not side. Result, comparison not so obvious.)
>
> (View of modern passenger station…showing on one side, train of earlier make approaching, and on left, modern train) (Freeman, Reeder, and Thomas, 1924, p. 261).

After the lesson, the students took two tests: one a completion/fill in the blank and the other multiple choice.

Sample questions from the first test include:

- The first railroads in the United States were built in the year_____.
- There were _____ miles of railroad in 1850 (Freeman, Reeder, & Thomas, 1924, p. 267).

For the multiple-choice questions, the students were instructed to cross out the wrong answers:

- In 1865, locomotives weighted (15, 180, 282) tons.
- The cost of construction per mile in 1900 was ($33,000, 97,000, 63,000, 84,000) (Freeman, Reeder, & Thomas, 1924, p. 267-8).

After finalizing their experiments, Freeman, Reeder, and Thomas (1924) found that basic facts are better presented in a lecture accompanied by charts and maps than by motion picture. "In fact, the motion picture seems to be a disadvantageous mode of presenting such material, quite apart from the expense of producing or the inconvenience of distributing films" (Freeman, Reeder, and Thomas, 1924, p. 274).

Andrew P. Hollis: *The Effectiveness of the Motion Picture Used as an Introduction or as the Summary* (Hollis, 1924b)

A. P. Hollis posed the question, "Granted that a film should be used in this lesson, should it be used as an introduction to the lesson or as a summary" (Hollis, 1924b, p. 279)? Hollis formed two matched groups of students, each taught the identical lesson,

"Mosquitoes," by the same teacher. Hollis selected the film *The Mosquito,* produced by the Society for Visual Education, because it "seemed especially well adapted to classroom use" (Hollis, 1924b, p. 279). The textbook for the lessons was Gilbert Trafton's *Science in Home and Community* (Trafton, 1920). The lessons lasted two days, thirty-five minutes each day. The first group of students was shown the film on the first day and discussed the relevant material in Trafton's book the next day. The second group reversed this process. The students took a Yes-No test after the lesson. The first group scored higher on the test, which led Hollis to conclude, "The film shown at the outset sets up a greater interest in the topic than the oral introduction, arises more questions, and therefore stimulates closer attention to the subsequent lesson material" (Hollis, 1924b, p. 281).

Frank N. Freeman, Lena A. Shaw, and D. E. Walker: *The Use of a Motion Picture Film to Teach Position and Penholding in Handwriting* (Freeman, Shaw, & Walker, 1924)

Frank Freeman, Lena Shaw and D. E. Walker sought to investigate the value of motion pictures "as a means of teaching how to perform an overt act of skill" (Freeman, Shaw & Walker, 1924, p. 282) and selected handwriting as the subject of their study. They wanted to know if motion pictures could be used to teach children position and technique in handwriting (posture and how to hold the writing instrument). Freeman, Shaw, and Walker conducted the experiments in Evanston, Illinois (48 pupils), and Detroit, Michigan (a significantly larger sample: n=1,472). The authors set up parallel groups of children: one group was shown a film (*The Handwriting Film*) produced by the authors in the educational laboratory of the University of Chicago (Illinois) and the other group was instructed "by some

other method" (Freeman, Shaw, and Walker, 1924, p. 284). The content of the film is illustrated by a partial list of its subtitles:

1. Good and Poor Positions in Handwriting

2. Good Position: Facing desk squarely, body erect

3. Bad Position: Body slumped

8. Good Position: Right forearm at right angle to line of writing

9. Bad Position: Forearm not at right angle to line (etc.) (Freeman, Shaw, & Walker, 1924, p. 291).

Each group was initially scored in various aspects of writing position, then given instruction, and scored again. The assessment instrument came from Freeman's earlier work, *The Handwriting Movement* (Freeman, 1918). Students could earn a total of 27 points. For example, a student could earn six points for body posture and hand position (Freeman, Shaw & Walker, 1924, pp. 286-287):

Body Posture		Possible Score	Score
Direction faced:		3	
Facing desk squarely	(3)		
Turned slightly 15°	(2)		
Turned to side	(1)		
Erectness:		3	
Erect	(3)		
Fairly Erect	(2)		
Badly slumped	(1)		

Hand: 3

Supinated not more than 45% (3)

Intermediate position (2)

Supinated more than 45% (1) (Freeman, Shaw, & Walker, 1924, 286-287).

It is noticeable that the assessment instrument mirrors the subtitles in *The Handwriting Film*. Overall, the authors discovered that pupils who watched the film scored higher than those who received the other types of instruction (Freeman, Shaw, & Walker, 1924).

F. D. McClusky and H. Y. McClusky: *Comparison of Motion Pictures, Slides, Stereographs, and Demonstration as a Means of Teaching How to Make a Reed Mat and Pasteboard Box* (McClusky & McClusky, 1924a)

McClusky and McClusky set up an instructional unit in which motion was the fundamental concept of the lesson (and one that could be taught by means other than verbal transfer). They asked which medium of instruction is superior for presenting "constructive activities in which manual skill and the apprehension of motion are the essential elements." (McClusky & McClusky, 1924a, p. 312). This experiment departed from previous research in one very significant regard: previous experiments were organized around a film already in existence. To carry out this experiment, McClusky and McClusky produced the films themselves at the University of Illinois. The slides and stereographs were created at the same time as the film, using stills. Pupils in the fourth, fifth, and sixth grades in the Weber School, Urbana, Illinois, and the North Doan School in Cleveland, Ohio, took part in the experiment. McClusky and McClusky divided the students into three groups. One group viewed the film

How to Make a Pasteboard Box, a second group watched an instructor actually making a box, and a third group viewed slides illustrating the process of making a box. Each student then constructed a box and each box was graded on the basis of a score-card (Table 3) (McClusky & Mcclusky, 1924b, p. 316). Students lost points for improper construction. For example, if the student used too much glue, one point was deducted from the final score. If the flaps were not fastened inside the box, the students also received a one-point deduction. The groups taught by demonstration scored significantly higher than the groups taught by film or slide. The average score for the demonstration group was 19.91% higher than the slide group and 7.91% higher than the film group (McClusky & McClusky, 1924b).

Table 3

Scorecard

Scorecard for Pasteboard Box	Points
Crosswise creases (one point each)	5
Lengthwise creases (one point each)	4
Length of flaps (one point each)	4
Place of flaps	4
Fastening flap inside each piece (one point each flap)	4
Amount of glue used (one point for each flap)	4
Strip cut off one side	1

E. C. Rolfe: *A Comparison of the Effectiveness of a Motion Picture Film and of Demonstration in Instruction in High School Physics* (Rolfe, 1924)

E. C. Rolfe wanted to further test the hypothesis that a “motion picture presents certain advantage over demonstration by the teacher” (Rolfe, 1924, p. 335). He carried out the

experiment with four sections of a physics course in the Northern High School in Detroit, Michigan. Each section was comprised of twenty students. The first two sections studied an assignment on electrostatics for thirty minutes, after which they twice viewed the film *Static Electricity*. Immediately after viewing the movie, the students were given a written test consisting of twelve questions. The other half of the pool also read the assignment. Rather than viewing the film these students attended a thirty-minute demonstration by the physics teacher who used the same apparatus employed in the film. These final two groups took the same examination that was given to the initial two groups. All four groups subsequently took a laboratory test. According to Rolfe, the difference in scores between the motion picture group and the demonstration was greater than in similar experiments. In the written test, the demonstration group averaged 85.3, the motion picture group 65.8. In the laboratory test the demonstration group outscored the motion picture group by an average of 85.9 to 69.7, prompting Rolfe to conclude, "It is quite clear that in this case the demonstration by an instructor is markedly superior to viewing the same procedure in a motion picture film" (Rolfe, 1924, p. 338). Rolfe wanted to carry out a second experiment with a picture entitled *Current Electricity*, but he lamented that the film was in such bad shape that it could not be used (Rolfe, 1924).

Andrew P. Hollis: *The Effectiveness of the Motion Picture, Demonstration by the Teacher, and Oral Instruction in Teaching Cooking* (Hollis, 1924a)

The research problem entertained by A P. Hollis was to determine the superior method for instructing students in home economics classes on making omelets: a motion picture, a

demonstration by the home economics teacher, or a lecture. Pupils in Grade VIIA in Oak Park, Illinois, were divided into three groups by the supervisor of home economics. One group viewed the movie *How to Make an Omelet* (produced by Gibson Studio, Casselton, North Dakota) and then went to the school kitchen to make an omelet. The second group was taught orally by the same teacher and made the omelet without seeing the film. The third group was given a demonstration lesson along with oral instruction by the teacher and then made the omelet. The teacher scored the omelets on three qualities: taste, texture, and level of brownness. The group that was given the demonstration lesson accompanied by oral instruction created the best omelet (85.83%). The group that viewed the film produced a better omelet (82.5%) than the group which received oral instruction alone (76.25%) (Hollis, 1924a).

Nina Joy Begliner*: An Experiment in the Use of Stereographs and Slides in Teaching Oral English to Foreigners* (Beglinger, 1924)

In the early twentieth century, “Americanization” comprised a set of activities designed to prepare immigrants for the responsibilities of citizenship in the United States. One aspect of Americanization was developing the ability to communicate in English. Nina Joy Begliner sought to measure the effectiveness of stereographs and slides “as means of hastening the development of oral expression” (Begliner, 1924, p. 343). Her sample consisted of four sections comprising ninety-one individuals. The students’ baseline ability in English was measured by the Pintner Non-Language Test, which was often employed to measure general intelligence (Day, Fusfeld & Pintner, 1928). At the outset of the project, each student

was given 175 words and directed to use as many of these words as possible in a sentence. The exercise was repeated after six weeks of English instruction. Two classes used stereographs as part of a group exercise. The students were instructed to devise as many sentences as possible about the objects and scenes in the stereographs. Two classes (the control group) did not use stereographs. “They were taught in the usual manner” using “objects, dramatic representation, and pictures whenever it seemed convenient to make use of these devices” (Begliner, 1924, pp. 342-343). The control group was able to produce 144 sentences at the beginning of the experiment and 428 sentences at the conclusion. The picture group started with 167 sentences and was able to produce 828 sentences. On the basis of her experiments, Begliner concluded that “the use of stereographs is of great advantage in the development of the oral use of English in teaching adult foreigners” (Begliner, 1924, p. 345).

Carolyn Hoefer and Edna Keith: ***An Experimental Comparison of the Methods of Oral and Film Instruction in the Field of Health Education*** **(Hoefer & Keith, 1924)**

Carolyn Hoefer and Edna Keith wanted to know if motion pictures could be used to foster healthy habits in grade-school children. They divided 865 fifth-grade school children into two groups. The students were asked to fill out a questionnaire, answering questions such as

- “Do you drink coffee? How much?”
- “How many times a week do you go to school without your breakfast?”
- “Do you eat fruit every day?”
- “How many hours of sleep should children your age have?”

- “Do you brush your teeth every day? How many times a day?”
- “How many glasses of water should one drink each day?” (Hoefer & Keith, 1924, pp. 348-349).

One group of students received regular instruction including eight films in health education and the other group received the same instruction minus the films. The titles of the films included *The Story of the Orange*, *Milk the Perfect Food*, *Toothache* and *Guard Your Mouth*, *The Gateway to Health*, and others. After watching the films and receiving instruction, the students were tested on the contents of the lesson. For example, the students were asked questions based on the films *Toothache* and *Guard Your Mouth* (Hoefer & Keith, 1924):

The mouth is the gateway to health because

A) All food must pass through this gate

B) It is the most neglected part

C) Digestion is changing food into blood

Good teeth are necessary to our health because

A) They are placed in to the mouth to grind food into very tiny pieces

B) Food is selected by taste

C) Good teeth are necessary to a soldier

Clean teeth will not decay because

A) Clean mouths will not spoil the food

B) There will be no bad food in the mouth to help them decay

c) There are too many (Hoefer & Keith, 1924, p. 361).

Hoefer and Keith furnished the results of the various assessments, including:

- Decrease in the percentage of those (students) drinking coffee.
    - Lesson Group: 1.63 Film Group: 9.14
- Increase in the percentage of those brushing their teeth daily.
    - Lesson Group: 7.72 Film Group: 7.72
    - Increase in the percentage of those who learned how many hours of sleep children should have.
        - Lesson Group: 19.11 Film Group: 33.29 (Hoefer & Keith, 1924, p.369).

These results, according to Hoefer and Keith, did not favor either group. They drew two conclusions from their experiment. First, any marginal benefit gained from the use of film in the health education classroom is outweighed by the expense of renting the film. Second, most of the films dealing with health education are entertaining rather than instructive "and did not emphasize to a sufficient degree the formation of proper health habits" (which begged the need for films more adaptable to classroom use) (Hoefer & Keith, 1924, p. 376).

H. Y. McClusky: *An Analytical Study of the Content of Educational Motion Picture Films* (H. Y. McClusky, 1924)

As the title of the study indicates, Howard Yale McClusky wanted to gauge the educational content of films. He viewed 100 films which he secured from the Society of Visual Education in Chicago and the Educational Museum of the Cleveland School of Education. McClusky wanted to measure the proportion of film devoted to action, subtitles, and still pictures. He determined:

	Average
Percentage subtitle	33.54
Percentage still	11.85
Percentage action	54.61 (H. Y. McClusky, 1924, p. 380).

One case of "extreme film folly," *Mid-Summer Wild Plants*, contained "not an inch of action (McCLusky, 1924, p. 382). The film was composed of 43 % of exposition and 57% of a series of photographs, "either or both of which are just as accessible in illustrated books and far more conveniently and economically obtainable in this way" (McClusky, 1924, p. 382).

H. Y. McClusky's (1924) research led to two conclusions. First, on average, half of each educational film in the study was devoted to action pictures and the other half composed of still pictures and subtitles. McClusky contended it was a waste of resources to devote so much film to non-animate material. Second, the composition of education film demanded the same care and scrupulous attention to detail as does the construction of other educational devices.

Historicist Discussion of Freeman et al.

The research of Freeman et al. sought to examine the relative effectiveness of visual instruction. Two factors determine whether visual aids should be used: the nature of the instruction provided and the experience of the students with the subject matter at hand. The experiments utilized a wide variety of visual aids, and the research demonstrated that motion pictures are superior to still pictures in demonstrating motion. By the same token, educational film should not include subject matter which does not represent motion or action. Still

pictures (including slides and stereographs) are superior for this purpose and are less expensive to purchase. It is best to agree with Freeman: “Each of the common forms of instruction which employ visual aids has some advantage, and there are circumstances under which it is the best form to use” (Freeman, 1924, p. 77).

At no time did researchers in the Visual Instruction Movement contend that visual material obviated the need for well-trained teachers. Rather, this material was intended to assist the teachers in delivering curriculum. Freeman pointed out, “The superior effectiveness of the teacher as contrasted with any merely material device was indicated repeatedly in the investigation” (Freeman, 1924, p. 78). In certain science classes, demonstrations by the teacher were superior to showing a film covering the same material. Also, when teaching how to make something, demonstration by the teacher was also shown to be superior to motion pictures. Motion pictures did not appear to stimulate interest in a subject and should not be used to overdevelop passive receptivity. They were designed to furnish instructional materials to the teacher, who was responsible for the overall organization of the lesson.

Properly used, motion pictures contributed to greater memory retention than other 1,000-foot film presented too much material at once and often included subject matter not germane to the lesson at hand. Music appeared to heighten the attention paid to movies, but more research was needed to determine if music actually increased the amount of information provided.

Conclusion

Content analysis (Berelson, 1952) of the primary documents of the Visual Instruction Movement identified research in visual instruction and educational technology as a constituent component of the movement. My study reproduced a number of the documents pertaining to this research and placed them within the context of the Visual Instruction Movement, 1918-1928 (Tuchman, 2004). It seems obvious to observers in the twenty-first century that pictorial representations would be more effective than a verbal description. Yet Weber, and other researchers of the Visual Instruction Movement, felt they had to answer the question, “Are visual aids merely a fad, or have they distinct value” (Weber, 1922a, p. 7)? The work of Weber, Freeman, and others presented empirical proof of the enduring, positive effect visual aids for classroom instruction.

Not all subsequent research was held in high esteem. The Eastman Kodak Company, in an effort to market its educational films, sponsored a large-scale experiment in 1928. Ben Wood (Director of the Bureau of Collegiate Educational Research) and Frank N. Freeman were asked to serve as co-directors of the Eastman film experiment. Wood and Freeman enlisted 11,000 students and 200 teachers from twelve cities for the undertaking. From February through May of that year, twenty instructional films and specially produced textbooks were incorporated into twelve-week geography (7,500 students) and science (3,500 students) classes. All of the students (X group), with the exception of one control group (C group), viewed the films. Comprehensive examinations were administered to the students at both the beginning and end of the experiment. After examining the test scores of the entire

coterie of students, Wood and Freeman concluded “The X group excelled the C group by a substantial and significant margin” (Wood & Freeman, 1929, p. 223). F. Dean McClusky did not hold the project in high esteem. “A mistake has been made to attempt classroom experimentation for a few weeks on a ‘big’ scale and to deal with mass statistics on the assumption that discrepancies in experimental technique may be ironed out in the general results” (McClusky, 1929a, p. 15; Saettler, 2004, p. 226). McClusky advised that such “research” should be avoided in the future.

CHAPTER FOUR

"A HAPPIER WAY OF LEARNING":

COURSEWORK AND PROFESSIONAL DEVELOPMENT

Chapter Four of this dissertation continues the narrative of the Visual Instruction Movement (1918-1928) and the rise of educational technology by looking at the provisions made for teacher training and professional development during that time. The academic qualifications of a specific profession refer to the basic level of expertise and proficiency required of practitioners in that field. Obtaining this expertise requires both initial academic preparation and subsequent professional development activity (University of Wisconsin, River Falls, n.d.). This chapter uses some of the primary documents of the Visual Instruction Movement to trace the origin of coursework (initial academic preparation) and professional development (subsequent activity) in educational technology during this period. Chapter Four begins with the historical context of teacher training during the early decades of the twentiethcentury and includes four main sections. First, I note the variety of schools which provided training for teachers (secondary institutions or normal high schools, city institutions, normal schools, universities and colleges, and graduate colleges) and provide examples of their respective curricula or requirements. Second, three major surveys show the state of teacher training in the United States during the Visual Instruction Movement. Sheldon Phelps (1923) surveyed state teachers' colleges with four-year programs, providing guidance both to

normal schools seeking to establish four-year programs and to teachers' colleges looking to improve the organization of curricula at their respective schools. Anna Verona Dorris (1923a) and F. Dean McClusky (1925) surveyed the state of teacher training in the use of visual aids in U.S. colleges, universities, and normal schools, thereby offering a glimpse of the types of coursework in visual instruction available to teachers. Third, I describe course work in visual instruction during the Visual Instruction Movement. There are three main parts of this section: (a) two of the earliest courses in visual instruction, one offered by J. Harold Williams at Stanford University (Williams, 1924) and the other by J. J. Weber (1922b) at the University of Kansas, (b) coursework in visual instruction during the summer of 1924, and (c) extension courses and correspondence education. Finally, the primary documents describe various opportunities for professional development around the country, both formally (teachers' institutes and conferences in visual education) and informally (in terms of monographs and articles).

Historical Context: Teacher Education in the Progressive Era (and Beyond)

E. S. Evenden, Professor of Education, Teachers College, Columbia University, called for the construction of a regularized and recognized program of teacher training. He identified six pressing issues facing the preparation of teachers. The first issue he addressed was the lack of approved and generally accepted standards for teacher training. During the Progressive Era, no consensus existed regarding the professional and personal qualifications of school teachers. It made little sense, Evenden argued, to create a curriculum for teacher training absent any guidelines as to what this curriculum should contain (Evenden, 1926).

The second issue was the practice of requiring two years of professional preparation after high school for elementary school teachers. Evenden suggested that this be increased to three or four years. In 1926, the qualification of two years of professional training for elementary school teachers had served to limit salaries paid to teachers, which in turn meant that most of these teachers were “young girls” who only intended to teach a few years (Evenden, 1926, p. 884). These women only were able to learn the “minimum essentials” available in a brief course of instruction. As a result of this limited, two-year training, instruction in elementary schools was rudimentary, confined to textbooks, and emphasized drill and memory at the expense of learning (Evenden, 1926).

A third issue was the lack of differentiated curricula for teachers expecting to enter different divisions. The schools which trained teachers often made no distinction between coursework required of those planning to teach elementary school and those planning to teach high school. “It seems obvious,” countered Evenden, “that the teaching technique, the content of instruction, and the supplementary material used by the primary teacher will be different from those used by the high school teacher of history or of science” (Evenden, 1926, p. 885).

Evenden also raised the issue of the relative importance of “professionalized subjects” (taught in the normal schools) as opposed to “academic subjects” (coursework taken in colleges or universities) (1926, pp. 886-887) in teacher training. Since the accepted standard for a high school teacher was a college degree, and high school teachers were paid higher salaries than elementary school teachers, most college graduates who entered the teaching profession did so to teach in high schools. For this reason, the relativized value of professional

subject matter and academic subject had usually been adjudicated to the financial detriment of elementary school teachers.

The final issue was whether a four-year liberal arts degree was sufficient training for a high school teacher, or should the curriculum be required to include a number of "professional" courses (i.e., courses in education) in the program of study? Those who argued that a liberal arts degree sufficed as training for high school teachers minimized "the relative unimportance of methods of instruction, educational psychology, and other courses in education and practice teaching," often relying on overused expressions such as, "If you know a thing you can teach it" and "You cannot teach a thing you do not know," to justify their position (Evenden, 1926, p. 888). Proponents of professional schools replied, "Not everyone who knows a thing can teach it to others" and "A teacher had better know a few things he can teach than many which he will not use" (Evenden, 1926, p. 888).

Secondary Institutions and Normal High Schools

During the early years of the twentieth-century, a variety of schools provided training for teachers: (a) secondary institutions or normal high schools, (b) city institutions, (c) normal schools, (d) universities and colleges, and (e) graduate colleges (Seerley, 1923). A description of the schools and a sample of their respective curricula are provided below.

Secondary institutions or normal high schools provided very basic training (normal training) for would-be teachers in rural schools (Seerley, 1923). The work in these secondary schools was "secondary in grade and brief in training" and was meant as a stopgap measure "until something better can be done" (Seerley, 1923, p. 4). The practice was particularly wide-

spread in New York, which had long relied on normal training in high schools (McBrien, 1907). By 1907, over one hundred of these programs were offered across the state. “These classes are not intended to do the work of the normal schools. They are expected to provide limited instruction in pedagogical courses for beginners in such work who reside in their neighborhood” (McBrien, 1907, p. 285). It was hoped that students from a normal high school would develop an interest in becoming a teacher and would then attend either a normal school or take pedagogical courses at a college or university (McBrien, 1907).

In Boston, Massachusetts, students who completed a four-year course in high school and obtained a high school diploma could sit for the teachers’ licensure examination on the second Friday and the preceding Thursday of June. Before sitting for the examination, the student needed to complete the following four-year course of study:

First Year: English I, Latin I (or German I or French I), Mathematics I (Algebra), History I (ancient or English), Drawing I, Physical training I

Second Year: English II, Latin II (or German II or French II), Mathematics II (geometry), Hygiene, History II (medieval, or medieval and modern European), Drawing II, Physical training II.

Third Year: English III, Latin II or III (or German I or III, or French I or III), Mathematics III (arithmetic, one-half year; algebra and geometry, one-half year), Music I, Physics, Physical training III.

Fourth Year: English IV, Latin II or IV (or German II or IV, or French II or IV), Music II, United States history under the Constitution, Chemistry, Physical training IV (Manny, 1915, pp. 19-20)

Teaching candidates who received an “A” or a “B” in each subject of the first three years of study would be excused from the examination in those subjects. Students who received a “C” in a course would be examined in that subject. However, all candidates would

be examined in the subjects of the fourth-year courses regardless of the grades earned (Manny, 1915).

Normal Schools and State Teachers' Colleges

Normal schools were organized originally for the "sole purpose of preparing young men and women for the difficult work of teaching" (Seerley, 1923, p. 6). Some of these normal schools eventually became state teachers' colleges. The New York State Normal School at Albany, for example, was reorganized as the New York State College for Teachers in 1890. City institutions or city training schools were similar to normal schools, except they "usually limit their services to their particular (respective) cities" (Seerley, 1923, p. 5). In 1914 all cities in the United States, except one, with a population of 300,000 and four-fifths of those with a population of at least 100,000 maintained training schools as part of their public school system. Seven thousand pupils were enrolled in these schools and the annual number of graduates was 3,000 (Manny, 1915).

Nina Vandewalker, a specialist in kindergarten education in the U.S. Department of the Interior's Bureau of Education, maintained that "the specialization in the work of the school has made the training of teachers for specific lines of service necessary" (Vandewalker, 1924, p. 1). She described representative courses of study for a student preparing to become an elementary school teacher. It is particularly illuminating to contrast the two-year course of study at a normal school with the four-year course at a state university.

(a) State Teachers College Course

First Year

> *First Term*: Music (voice), English composition, Kindergarten principles 1 (child study and observation), Technics 1.
>
> *Second Term*: Psychology, Reading and speech, Literature, Technics 2, Penmanship.
>
> *Third Term*: History, Stories, Drawing, Technics 3.

Second Year

> *First Term*: Lower grade methods, Kindergarten teaching, Geography, School management.
>
> *Second Term*: Hygiene (special), Primary teaching, Kindergarten principles 2, School Management.
>
> *Third Term*: Kindergarten principles 3, American government, Arithmetic, Psychology 2, School management. (Vandewalker, 1924, pp. 7-8)

Kindergarten "technics" included a study of the various forms of handiwork and manual arts appropriate for kindergarten students, games enjoyed by primary school students, and music (Vandewalker, 1924).

(b) State University Course

Freshman Year

> *First Semester*: English Composition, Psychology (the psychology of study), Botany (fundamentals of botany), Commerce (principles of economics), Commerce (penmanship), English (advanced composition), Physical Education (hygiene), Recreation (women).
>
> *Second Semester*: English (American Literature), Geography (Fundamentals of Modern Geography), Political Science (American Government), Zoology (nature study), Physical Education, Minor departmental sequence, Recreation (women).

Sophomore Year

First Semester: Modern Social History of Europe, Philosophy (logic), Principal departmental sequence, Psychology (general psychology), Physical Education, Recreation (women).

Second Semester: Modern Political History of Europe, Geography (geography of California), Philosophy (logic), Principal departmental sequence (continued), Educational Psychology, Recreation (women).

Junior Year

First Semester: Art (fine and industrial arts education), Education (introductory kindergarten-primary education), Education (principals of kindergarten-primary reading and number), Primary department sequence, Public Speaking (children's literature).

Second Semester: Art (fine and industrial arts education, continued), Education (kindergarten-primary curricula and methods), Music, Primary departmental sequence, Public Speaking (the art of story telling).

Senior Year

First Semester: Education (history of kindergarten-primary education), Education (the administration of public education), History (social studies in the kindergarten-primary grades), English (history of English literature), Primary departmental sequence.

Second Semester: Primary departmental sequence and two sections of Teaching (kindgarten-primary teaching). (Vandewalker, 1924, pp. 27-28)

Vandewalker also provided descriptive notes to many of the kindergarten-primary courses.

The course description for "Kindergarten-Primary Curricula and Methods" reads:

> This course accompanies practice teaching. It aims (1) to present a survey of the kindergarten-primary curriculum as a unit in elementary education; (2) to analyze the classroom observation and teaching experiences of the students in terms of educational principles; (3) to work out in detail the principles of selection and organization underlying the various activities, materials, subject matter, and methods, in the kindergarten-primary curriculum; (4) to provide opportunities for student teachers to organize and present for class discussion large units or projects dealing with significant phases of the curriculum. (Vandewalker, 1924, p. 29)

In 1923, the majority of teacher education programs for primary school teachers required two years of study. Vandewalker (1924) felt this was barely adequate and was gratified to note that many institutions were offering longer programs. As seen in the descriptions above, the four-year programs were certainly more comprehensive in their academic requirements than were the requirements at the two-year normal schools.

Universities and Colleges

Brown University was one of the first post-secondary institutions to offer coursework in education. Brown originally founded its Department of Education "to give instruction to students who planned to enter upon education as a business" (Seerley, 1923, p. 9). Eventually, the Department of Education expanded its mission to prepare school superintendents and administrative officers of academies and colleges. The State University of Iowa established a chair of didactics in 1872, and shortly thereafter, the University of Michigan established a chair of education, which is "attempted by all creditable universities and colleges, public and private, at the present day" (Seerley, 1923, p. 11). The University of Illinois, for example, "offered lectures on educational subjects given by a professor of psychology" in 1890-91 and established its Department of Pedagogy in 1893-94 (Swift, 1920, p. 29).

Teacher training during the Progressive Era often concentrated on the training of teachers for the elementary grades of local schools. W. C. Bagley took a dim view of this situation, which presupposed that elementary school teaching was a temporary occupation and not a worthy career. "Under this conception, the teaching appointments in the local schools become the prerogative of the local girls. This condition serves two ends: the local girls are

given jobs and the salaries are kept low" (Bagley, 1920, p 123). Bagley contended that the completion of a four-year curriculum represented the minimum preparation for teaching in a public school (Bagley, 1920).

C.B. Robertson, from the School of Education at the University of Pittsburgh, agreed with Bagley's assessment (Robertson, 1913). The University of Pittsburgh required 192 credits for a bachelor's degree, which included an obligatory 27 credits for a major and 18 credits for a minor. Prospective teachers took three quarters of the courses in general academic work and the final portion in professional work. This final portion included a hefty dose of educational theory, which seems "to be a large proportion, but it is believed that the subjects taken are equal to any others in their *cultural* and *liberalizing* value, and to the teacher they have a *practical* value in addition" (Robertson, 1913, p. 227, italics in the original). Among the required courses in education were Principles of Education (four credits), Psychology of Education (four credits), Child-Study (four credits), School Economy (three credits), History of Education (four credits), Educational Classics (six credits), and either Primary or Secondary Education (four credits). The School of Education at the University of Pittsburgh also offered sixty-five elective courses (Robertson, 1913). One special feature of professional work in the School of Education, according to Robertson, was observation and practice, which began in the third year of study. Each student was apprenticed to a nearby secondary school to a teacher "of the subject that forms the student's major or minor subject in the University" (Robertson, 1913, p. 228). A supervisor from the School of Education closely monitored the work of the apprentice teachers.

Graduate Colleges

Many universities also established a graduate college for the purpose of providing advanced study, leading to master's and doctor's degrees (such as the course of study undertaken by J. J. Weber and F. D. McClusky. See Chapter Three: "A Happier Way of Learning: Research in Visual Instruction and Educational Technology"). Leonard Koos (1922), of the University of Minnesota, investigated the standards and practices in sixty-one graduate departments of education. His work provided a picture of graduate work in the field of education and teacher training during the Visual Instruction Movement. The topics studied by Koos included (a) admission and prerequisites, (b) residence requirements, (c) credit requirements, (d) distribution of the work, (e) the administration of courses in education, (f) the thesis, (g) foreign-language requirements, (h) examinations, and (i) the staff.

All of the schools queried by Koos required a bachelor's degree for admission. Further prerequisites for admission included coursework in educational psychology, the principles of education, general methods, administration, secondary education, and some type of work in observation, theory and practice (Koos, 1922). Most institutions distinguished between admission to the graduate school and admission to candidacy for the master's and doctor's degrees. Nearly all schools required a full year of residence for the master's degree, and this requirement could not be met by attendance during the summer session or by correspondence work. Schools generally required three years of residence for the doctor's degree and "practice is emphatically opposed to acceptance of correspondence work as a substitute for residence requirements" (Koos, 1922, p. 8).

Based on Koos' figures, it appeared that most institutions mandated between twenty-four and thirty-six credits plus thesis for the master's degree. He found no general agreement on the requirements for the doctor's degree. Apparently, "the character and quality of work and the dissertation should be the determining factors, rather than the amount of credit" (Koos, 1922, p. 9). Most schools demanded between twelve and eighteen credits of coursework per semester, including classes in educational psychology, administration, history of education, secondary education, vocational or industrial education, rural education, health education, elementary education and a "scattering of a wide array of departments, among them philosophy of education, educational sociology, normal-school education, religious education, kindergarten education, agricultural education, art education, etc." (Koos, 1922, p. 9).

Nearly all graduate schools required a thesis for the master's degree and all schools required a dissertation for the doctorate. Most of the institutions also dictated publication of the doctoral dissertation. Further, most institutions did not require foreign languages for the master's degree; those which did stipulated French and/or German. Doctoral degrees, on the other hand (with two exceptions), wanted facility in French and German, usually described as "reading knowledge" (Koos, 19212, p. 16). Three-fourths of the institutions granting master's degrees required a final examination; all institutions required a final, comprehensive exam for the doctoral degree. Of the faculty teaching in those graduate institutions included in Koos' survey, approximately 50% had earned a doctorate (Koos, 1922).

Surveys of Teacher Education

In the decade 1910-1920, teacher education was shifting from the two-year normal schools to four-year state teachers colleges (Bonner, 1922). Sheldon Phelps surveyed state teachers colleges with four-year programs. He hoped his study would provide guidance both to normal schools seeking to establish four-year programs and to teachers colleges looking to improve the organization of curricula at their respective schools.

Phelps asked: (a) How many quarter-hours should a teachers college require for a bachelor's degree? (b) What types of curricula should the teachers college offer? (c) How many hours should be devoted to courses in education? (d) Other than courses in education, what courses should the student take? Phelps concluded that a state teachers college should require between 185 and 192 quarter-hours for the bachelor's degree. The teachers college should offer a variety of curricula: different programs of study for elementary, intermediate/ junior high, and high school teachers and separate programs for home economics, agriculture, and industrial arts teachers (Phelps, 1923). Teachers colleges offered a wide variety of courses in education in 1923, including "Practice-teaching," History of Education," "Education Psychology," "School Management," etc. (Phelps, 1923, p. 352). He recommended that schools offer approximately 100 credit hours in education and students would be required to enroll in thirty-six of these hours. Other than courses in education, students should also be required to take thirty hours in their respective majors.

Anna Verona Dorris

The expansion of the Visual Instruction Movement necessitated the need for formal teacher education (Saettler, 2004). "The movement for visual education will progress in direct ratio to the number of teachers who are trained in the technique of visual instruction" (McClusky, 1923, p. 193). In the early 1920s, Anna Verona Dorris (1923a) and F. Dean McClusky (1923) also surveyed the state of teacher training in the use of visual aids in U.S. colleges, universities, and normal schools. The surveys by Dorris and McClusky offer a glimpse of coursework in visual instruction available to teachers in the first half of the 1920s.

Anna Verona Dorris wanted to gauge the provisions in place for training teachers in the various types of educational visual material. She directed inquiries to 171 normal schools and teachers' colleges and 114 colleges and universities (see above for a description of these schools), requesting announcement of any courses "given with the object of training teachers to use visual materials as a means of definite instruction" (Dorris, 1923a, p. 335). She received 30 returns from normal schools and teachers' colleges and 37 from colleges and universities. Only four normal schools and teachers' colleges listed full-credit courses during the regular academic year and two had coursework during the summer session. One institution (Stanford) offered a three-credit course in graphs and their uses in teaching (Graphic Methods of Presenting Facts, taught by J. Harold Williams). The survey revealed that very few educational institutions provided any type of training in the field of visual instruction. Although many colleges and universities developed extension bureaus to distribute visual

aids, Dorris (1923a) discovered that the majority of these centers existed for the purpose of providing wholesome materials for entertainment rather than classroom instruction.

The survey raised two serious issues. First, was it justifiable to allow teachers to continue their "old fashioned" ways of teaching: "slaves to formal text books – using long, dry, uninteresting methods of teaching without making a serious effort to awaken and inspire them to use newer, more economic and more efficient methods of procedure" (Dorris, 1923a, p. 336)? Second, many school systems equipped their schools with expensive technology (at a time when the starting salary for a female teacher was $1,000 per year, a projector cost $250) yet made no provision for training teachers how to use such valuable tools. As a result, most of this equipment was used "haphazardly and unpedagogically or for entertainment purposes only" (Dorris, 1923a, p. 336).

In order to address these issues, Anna Verona Dorris' institution, San Francisco State Teachers' College developed a full-credit visual instruction course to meet the needs of teachers in the Bay Area. Thirty-five teachers and principals, representing six different school systems and 27 different schools, enrolled in the first course. The course offered two types of work: (a) lectures and demonstrations and (b) field work. The lectures covered such topics as the need to improve and enrich classroom teaching, the educational philosophy underlying the use of visual aids, practical methods of using visual materials in the classroom, and guidelines on establishing a distribution center in the school. The demonstrations showed how classwork in geography, history, health, nature study, current events, etc., could be enriched through the use of visual aids (Dorris, 1923a). Field work was structured more as a site visit than as teacher training. The instructor, Anna Verona Dorris as it turned out (however, she does not

identify herself as such), visited her pupils' schools and offered advice in the field of visual education. During the visits, the student teachers learned how to enrich the classroom with mounted pictures, exhibits, and charts and graphs. After the teachers implemented Dorris' suggestions, "boys and girls were beaming with interest and enthusiasm because they were learning to solve real life's problems in a natural, interesting way" (Dorris, 1923a, p. 337).

Anna Verona Dorris taught two courses at San Francisco State Teachers College: Visual Instruction I (Beginners' Course) and Visual Instruction II (The Use of Visual Aids in Teaching Geography). The Beginner's Course considered several problems arising in visual education: changes in teaching procedure; reasons underlying the use of visual instruction; concrete demonstrations of incorporating visual aids into coursework, including pictures, graphs, charts, maps, stereographs, slides, and moving pictures; how to collect visual material and sources of supply; how to equip a school for visual instruction and means of earning money for equipment; and how to operate and care for projectors (both stereopticons and motion picture projectors) (Dorris, 1923a).

The advanced course, Visual Instruction II, concentrated on the subject of geography. In this course, Anna Verona Dorris demonstrated to teachers how geography "may be presented to children as an interesting life experience by using realistic pictures, exhibits, excursions, charts, maps, graphs, stereographs, slides and films as a means of explaining the texts and enriching subject matter" (*The Educational Screen*, 1924b, p. 217). The purposes of the course were (a) to acquire a sympathetic insight into contemporary civilization, (b) to gain an economic and social appreciation of the various peoples of the world, and (c) to demonstrate how geography can be presented to students as an interesting life experience by

using various visual materials. The relevant visual aids were meant to show students (a) the interdependence of all people and nations, (b) the geographic and economic conditions that govern the life of each group, (c) the history, art, music and literature of each civilization, and (d) California's relations with these various ethnic groups and nations (Dorris, 1923a).

F. Dean McClusky

The same year that Anna Verona Dorris published her findings, F. Dean McClusky (1924a) surveyed the administration of visual education in the United States and presented a report to the National Education Association. Coincidently, one of the courses surveyed by McClusky was Anna Verona Dorris' course taught at San Francisco State Teachers College. He observed that very few teachers developed skills in incorporating visual aids into lesson plans and he suggested that if teachers were to buy and make use of visual aids, they would have to be trained how to use them in the classroom (McClusky, 1925). He further recommended that universities and normal schools include visual education in the curriculum as well as pertinent textbooks (McClusky, 1925). At the beginning of the Visual Instruction Movement many directors of extension bureaus thought it sufficient merely to provide a library of films and slides and did not offer training in how to use these materials. However, the extension leaders eventually recognized the importance of developing a program of teacher training in visual instruction (McClusky, 1925).

McClusky (1924a) reported that some progress had being made relative to teacher training in visual education. Over twenty universities and state normal schools had offered formal courses in visual education. However, most of these courses were only offered in the

summer. Furthermore, the state universities of Missouri and Utah, had hosted conferences on visual instruction and the Michigan State Department of Education had sponsored a series of short courses in the state's normal schools while a number of smaller normal colleges in the state had offered similar courses. Finally, several urban school departments of visual education from throughout the country had made efforts to train teachers in the art of visual instruction.

McClusky also listed the various schools offering summer classes in 1924 (see below). While this group represented only a fraction of the hundreds of colleges, universities, and normal schools in the United States, "it does include a number of the finest universities and normal schools in the country" (McClusky, 1925, p. 273). McClusky deemed it unfortunate that visual instruction was an elective at each of these schools and that coursework in visual education was not required at any of them. Three of the schools offered coursework by correspondence only and a majority of the schools had courses solely in the summer. McClusky argued that the Visual Instruction Movement would grow only once it had been formalized in teacher training. It was obvious, he claimed, that the best way to train large numbers of teachers in the use of visual material would be through required courses in visual education (McClusky, 1925).

McClusky also thought a comprehensive program of teacher training in visual education should include a generous service of professional development or semi-formal training. He considered the program begun by the Michigan State Department of Public Instruction in 1923 to be the standard bearer. The program focused on the use of motion pictures in the classroom and covered topics such as the theory and technique of using films

in teaching, how to obtain films and care for them, and how to operate a motion picture projector (McClusky, 1925).

The first year (1923) that the Michigan State Department of Public Instruction offered its program approximately 750 pupils enrolled. Each student received two hours of individual coaching on the operation of a movie projector and the care of film. Participants in the training received no formal credit, but did get a letter of recognition from the Department of Public Instruction. McClusky felt that this non-credit, short course devised by the state of Michigan was one of the most effective examples of semi-formal training in visual instruction available to teachers and students of visual education at that time. Two counties in Illinois also sponsored organized teachers' institutes on visual instruction: one in Bloomington (McLean County) December 1922; and the other in Peoria (Peoria County), March,1923 (see below). Fifteen hundred teachers attended these two institutes, which, according to McClusky, indicated wide-spread interest in visual education (McClusky, 1925).

McClusky conceded that it would be an uphill struggle establishing required courses in visual instruction in teacher training institutions. He noted that the curricula in teacher training programs were already overloaded with prescribed courses and that it would be difficult to add yet another required class. So, what was the future of formal training in visual education? In place of a required class in visual education, McClusky suggested that visual instruction be incorporated into already existing courses. For example, the topic of visual instruction as applied to the teaching of English, civics, or geography could be introduced into the special method courses in these respective fields (McClusky, 1925).

McClusky taught two separate sections of Visual Education at the University of Chicago in Illinois in 1924, one course for resident students and the other in the Correspondence Study Department (see below and Chapter Five, “A Happier Way of Learning: Visual Instruction Departments and Extension Services”). Enrollment in the residence course was limited to education majors and the topics to be studied in this course included: the psychology of concrete experience and its relation to the learning process; methods of administering visual materials; and the results of research in the field of visual education. The residence course contained a number of practical suggestions for the teacher, principal, supervisor, or superintendent who was interested in making use of visual materials for instructional purposes (*The Educational Screen*, 1924b).

In my opinion, the correspondence course, also named Visual Education, represents a precursor to online coursework in educational technology. McClusky constructed this section to give the teacher, principal, supervisor or superintendent who was unable to enroll in the resident course a cross-section of new trends in visual instruction. The topics addressed included: (a) psychology of visual education, (b) sources of visual aids, (c) methods of administering visual materials, and (d) research in the field of visual education. The course also contained a number of practical suggestions for those who were interested in making use of visual education (*The Educational Screen*, 1924b).

Early Coursework in Visual Instruction

J. Harold Williams, Stanford University

One of the first official credit-bearing courses in visual instruction was Graphic Methods of Presenting Facts, taught by J. Harold Williams at Stanford University during the summer quarter of 1918. The title of the course was taken from a book of the same name written by Willard Brinton in 1914, which in turn grew out of a series of lectures given at Harvard University, Dartmouth College, and Northwestern University (Brinton, 1914). The university described the course as follows:

> *Graphic Methods of Presenting Facts*. This course is designed to give practice in the methods which are serviceable in the popular portrayal of statistical data. In addition to graphic presentation, some attention will be given to a consideration of the merits of various tabular arrangements of material and to desirable methods of school publicity. Intended primarily to show prospective officers how best to display statistical facts. (Williams, 1924, p.vi)

The course arose from an attempt to train prospective school principals and superintendents in the use of graphic methods without sending them "to the engineering courses in Lettering, Linear Drawing, and Design" (Williams, 1924, p. v). Graphic Methods of Presenting Facts required six hours of work a week for a period of 12 weeks and carried two university credits. The course proved so successful that plans were developed to offer it twice each year (summer and winter quarters). To accompany the course, Williams penned one of the first instructional texts in educational technology, *Graphic Methods in Education*. Williams' book presents a clear picture of formal education in visual instruction at the beginning of the Visual Instruction Movement (Williams, 1924).

Williams (1924) contended that good graphic displays are a fundamental component of progressive school policy and were much more effective than mere verbal description. People from all walks of life used charts (engineering, transportation, business administration, insurance, medicine, meteorology, etc.) and he wrote his book to show how easily students can be taught to create visual material themselves. Williams described both the equipment needed to create charts as well as extensive discussion on technique. The basic equipment for the course included a drawing board, T-square, triangle, measuring scale, protractor, thumbtacks, paper, pencils, erasers, drawing ink, and compass. Williams listed five basic steps in creating a chart: (a) place the paper on the drawing board, (b) measure the spaces with a T-square, (c) pencil in the lines, (d) ink over the pencil, (e) and clean the chart (after the ink is dry, erase any visible pencil marks) (Williams, 1924).

Williams also pointed out the most common drafting errors (my italics):

- *Slipping of the paper* – which occurs when the paper is not properly fastened with thumbtacks.
- *Incorrect spacing* – which results when the measuring scale is not properly used to plot points on the graph (also, a very sharp pencil would help avoid this pitfall).
- *Too much pressure in penciling* – which also increases the difficulty of erasing. Williams reminded readers that very light pencil lines required less effort to draw and necessitate less frequent pencil sharpening.
- *Blotching of lines* – which results when the pen is not held properly.
- *Uneven lines* – which occurs when the pen is held too tightly against the ruler.

- *Incomplete inking of lines* – which can be avoided if the student checks for sufficient ink before starting the graph (Williams, 1924).

Williams provided definitions and practice exercises for a variety of charts and graphs. In Graphic Methods of Presenting Facts students learned how to create bar charts, frequency surfaces (or histograms, a group of adjacent vertical bars to show the frequency trend of a series of intervals), architectural diagrams, genealogical charts, etc. Most of the charts produced by the students were created on letter-sized (8 ½ by 11) paper (Williams, 1924).

Williams' criteria for coursework assessment are the earliest example of classroom grading in instructional technology that I found in my study. Listed below are his criteria for letter grades (in bold):

A. First-class work. Professional quality. Acceptable for any purpose.

B. Good work, but with evident imperfections. Acceptable for publication, however, to illustrate a magazine article.

C. Mediocre work, barely acceptable for reproduction or display.

D. Unsuitable for reproduction or display, but passable for purposes of a practical course.

F. Failure. Unacceptable for any purpose. (Williams, 1924, p. 316)

J. J. Weber, University of Kansas

The Educational Screen described a second early course in visual instruction, this one offered by Joseph J. Weber at the University of Kansas in Fall,1921 (Weber, 1922b). Weber's course had a more expansive scope than did the one taught by J. Harold Williams at Stanford. Williams taught his pupils how to produce specific visual aids. Weber's course, which

enrolled 26 students, showed teachers how to use visual aids in the classroom and investigated specific problems regarding their use, including:

(a). Chalk and Blackboard. “The blackboard and chalk in the hands of a skilled and resourceful teacher constitute the handiest and most economical visual to instruction” (Weber, 1922b, p. 13). Chalk and blackboard were so instrumental that “no teacher should be considered adequately trained who cannot adeptly visualize with chalk the thorough relationships he or she is trying to create and establish” (Weber, 1922b, p. 13).

(b). Model, Exhibits, Devices. Models could save hours of futile explanation and years of vagueness and misunderstanding. Students were able to create models with their own hands and gain insight that cannot be obtained by observation alone. Exhibits provided vicarious experience rivaled only by reality. Devices required only a fraction of the time needed by verbal explanation and thus secured economy in the learning process (Weber, 192b).

(c). Photographs and Sketches. Textbook illustrations were generally neglected and that teachers “take for granted that pupils know how to get the most out of them” (Weber, 1922b, p. 14). He contended that students should be encouraged to take pictures, make sketches, and mount illustrations to elucidate their assignments. Weber agreed with Arthur Brisbane, who said “Use a picture, it’s worth 1,000 words” (Brisbane, 1911, p. 18): “Whenever a picture can displace a verbal description or explanation, or at least shorten it considerably, its omission is inexcusable professional negligence” (Weber, 1922b, p. 14).

(d). Maps, Charts, Graphs, Diagrams. Weber warned the teachers that it is the students, and not themselves, who make use of these visual aids. Maps and charts, etc., are particularly helpful in illustrating “plane relationships” (Weber, 1922b, p. 14).

(e). Slides, Lanterns, Reflectoscopes. Aside from the blackboard, Weber felt that slides were the best visual aid for group instruction. The best use of projected pictures lays in the initiation of new projects, such as introducing the topology of the Philippines islands to a geography class (Weber, 1922b).

(f). Stereographs and the Stereoscope. The stereoscope was not suitable for group activity but was perhaps the best visual aid “for solitary individual study” (Weber, 1922b, p. 15). Weber suggested that the best method for using stereographs was to place two or three of them in the center of the classroom or library where they could be consulted as a reference work, just like a dictionary or encyclopedia.

(g). Moving Pictures and Projectors. Motion pictures were unparalleled for depicting activity and behavior. However, Weber cautioned, they were very expensive. He confessed that he looked forward to the day when inexpensive portable, lightweight projectors would be available for schools to purchase. He was clearly prescient when he wrote, “Perhaps the film of the future will be in the form of a disc or a cylinder” (Weber, 1922b, p. 16).

(h). Diagrammatic Moving Pictures. Weber foresaw the eventual use of animation in the classroom: “It makes one’s imagination dizzy to contemplate the amazing possibilities of animated drawing” (Weber, 1922b, p. 16). Weber thought the use of animation would eventually revolutionize the field of science.

In Weber's view, the biggest challenge facing coursework in visual education was the development of a specific methodology that could be adopted for classroom use, as merely viewing a picture would not enhance learning. The visual aid must be accompanied by discussion, reflection, and assessment. He reported that the course was so successful that he planned to offer it again the following year (Weber, 1922b).

Summer Courses in Visual Instruction, 1924

Many colleges and universities offered summer coursework to teachers in service. These courses made "an especial effort to supply the teachers with the knowledge that has come into vogue since they began teaching" (Ruediger, 1911, p. 50). In July 1924, *The Educational Screen* (1924) surveyed summer courses in visual education and provided the first extensive list of specific coursework in instructional technology. Catalog descriptions of three of the courses include the following:

(1) *Visual Aids in Education* - George Washington University, District of Columbia (taught by Laura Thornborough)

> The course is planned along eminently practical lines and is intended to help students toward the solution of the innumerable problems of visual education. While consideration will be given to the use of the slide, stereograph and other visual aids, special attention will be given to answering the questions – when, where and how shall motion pictures be used in teaching? The course will consist of lecturers, round table conferences, visits to motion picture laboratories and exchanges, practical demonstrations and film lessons, with screenings of educational films of various types. (*The Educational Screen*, 1924b, p. 217)

(2) *Visual Education* - Chicago Normal College, Chicago (The course was offered in two sections at different locations. The instructors listed were Mr. Johnson and Mr. McLeod.)

According to the catalog, the work in this course included:

> (1) Demonstration and class practice in the use of the various devices of visual education, such as projection lantern, stereoscope, moving picture machine, etc.
>
> (2) A consideration of the educational principles which are involved in visual education, and a critical review of the more recent experiments.
>
> (3) The application of visual education to specific subjects such as geography, history, English, etc. Actual demonstrations, using the projection lantern, will be given when possible. (*The Educational Screen*, 1924b, p. 218)

The course promised to "be of practical interest to teachers, supervisors, and principals who were considering the use of visual materials for instructional purposes" (*The Educational Screen,* 1924b, p. 218).

Cornell University in Ithaca, New York, offered an extensive selection of courses (three) listed by *The Educational Screen* in 1924. Each of these classes was to be taught by A. W. Abrams, and since section numbers are assigned to each, the descriptions appear to be taken from the university catalog. Below is the description for "Visual Instruction":

> The psychological basis for the use of visual aids in instruction; the relation of pictures to the imagination, to interest, and to effort; the fundamental distinctions between language and picture expression; the place and limits of each; essentials of the visual method; relation to particular studies; the equipment needed and how to use it; the extent to which the method may be used with profit; types of visual aids and the special value of each; standards for the selection of pictures; how to read pictures. Demonstration lessons, conferences, criticism of particular pictures, exhibits. (*The Educational Screen*, 1924b, p 218)

A second course taught by Abrams, "Geography of New York State" (Section 12a), demonstrated how visual instruction could be incorporated into a specific subject (in this case, a geography methods course): "This is both a subject-matter and a method course; the visual method exemplified in teaching a definite part of the field of geography; full use will be made

of screen pictures, photographs, maps and books of reference, primarily with a view to illustrating how to study and teach geography" (*The Educational Screen*, 1924b, p. 218).

Extension Courses and Correspondence Education

Two types of non-residence continuing education were available to educators during the Visual Instruction Movement: extension courses and correspondence education. Extension education is "a form of supplementary education designed for those who have either not been able to have access to regularly scheduled schools or who, somewhat belatedly, find themselves developing new educational needs" (Snedden, 1917, p. 483). Two types of students took advantage of extension coursework: those who desired a liberal education at the post-secondary level without pursuing a degree and those who needed academic recognition for their respective professional pursuits (Ruediger, 1911). The Ohio State Normal College advertised two lines of extension work: (a) visits from departmental professors, who would visit schools and advise the teachers "as to the best methods of conducting the work in his special subject" (Ruediger, 1911, p. 58), and (b) loaning lantern slides (Ruediger, 1911).

The 1909-1910 catalogue of the Chicago Normal School provided a description of extension work:

> Study classes in the academic subjects – education, psychology, English, French, German, Spanish, history and social science, geography, mathematics, science, history of arts – are organized on the basis of 24 lessons of one and one-half hours each; classes in the arts – graphic, manual, industrial, and household – and in music and physical education are organized on the basis of 36 lessons of one and one-half hour each.
>
> Classes will meet at centers in the business section of the city, or in public-school buildings conveniently located [16 such centers are listed in the catalog], at 4 o'clock

> p. m. on any school day except Monday, or in the evening of any school building open for evening school. (Ruediger, 1911, p. 57)

The second type of non-residence coursework which emerged during the Progressive Era was correspondence education, or education by mail. The University of Wisconsin marketed its correspondence work to "persons who are unable to adjust themselves to the formal system of education" (Ruediger, 1911, p.61). The university offered five types of correspondence courses: (a) regular coursework which could be counted towards a degree, (b) graduate and professional courses, (c) high school and high school preparatory work, (d) vocational courses geared towards a particular vocation, and (d) elementary and grammar school studies (Ruediger, 1911).

The general procedure for correspondence work was to apply to the university, select the desired courses, and pay the required fee to the school. Upon receipt of the application fee, the university sent the student two lessons, with instructions for returning the completed coursework. Each lesson was graded and returned to the student with comments, suggestions, and explanations. Each course was divided into forty-week segments, and each course was equivalent to a five-hour class at the university. Students who sought either credit or certification for their work were required to take an examination (Ruediger, 1911).

"C.D.S." writes about the Extension Division, University of North Carolina:

> The University of North Carolina's Extension Division has a correspondence program which offers classes in both English, an academic subject (Freshman English, Sophomore English, Business English, and Short Story) and Education, a professional course (Principles of Secondary Education, High School Methods, Educational Psychology, and Public School Education in the South). All of these classes count toward a University degree and state teachers' certificate. (C.D.S., 1922, p. 7)

Both extension and correspondence work in visual instruction were available during the Visual Instruction Movement. The Indiana University, Extension Division, Bureau of Correspondence Study in Bloomington, Indiana, offered an extension course: "Visual Education." *The Educational Screen* printed the course description:

> History and Development; Comenius and Others; States in School Systems; Universities, Industries, etc., Sources of all Types of Visual Aids, such as Flat Pictures, Stereoscopic Views of Lantern Slides, Motion Pictures, Charts, Graphs, Specimens and other aids.
>
> The course also deals with types of projection equipment and sources; fire regulations and other installation problems; the use of pictures in entertainment as well as educational activities and also the use of pictures in public welfare work outside of the school. (*The Educational Screen*, 1924b, p. 218)

F. Dean McClusky also offered a correspondence course, "Visual Education," through the University of Chicago, Correspondence Department:

> A course constructed to give the teacher, principal, supervisor, or superintendent, a cross-section of this new movement in educational methodology. The topics to be studied will include: (1) the psychology of visual education; (2) the sources of visual aids; (3) methods of administering visual materials; and (4) research in the field of visual education. An appraisal of the different phases of the movement will be made. The course will contain a number of practical suggestions for those who are interested in making use of visual education. (*The Educational Screen*, 1924b, p. 218)

Taking college-level courses while teaching raised questions about work load. In 1929, shortly after the close of the Visual Instruction Movement, C. M. Reinoehl of the University of Arizona asked, "To what extent is a full-time teacher justified in doing college work by correspondence or extension?" (Reinoehl, 1929, p. 260). Reinoehl proposed standards in guiding students in their correspondence education:

- Students who enroll in a correspondence course need to schedule time to study and should work regularly on the course.

- Teachers should be discouraged from undertaking more work than they can successfully complete.
- The instructors must make an effort to prevent their students from becoming discouraged and discontinuing the work before the course is completed.
- Lapses in completing course assignments should rarely occur. If such a lapse arises because of illness or other unavoidable circumstances, the student must notify the college authorities immediately.
- A college teacher should be assigned only a limited number of correspondence students, lest the task for teaching a correspondence course interfere with other duties. (Reinoehl, 1929, pp. 266-267)

Professional Development

The Visual Instruction Movement also gave rise to professional development in the field of educational technology. Professional development developed along two lines: formally in teachers' institutes and conferences and informally through articles in professional journals and textbooks, educational lectures on visual instruction, observing presentations of visual materials and commercial products (McClusky, 1925).

Formal Professional Development

The growth and development of teachers' institutes provide an important link in the evolution of teacher training in the United States (Ross, 1922). According to Horace Mann, teachers' institutes originated in New York in 1843 "and have so commended themselves to the friends of education that they have been held during the current season in more than half the counties of New York, and in the states of Ohio, Pennsylvania, New Hampshire, Rhode Island, and Massachusetts" (quoted in Ross, 1922, p. 2).

Teachers' institutes generally had four purposes: (a) bring teachers together in a social and professional setting, (b) foster professional spirit de corps, (c) provide advanced training in both discipline-specific content as well as new methodologies for teaching this content, and (d) introduce the essentials of school administration. The Winnebago County, Illinois, teachers' institute was held March 28 – April 1, 1910. The program for Monday, March 28, is given below:

9:10-9:30	Chapel exercise and music
9:30-10:10	General pedagogy
10:10-10:50	Morals, geography, United States history
11:00-11:40	Elementary English and high school work
11:40-1:30	Noon intermission. (Ruediger, 1911, p. 24)

The afternoon session (1:30-2:10 p.m.) was "Scientific Temperance Instruction in the Public Schools," after which the institute had break-out sessions: high schools, grade schools, and country schools (Ruediger, 1911, p.24).

Three examples of formal professional development during the Visual Instruction Movement are described below: The McLean County Mid-Winter Institute, December 7-9, 1922 (a teachers' institute), the Peoria County Institute on Visual Education, March 28-29, 1923 (also a teachers' institute), and J. J. Weber's presentation at the DeVry Summer School of Visual Instruction, June 28, 1927 (a professional conference) (National Academy of Visual Instruction, 1923a).

McLean County Mid-Winter Institute

McLean County Superintendent Moore and F. Dean McClusky of the University of Illinois organized a teachers' institute on visual education for the McLean County Mid-Winter Institute held December 7-9, 1922, in the high school auditorium at Bloomington, Illinois. The organizers considered this institute the first of its kind in themMidwestern United States, and several well-known figures in the field of visual education gave addresses. F. Dean McClusky opened the program by outlining the present status (in 1922) of visual education and contrasted "the effects of propaganda versus research in the development of the movement" (National Academy of Visual Instruction, 1923, p. 32a). Dudley Hays, director of Visual Education in the Chicago Public Schools, followed by describing the issues he faced in Chicago and outlined problems smaller cities may have to face. He was interrupted with questions, "showing how quickly the teachers entered into the spirit of the conference" (National Academy of Visual Instruction, 1923a, p. 32). Frank N. Freeman also addressed the conference, providing an analysis on the various types of visual experience. McClusky closed the proceedings with concrete suggestions concerning assessment (National Academy of Visual Instruction, 1923a).

The entire second floor of the Bloomington High School was filled with exhibits. "No samples were included which had not proved their worth in actual classroom use" (National Academy of Visual Instruction, 1923a, p. 32). Commercial interests not only exhibited their equipment but staged actual demonstrations of their use in classrooms. Of particular note, the Bloomington schools exhibited the visual aids used in high school Latin classes. Other

organizations providing exhibits included the Cleveland Educational Museum, the Field Museum of Chicago, the Philadelphia Commercial Museum, *The Educational Screen*, International Harvester, Spencer Lens Co., Keystone View Co., DeVry Corporation, Bausch &Lomb Co., Acme Projector Co., and the Society for Visual Education. Attendance at the McLean County Mid-Winter Institute averaged over five hundred people daily, and attendance at the Saturday afternoon session was four times the number anticipated. The McLean County Mid-Winter Institute proved so successful that a follow-up conference was scheduled for the Peoria High School in March, 1923 (National Academy of Visual Instruction, 1923a).

Peoria County Institute on Visual Education

The Educational Screen considered the McLean County Mid-Winter Institute an "experiment," but one that provided "gratifying evidence of the spread of the visual movement within the ranks of serious educators" (*The Educational Screen*, 1923b, p. 117). The journal thus took pleasure in announcing a similar program, to be held in the Peoria High School Auditorium in Peoria, Illinois, March 28-29, 1923. The roster of speakers included Dr. E. H. Cameron, (Professor of Educational Psychology, University of Illinois), Dr. Harry G. Paul (Professor of English, University of Illinois), Professor A. W. Nolan (College of Agriculture, University of Illinois), Superintendent W. J. Hamilton (Oak Park, Illinois), Assistant Superintendent D. E. Walker (Evanston, Illinois), and Dr. F. D. McClusky (School of Education, University of Illinois) (*The Educational Screen*, 1923b).

The institute opened each morning opened with music, and music was on the program each day after the noon intermission. The list of presentations scheduled for Wednesday, March 28, included (a) “The Present Status of Visual Education” (McClusky), (b) “The Place of Concrete Experience in Education” (Cameron), (c) “Types of Visual Experience and Their Educational Value” (Cameron), (d) “Some Concrete Problems in the Administration of a Visual Education Program” (Hamilton), (e) “Results of Some Experiments in Visual Education” (McClusky), and (f) “Aids to Visual Instruction” (Hamilton) (*The Educational Screen*, 1923b, p. 117).

The second day featured (a) “The Teaching of Geography with Visual Aids” (McClusky), (b) “The Place of Visual Education in the Rural School” (Nolan), (c) “An Experiment in the Teaching of Handwriting by Visual Methods” (Walker), (d) “The Use of Visual Aids in the Teaching of Agriculture” (Nolan), “The Value of Pictures in the Teaching of English” (Paul), and (e) “The Technique of Testing Visual Imagery” (McClusky) (*The Educational Screen*, 1923b, p. 117). An intermission was scheduled each day so attendees could visit exhibits, see demonstrations of visual equipment, and view educational films. Two round-table discussions for school superintendents and principals were scheduled to be hosted by McClusky (*The Educational Screen*, 1923b).

DeVry Summer School of Visual Instruction

Commercial vendors also sponsored opportunities for professional development during the Visual Instruction Movement. J.J. Weber used an actual experience from an elementary school in Kansas City to provide a suggested methodology for the use of an

information film at the DeVry Summer School of Visual Instruction in Chicago, June 28, 1927 (Weber, 1928c). Although all of the pupils in Boston elementary schools knew about bread and flour, probably very few of them had ever visited an actual farming operation. Fortunately, an instructional film entitled *Growing Wheat* was available. Weber presented a six-step program for using informational motion pictures in the classroom:

(a) *Preparation*. Informational films in the 1920s were usually accompanied by a synopsis of the film. Weber suggested that the teacher should use the synopsis as an introduction to the subject at hand (in this case, growing wheat). After doing so, the minds of the students "are plowed and disked to the point where the films scenes cannot fail to fall on fertile ground" (Weber, 1928c, p. 9).

(b) *The screen presentation*. After the teacher introduced the lesson, the pupils were prepared to see the movie. It was vital, however, that the classroom teacher viewed the film beforehand. During the course of the film, Weber recommended that the teacher make some comment during each scene (Weber, 1928c).

(c) *The informal discussion*. After the film, Weber suggested that the students be sent to the library "to glean facts immediately subsidiary" (Weber, 1928c, p. 9) to the central idea of the lesson.

(d) *Supplementary showings*. Weber assumed that the students would want to view the film multiple times. The number of times the film was shown may depend upon the pupils' familiarity with the subject. Students in South Dakota, for example, may not even need to see the film *Growing Wheat*, while students in Florida might require multiple screenings to grasp the film's content (Webecr, 1928c).

(e) *The formal recitation*. After the film, the class was to assemble as a working group to assimilate their conceptual learning (Weberc, 1928c).

(f) *The check-up*. Weber contended anything that is worth learning ("growing wheat" for example) is worth a check-up (assessment). The check-up can take many forms: oral and/or written tests, essays, reports, or projects. The assessments enabled the teacher to gauge the effectiveness of the instruction and determine the progress made by the individual students as well as the class as a whole. Finally, the check-up provided the teacher and the pupils with ideas for follow-up work. Weber observed that informational films relevant to school work were often difficult to obtain. He looked forward to the day when such films were readily available: films of 100 to 200 feet, with one identifying title and six to eight "scenes of unitary situation" (Weber, 1928c, p. 9).

Informal Professional Development

Two common types of informal professional development during the early decades of the twentieth century were reading circles and visiting day. Reading circles were founded about 1870 to encourage home study and became "one of the most effective agencies for the growth of teachers in service" (Ruediger, 1911, p. 108). The State of Indiana required all teachers to spend at least one day per month on professional development and one option for teachers was Indiana's had well-organized reading circles. Almost every rural teacher in the state, as well as a significant number of teachers employed in urban areas, joined a reading circle. Each year, the teachers "devoted themselves to a detailed study of two books of high

professional value selected by the Reading Circle board" (Aley, 1910, p. 630). The state of Indiana adopted common, uniform textbooks across the state, which made it possible to provide a targeted course of study for the teachers. Over 10,000 teachers in Indiana participated in reading circles. Those who successfully completed the reading in four consecutive years received credit towards state certification (Ruediger, 1911).

The second example of informal professional development was visiting day, or the custom of having teachers observe the work of other teachers. Visiting days had three purposes: (a) introduce new pedagogical methods and devices to the visiting teachers, (b) strengthen the work of weaker teachers, and (c) revivify the work of all teachers involved in the visit. The visits provided the teachers with a change of scene and new points of view. The teachers returned to service "not only instructed, also encouraged" with their own achievements and efficiency (Ruediger, 1911, p. 84).

In many other respects, informal professional development followed the broad outlines of classroom work in visual education as well as those of formal conferences. McClusky listed articles in professional journals (such as *The Educational Screen*) and textbooks (such as *Visual Instruction in the Public Schools* by Anna Verona Dorris) (see Chapter Five, "A Happier Way of Learning: Textbooks") as possibilities for continuing education (McClusky, 1925). Many of these articles reflected best practices in the discipline during the Visual Instruction Movement. An early example of informal professional development, and one which predates the Visual Instruction Movement, was Grace Bell's article "How to Secure Good Atenciling." Stenciling was essential to all design work, so Bell taught the process to all first-year high school pupils in Springfield, Massachusetts (Bell, 1916).

A. G. Balcom (Assistant Superintendent of Schools and director of Visual Education in Newark, New Jersey) covered familiar territory in his article on the use of stereopticons and lantern slides (Balcom, 1924). At the time, Balcom wrote that finding a qualified projectionist was a persistent challenge. He provided valuable advice on the use and care of the stereopticon to those classroom teachers considering using this type of projector in their classrooms. Balcom posed a series of questions to teachers, and those teachers "able to answer these questions satisfactorily based on actual experience" were deemed qualified to operate a stereopticon (Balcom, 1924, p. 382):

- What is the purpose of the slide holder?
- How do you obviate cloudy illumination on the screen?
- What factors determine the scope of projection?
- If the lamp does not illuminate after being turned on, what has happened?
- How do you focus a picture?
- What precautions should be observed when handling slides?
- How do you clean a slide?
- How should you care for the stereopticon when it is not in use? (Balcom, 1924).

In a subsequent article, Balcom also gave advice on electric wiring and the construction of a projection booth (Balcom, 1925). Balcom's remarks on motion picture projectors followed closely those in the textbooks published during the Visual Instruction Movement (although in abbreviated form), particularly *Motion Pictures for Community Needs: A Practical Manual of Information and Suggestions for Educational, Religious, and Social Work* by Henry and Gladys Bollman (Bollman & Bollman, 1922) (see also Chapter

Six, “A Happier Way of Learning: Textbooks”). Balcom differentiated between semi-portable and standard professional projectors (in Newark, Balcom used the Acme No. 12 machine for reviewing films). As did Balcom, Anna Verona Dorris, described the merits of various projectors in *Visual Instruction in the Public Schools* (Dorris, 1928),

Problems of administration were also addressed by informal professional development. For example, Harold F. Hughes, director of the Department of Visual Education in the Public Schools of Fresno, California, provided guidance on starting such a local visual instruction organization (Hughes, 1928a, 1928b). Hughes described the process undertaken in Fresno in 1926, including practical suggestions for establishing a department of visual education and selling it to the teachers and superintendent of schools. The first year a vacant room needed to be set aside as the Visual Instruction Center and then a call sent out to teachers (and others) to donate collections of pictures (and travel magazines) for a vertical file (Hughes, 1928a). Eventually, whatever material could be acquired for classroom use should be placed in the center. After a room was located, it was necessary to formulate a budget. Hughes reminded his readers that the Center would require money for equipment (paste and mounts), material (industrial exhibits), and personnel (Fresno hired a part-time student for 25 cents an hour to spend half of each day in the Center). Finally, after these initial steps were taken, each school should appoint a teacher as Visual Education Representative and issue a bulletin informing teachers about the Center. It would be the responsibility of the school district itself would have to assign a truck to the Center for deliveries (Hughes, 1928a). Hughes also devised a timeline for the second year: (a) subscribe to magazines; (b) purchase additional lantern slides, film slides, and two projectors to loan; (c) establish a library of

stereographs and stereoscopes for the use by young children; and (d) have carpenters build drawers and cabinets to store mounted pictures (Hughes, 1928b).

Hughes advised that a newly founded department of visual education do nothing with motion pictures the first year, since opposition still existed regarding the use of motion pictures in the classroom. Even as late as 1928, films remained difficult for inexperienced teachers to use and still posed a fire hazard (Hughes, 1928b). Hughes estimated that the startup cost for a center was $200. The Visual Instruction Center in Fresno proved so successful that $2,650 was subsequently approved to develop the department. In answer to repeated demands by its constituents, the Center added sets illustrating the various English classics used in the junior and senior high schools (Hughes, 1928b).

Conclusion

Content analysis (Berelson, 1952) of the primary documents of the Visual Instruction Movement identified coursework and professional development as constituent components of the movement. My study reproduced a number of the documents pertaining to coursework and professional development and placed them within the context of the Visual Instruction Movement, 1918-1928 (Tuchman, 2004). During the Visual Instruction Movement, J. E. Russell commented, “Forty years ago teaching in this country was either a trade or a calling; it could hardly be characterized as a profession. As a trade, it was taken up by those who found it an easier way to earn a living than by domestic service or farm labor. Others accepted the call to teach as religiously as ministers of the gospel heeded the call to preach. Fine scholarship, combined with native ability and guided by high ideals, made great teachers”

(Russell, 1925, p. 807). Because of the expertise and proficiency offered by teacher training and professional development, the occupation of teaching evolved from a trade or a calling into a profession. Teachers learned how to teach and developed the science of teaching as a subject matter "worthy of being taught on a college or university plane" (Reavis, 1923, p. 208). This not only made possible teaching as a profession, "it has sent thousands of students to school to take teacher-training courses, and has greatly increased the respect the public has for teaching as a profession" (Reavis, 1923, p. 208).

However, Russell cautioned, teacher training must comprise more than routine drill on school subjects and method of teaching "Material must be adapted to instruction on successive school levels, courses of study and curricula must be arranged, text-books must be written, methods of teaching must be fitted to the abilities and capacities of students, the extra-curricular activities of the school must be determined" (Russell, 1925, p. 813.). It was precisely these tasks that the coursework and professional development of the Visual Instruction Movement sought to accomplish.

By 1926, teacher training in visual education had progressed to the point that the Department of Visual Instruction of the National Education Association could issue a report on teacher training in visual instruction. Many schools offered courses during the regular academic school year 1925-1926 and several others offered summer sessions. The Department of Visual Instruction judged this "a good showing when it is considered that some institutions offer courses in alternate years only" (Ankeney, 1926, p. 490). A new academic discipline is usually founded by way of creating a professorial chair at an established university, and the University of Wisconsin "has a full Professor of Visual Instruction in the

person of Dr. H. William Dudley, ‘the ‘Grand Old Man’ of Visual Instruction” (Ankeney, 1926, p. 490).

CHAPTER FIVE

"A HAPPIER WAY OF LEARNING":

VISUAL INSTRUCTION DEPARTMENTS AND EXTENSION SERVICES

Previous chapters of this dissertation have used primary documents of the Visual Instruction Movement (1918-1928) to note the origin of several characteristics of instructional technology during this time: professional journals and organizations, early research in the field, and teacher education and professional development. Chapter Five continues the narrative by describing the visual instruction departments and extension services of the Visual Instruction Movement (1918-1928). This chapter contains six sections. First, the historical context of visual instruction departments and extension services is provided by the extension work of museums and libraries carried out early in the twentieth century. The following four sections of the chapter give examples of these various departments and services: the Visual Instruction Division of the New York State Department of Education (a state agency), the Visual Instruction Department of the Berkeley, California, Public Schools (a school district), the Pedagogical Library in Philadelphia, Pennsylvania, and the Department of Visual Education of the City of Detroit, Michigan (two urban or civic entities), and the Visual Instruction Service of Iowa State College in Ames, Iowa, and the Visual Instruction Bureau of the University of Pittsburgh, Pennsylvania (two university services). Finally, the chapter includes *Visual Education Departments in Educational Institutions*, a bulletin by A. P. Hollis

for the United States Bureau of Education, which presented an overview of these departments during the middle years of the Visual Instruction Movement (Hollis, 1924c).

Visual instruction departments and extension services arose during the Visual Instruction Movement because many schools could not afford their own visual instruction libraries. Ralph Windoes, instructor in manual training in the Davenport, Iowa, public schools, provided an illuminating glimpse of extension bureaus at the beginning of the Visual Instruction Movement. Windoes claimed that lantern slides, charts, and other educational exhibits were of special interest to teachers of manual, agricultural, industrial, and household arts. He sought to inform teachers where they could obtain these materials. Windoes noted that in some states, "the State Department of Education will furnish the schools of the states with lantern slides. In others, this work is carried on by some other state department, while in the majority of states supplying this service, the work is under the extension department of some college or university" (Windoes, 1918, p. 41). Windoes (1918) lamented that many states were doing little or nothing towards supplying schools with films, slides, and exhibits (including Arizona, Colorado, Florida, Kentucky, Montana, Utah, etc., to name a few). Other state organizations, according to Windoes (1918), owned slides but made little effort to make them available to schools in their respective states (one exception, however, was the State Department of Education in Albany, New York, under the direction of Alfred Abrams, profiled below).

Historical Context: The Extension Work of Museums and Libraries

H. I. Smith (from the Geological Survey of Ottawa, Canada) theorized that university extension lectures and traveling libraries grew out of museum extension services (Smith, 1917). He said that "where specimens are needed by the thousands, it is much easier to move the specimens than the people" (Smith, 1917, p. 117). He proposed using the railroad for museum extension services; interesting exhibits and moving-picture lectures could be installed on railroad cars side-tracked at various places around the country for all to see. If people could not go to the museum, the museum would go to them (De Forest, 1919). The same could be said for the library: if library patrons could not go the library, the library would come to the patrons. The historical context of the visual instruction departments and extension services during the Visual Instruction Movement is exemplified by the extension work of museums (the Milwaukee Public Museum and the St. Louis Educational Museum) and libraries (embodied by the work of the University Library Extension Service Round Table of the American Library Association).

Extension Work of Museums

Milwaukee Public Museum. From their earliest days, American museums have sought to cooperate with the public schools (Saettler, 2004). *The Educational Screen* reported on the extension activities of various museums (Corwin, 1923). According to *The Educational Screen*, the Milwaukee Public Museum tried to correlate its activities with those of the schools in the city in the early decades of the twentieth century. The respective boards of the

museum and the Milwaukee public schools entered into an agreement whereby each student (between grades five and eight) would visit the museum twice each year for a lecture followed by an hour "of observing exhibits related to the subject of the hour" (Corwin, 1923, p. 11). Not all of the schools in the city of Milwaukee owned a stereopticon in 1923, so many students visited the Milwaukee Public Museum to view lantern slides. One seventh-grade class was given a lecture on "The Indians of North America" as part of its unit on American History. This was a particularly salient coincidence because the Milwaukee Public Museum's collection of lantern slides on "North American Indian and United States Historical groups" was the most complete of any in the country (Corwin, 1923, p.12).

The museum maintained loan collections of specimens, lantern slides, and motion pictures. The specimens included insects, birds and mammals, botanical and mineral forms, and some archeological material. "A cherished plan" of the museum was to install in the "City Schools permanent collections and exhibits which shall always be at hand for the teacher's use when needed in the class work" (Corwin, 1923, p. 12).

The museum also had a collection of 25,000 lantern slides, most of them colored, which it gladly loaned to those schools fortunate enough to possess a stereopticon. The slide collection was divided into two parts. The first part was made up of 350 sets dealing with the subjects of "Geography" and "United States History and Industry," which were available for loan on short notice. The rest of the slides were systematically catalogued and filed, from which sets dealing with "any topic of Natural Science, Anthropology, History, Travel, or Natural Resources" (Corwin, 1923, p. 12) could be assembled and shipped to a school. About forty schools, or half of the total number in the city, borrowed slides in 1921-1922. According

to Corwin, the museum loaned 782 sets, totaling 34,489 slides, which were viewed by 68,122 pupils in the Milwaukee schools (Corwin, 1923, p. 12).

The film collection of the Milwaukee Public Museum was much smaller than the collection of slides, approximately fifty movies which dealt with geographical and industrial topics. Corwin reported that the museum shipped three or four films per week to schools. In the course of its collection development, the museum consulted with the principals and teachers of the schools because "the Museum is at particular pains to extend its visual instruction to meet the needs of the pupils in the City Schools" (Corwin, 1923, p. 13).

The St. Louis Educational Museum. As did the Milwaukee Public Museum, the St. Louis Educational Museum also provided visual materials to its city schools. Carl G. Rathman, Assistant Superintendent of Schools, St. Louis, Missouri, agreed with J. J. Weber (1922a) in noting the movement away from verbal transfer in the classroom: "No longer do we see the teacher sitting at the desk, most of the day with the textbook before her, asking all the questions, the pupils answering as many as they can, depending mostly upon how well they have memorized the text of the book" (Rathman, 1925, p. 1). When Rathman perused periodicals on visual education, he came away with the impression that there was only one legitimate and efficient medium to teach students about the world in which they lived: motion pictures. But, according to Rathman, motion pictures were only one example of the media of visual education. Institutions such as the St. Louis Educational Museum were capable of taking the children into the world and bringing the world to the children through their extensive exhibits (Rathman, 1925).

The St. Louis Educational Museum contained a wealth of material that schools could use for illustrating the subjects in the curriculum: 150,000 articles arranged in 12,000 various collections (housed in boxes, cases, glass jars, and bottles). The museum did not wait for the students to come and gaze at these wonders; it shipped them to the schools. The St. Louis schools were divided into five service areas and the museum had several trucks which were responsible for the weekly delivery of exhibits to schools in one of those areas. The principals of the schools were asked to order exhibits one week ahead of time, and a truck would drop off new exhibits and pick up the exhibits which were ordered the week before (Rathman, 1925).

Rathman provided a detailed list of material which could be ordered (and delivered and picked up by truck) for geography classes. Should the geography class undertake a study of Mexico, the material available included:

- Food products (sugar, coffee, black frijoles, tea, cocoa, vanilla, lentils, alfalfa).
- Woods (mahogany, ebony, rosewood, logwood, mora, laurel, guava).
- Birds (marmot, Mexican trogon, coopery tailed trogon, toucan).
- Minerals (silver, gold, copper, iron, lead, tin, onyx, cinnabar, asphalt).
- Mexican life and history (home implements, articles of dress and clothing, articles of war, idols).
- Industrial products (pottery, vases, feather work, models of people engaged in various occupations (Rathman, 1925, p. 23).

In addition, the St. Louis Educational Museum set aside areas to display school work of outstanding merit. “This gives principals and students an opportunity to compare the work of

other schools with their own" (Rathman, 1925, p. 27). The St. Louis Educational Museum was also prepared to help schools establish their own museum.

Extension Work of Libraries

Library extension work also contributes to the historical context of this chapter. Library extension was carried out in one of two ways: either by establishing new libraries or by extending the scope of existing facilities (Bostwick, 1916). Roy Bostwick, librarian, St. Louis Public Library, wrote that the initial step in the library extension movement was permitting patrons to borrow books and take them home, instead of requiring that they be read in the library. The next step taken by libraries was offering "deposits," or travelling libraries. These collections were sent to schools, churches, clubs, industrial and commercial houses "or to any place where they will be properly cared for and used" (Bostwick, 1916, p. 252). Another step taken by libraries was establishing "delivery stations," usually in drug stores, where books were sent on order by individual library card holders. If the book ordered by the patron was not available, a similar title was substituted. "This gives the librarian an opportunity to control reading that may be productive of good when advantage is taken of it with tact" (Bostwick, 1916, p. 253).

During the Visual Instruction Movement, the American Library Association established a round table (which met in conjunction with the annual conference of the American Library Association) for persons interested in university library extension service. H. V. Brown, from Iowa State College in Ames, Iowa, saw an opportunity for university libraries to contribute to adult education. College and University libraries owned the books,

and the challenge in 1924 was delivering these materials to the reading public. Brown cited as an example an engineer working in an isolated community building a concrete water tower. According to Brown, this engineer most certainly had a four-year college degree, but needed a book from the engineering library to ensure that the project conformed to local and state regulations. Unfortunately, lamented Brown, no mechanism was in place "for bringing the desired information and the readers together" (Brown, 1929, p. 353).

The University of Wisconsin partnered with public libraries in the state to ensure that desired information reached the public (Sprague, 1924). According to Jessie Sprague, president of the Wisconsin Library Association, ninety-five percent of public libraries in the state used the university Extension Division (Sprague, 1924). He gave the example of a wholesale grocer who was to address a convention on the topic "Equitable Treatment by Wholesale Grocers of Large and Small Buyers" and was unable to find helpful information in the local public library. The local librarian contacted the Extension Division on behalf of the grocer. "After consultation with the experts of the faculty of the university and of State departments, suitable material was found and mailed as a loan package library" (Sprague, p. 354).

It remained for university library extension services to publicize their resources. W. H. Lighty, from the University of Wisconsin and president of the National University Extension Association, thought it imperative that "the public librarian should understand university extension as far as library service is concerned, and that the university extension librarian should know something about public library service and the extent to which it can be made useful to extension students" (Lighty & Thomas, 1926, p. 561). He suggested that the libraries

set up liaison offices, since the university libraries owned the resources and the public libraries had contacts with local schools. Lighty suggested that university libraries supply their local counterparts in the public libraries with reference lists and bibliographies. Such cooperation "will mean something for the future of our American civilization" (Lighty & Thomas, 1926, p. 561).

The Visual Instruction Division of the New York State Department of Education

The first visual instruction department to be profiled is the State Department of Education, New York, which began its program of visual instruction in 1886 (Abrams, 1916b). At the outset of this service, the State Department of Education restricted the use of its visual aids (primarily lantern slides) to New York City and state normal schools. Subsequently, service was extended to school systems in towns of at least 5,000 inhabitants. Beginning in 1910, the department loaned its material to any school, organization, or individual in the state who intended to use the slides for free instruction. In 1907, 30,000 slides were lent and by 1922 that number had grown to over 500,000. A fire destroyed the entire collection of slides in 1911, and the department had to be rebuilt from the ground up. At the time of the fire, most of the slides were travel views, intended for popular lectures. Shortly after this unfortunate occurrence, the state began to rebuild its collection (Abrams, 1916a).

According to Alfred Abrams, Chief of Division of Visual Instruction, State Department of Education, New York, the fire presented an opportunity to re-establish the collection and "put into effect such ideas of visual instruction and such plans of

administration as previous experience had shown to be desirable" (Abrams, 1916b, p. 270). The Department of Education abandoned earlier practices in favor of higher standards of organization and began a new program of collection development (described below). The department, post-fire, placed less emphasis on travel slides and paid more attention to art, literature, history, and the sciences. By 1922, the yearly appropriation for visual aids had reached $15,000 (for the purchase of negatives, slides, and prints), with an equal sum earmarked for salaries, office equipment, and distribution (*Moving Picture Age*, 1922).

Abrams described the reconstituted work of the department under the auspices of the Division of Visual Instruction in a series of articles published in *The Educational Screen* in 1924. He used five broad categories to describe the functions of the division: administration, production, organization (of the material), distribution and instruction in the visual method (Abrams, 1924c).

Administration

In addition to Abrams, the staff of the new division consisted of an assistant director (who was in charge of administrative details), an assistant in charge of production, an assistant in charge of loans, three stenographers, and seven clerks (Abrams, 1924a). One clerk was assigned to the general office, one clerk to the section which handled negatives and filled orders, and the other five clerks to the loan section. The administrative details were left largely in the hands of the assistant to the director (Abrams, 1924c).

Production

The division found it cost effective to produce its own slides from the approximately 16,000 negatives in its possession. By so doing, the civision could control the subject matter and quality of the slides as well as provide the requisite number of duplicate copies. The division did not have its own photographic staff, and instead, it purchased the negatives from a local gallery based on the quality and attractiveness of the slides (Abrams, 1924c). After procuring a slide, it was labeled (and identified) by title, place, date, and name of photographer. The slide was then placed in an accession book and assigned an identifying number. Four separate copies of a negative were produced and analyzed for size, composition, and depth of printing. Negatives were then entered into an accession book so that the picture could be traced back to the original entry. After accessioning, the negatives were placed in cabinets with partitioned drawers. As of 1924, the division owned 212,359 slides, of which 32% were colored. The division had the ability to color black-and-white sides. However, Abrams stated that slides were not routinely colored; color was only added to the black-and-white slides if it contributed some essential advantage. Finally, tde Division tested the production results on a screen under conditions similar to those used by borrowers (Abrams, 1924c).

Organization

Abrams also described how the division collected and organized its pictures (Abrams, 1924a). The first step, he said, was to acquire negatives. When a representative number of

slides on a particular subject had been acquired, the slides were arranged in a tentative grouping: "if geography by place, if painting by artists, if literature by authors, if an industry by essential steps, if history chronologically," etc. (Abrams, 1924a, p. 45). Titles and study notes were then added to the slides. These notes contained only enough information to describe the importance of the picture; so, for example, the notes accompanying a slide of the Washington Centennial Memorial Arch in New York City read:

> Granite, 77 feet high, 62 feet wide, richly ornamented with carvings. The arch stands across the end of Fifth Avenue. It was erected to commemorate the 100th anniversary of the inauguration of Washington as first President of the United States. (Abrams, 1924a, p. 47)

The classification system used by the division followed contemporary library conventions. The division incorporated the Dewey, Cutter and Library of Congress classification systems. The employees of the division created a shelf list (a list of available items), printed on stock, which was very similar to a library card catalog listing the call number, title, source, date of acquisition, and subject heading(s) of each slide. A bibliography detailing relevant publications was also made available to patrons. "The aim should be the largest and most valuable ultimate service" (Abrams, 1924a, p. 49).

Distribution

The loan section of the division was responsible for the distribution of its lantern slides. The activities of the loan section were kept entirely distinct from the other sections of the division and it occupied a separate room (22 x 47 feet) (Abrams, 1924d). Abrams estimated that over 98% of loan requests were filled successfully (that is, the borrowers

received the specific material that they requested). Loans were made directly to the borrower (at this time there was no routing system or circuit) and the slides were generally returned to the central office after use. Public libraries were permitted to obtain slides and "sublend" them to patrons (Abrams, 192dc, p. 90), practicing a type of interlibrary loan. Any teaching organization (or individuals for that matter) was able to borrow slides at no charge. The only caveat was that the borrowing organization could not charge admission. "To this rule there are absolutely no exceptions" (Abrams, 1924d, p. 90). The loan period was usually one week, but institutions could borrow the material for one month if they provided a detailed schedule to the division. The state paid the transportation charges both ways (Abrams, 1924d).

Table 4 shows the institutions which borrowed slides, and how many slides they borrowed demonstrates the reach of the division (Abrams, 1924c, p. 92). The number of shipments numbered 4,507 (Abrams, 1924c).

Instruction in the Visual Method

At the time he wrote, Abrams bemoaned the fact that advocates of visual instruction "have paid much more attention to equipment and to propaganda" than to sound principles of teaching (Abrams, 1924b, p. 129). Unfortunately, the normal schools in the state of New York were not offering courses in visual instruction (however, Cornell and Columbia Universities, both private schools, offered summer courses). To fill this void, the division established a series of "sound principles" (Abrams, 1924b, p. 129) to aid in the use of slides: (a) The division would not acquire pictures merely for picture's sake. Collection development policy of the division was not based on the popularity of the pictures, but rather on their contribution

Table 4

Distribution of Lantern Slides

Teaching Institution	Number of Institutions	Total Number of Slides
Normal schools	10	14,044
Teachers training schools	2	3, 726
City high schools	58	18,128
City elementary schools	219	166,128
Village schools under a superintendent	62	47,777
Other villages with academic department	256	132,807
Rural schools	48	15,533
Private schools	62	27,529
Universities and colleges	13	3,979
Total	730	430,102
State institutions	17	8,218
Extension work:		
District superintendents	15	1,512
Libraries	20	11,061
Churches	148	38,290
Other organizations	116	21,400
Total	299	72,272
Grand total	1046	510,591

to understanding the subject at hand. The beneficial use of pictures in the classroom required discussion and interpretation by both teachers and students and should contribute to instruction. (b) The classroom teacher should have a lesson plan in mind before ordering visual aids. The division assumed that the borrower had a specific instructional purpose in mind and was able to articulate this aim when ordering materials. (c) The division provided notes with the slides, which indicated not only what should be observed in the pictures but also which follow-up questions should be asked during classroom discussion. Also, the

division produced numerous manuals and pamphlets to accompany the material. The teachers were asked to consult these notes, manuals, and pamphlets when using the pictures in class. (d) For its part, the division promised to sponsor many conferences to discuss how visual material should be used. Often an in-service teacher would be recruited to provide a sample lesson demonstrating the proper use of visual material in the classroom (Abrams, 1924b).

It is important to remember, Abrams cautioned, that visual instruction was not an end to itself, but meant to aid education. The goal of the division, according to Abrams, "was to make the collection a great storehouse of excellent pictures of things that are of large and permanent interest, to organize the pictures scientifically, and to make them readily available for the use of anyone within the state for strictly free instruction" (Abrams, 1916b, p. 272).

The Visual Instruction Department of Berkeley, California

The next example of a visual instruction department or extension service to be profiled is the Visual Instruction Department of Berkeley, California. *Visual Instruction. Course of Study for the Elementary Schools, Including the Kindergarten and First Six Grades*, published by the Berkeley, California, Public Schools (Dorris, 1923b) provides one of the most thorough descriptions of such a department available during the Visual Instruction Movement. Anna Verona Dorris, who was given bibliographic authority for the document, was one of the significant figures of Visual Instruction Movement (Butler, 1995; Johnson, 2008). Before profiling the Visual Instruction Department of Berkeley, I want to include a short excursus on the career of this extraordinary woman.

Excursus on Anna Verona Dorris

Anna Verona Dorris began her career in education teaching Latin, history and geography in the public schools in the state of Oregon. She was the principal of the Thousand Oaks School in Berkeley, California, from 1918 to 1922, when she accepted a position at the San Francisco State Normal College. From 1922 to 1924 she served in the dual capacities of professor of Geography at San Francisco State and director of Visual Instruction for the Berkeley Public Schools. Her work week was comprised of three days at San Francisco State Normal College and two days at the Berkeley schools. Her duties, according to the Bureau of Education, consisted of "building up a distributing center; training teachers in methods of procedure; writing monographs with a committee of 18" (Hollis, 1924c, p. 12). Her qualifications included a normal diploma, courses in education at both the University of California and Columbia University, and seventeen years experience as a high school teacher. Her credentials were impressive, given the fact that half of the teachers in the United States in 1927 had five or less years of teaching experience, and one third of all teachers had not finished high school (Johnson, 1927; Johnson, 2008).

In 1924, Dorris accepted full-time status as director of Visual Education at San Francisco State Normal School. She eventually became head of the Geography Department at San Francisco State and retired as Professor Emerita in 1948. After retiring, she moved to Los Angeles, remained active and traveled widely. She wrote a book of poems, *When My Heart Sings* (1959), many of which reflected her travels and love of geography ("Christmas in a Land Down Under," "The Call of the Tropics," and "Lebanon Must Survive"). As I remarked

in my 2008 article, "'Making Learning Easy and Enjoyable': Anna Verona Dorris and the Visual Instruction Movement, 1918-1928," Anna Verona Dorris lived her credo, which was making learning enjoyable. She passed away in Los Angeles, California, on October 25, 1975 (Johnson, 2008).

The Visual Instruction Department of Berkeley, California

The public school system in Berkeley, California, appointed a committee in 1919 to organize visual instruction in the schools (Dorris, 1923b). The committee, chaired by Anna Verona Dorris, was comprised primarily of women and included Jeanette Barrows, Ethel Batchelor, Ruth E. Clayton, Edward Mayer, Marie Kinell, Margaret E. Lobb, Maud Thompson, Clelia Paroni, Marion C. Smith, Marietta Higgins, Helen Shambaugh, Rhoda McRae, Gerda Bidstrup, Alta Adams, Actea Alexander, Helen Shaw, Ruby Lamb, and Margery Service. Initially, the committee met regularly every two weeks for a year and spent the entire first year "discussing the importance of and the methods of procedure in Visual Instruction" (Dorris, 1923b). The committee then moved on "by applying the general point of view to each subject with the object of indicating by concrete illustrations the place and methods of using visual aids in the various subjects discussed" (Dorris, 1923b). Soon, the committee was expanded to include supervisors, principals, and classroom teachers. The Committee broadened its focus to include areas of specialization other than visual instruction: "Americanization," or the acculturation of immigrants (National Academy of Visual Instruction, 1922), arithmetic, art, geography, history, home economics, language, manual training, nature study, physical training, phonics, reading, and writing (Dorris, 1923b).

The committee felt it needed to justify the inclusion of visual instruction in the Berkeley Public Schools. The problem, as they saw it, was the widespread illiteracy in society. They perceived a need for the speedy recognition of the place of visual instruction and felt that American education had proved lacking in this regard (Dorris, 1923b). The committee pointed to five areas of modern life where visual instruction had proven vital. First, American businesses had incorporated visual instruction through advertising (with electric signs) and the continuing education of its workforce (by means of training films). Second, visual instruction was useful to promote national unity. Then, as now, immigration was an issue. The committee was concerned with the acculturation of American students ("Americanization") and considered visual instruction to be vital in teaching immigrants about civics and health. Third, scientific study benefited from visual instruction, especially in the area of surgery, allowing doctors to view up-to-date techniques. Fourth, "low" technology areas also employed visual instruction, particularly in areas of natural history and geography. Opportunities for foreign travel were limited in the 1920s and this deficit could be overcome by means of moving pictures and stereographs. Finally, the committee noted, motion pictures were perhaps the most widely used medium for amusing and entertaining the general public, and the motion picture industry was one of the fastest growing industries in the United States (Dorris, 1923b).

The committee concluded that they were on solid ground in recommending the expanded use of visual instruction. In the early 1920s, there was continued debate about the effectiveness of visual instruction in education (Ellis & Thornborough, 1923). Although studies were underway (the research of Weber, 1922a and Freeman, 1924), the results of these

studies were the object of continued speculation. Anna Verona Dorris contended that an individual's imagination was stimulated through the use of visual aids. These aids were not meant to make education easier, only more meaningful. Visual instruction did not obviate the need for actual "work" (textbooks and research in the library) but rather provided a stimulus for students to search out further sources of information (Dorris, 1923b).

The committee also decided that it was incumbent upon them to discuss the various types of visual aids and provide suggestions for their effective use. At that time (1923), the most commonly used visual aids were excursions, flat pictures, maps, globes, charts, graphs, diagrams, models, stereographs, stereopticon slides and moving pictures. Anna Verona Dorris was adamant that visual aids be properly employed, and she distinguished four general uses for visual aids: (a) introducing new subject matter, (b) reviewing lessons, (c) giving concrete information (here, read "visual reference") for assignments, and (d) providing a means of fascinating, wholesome entertainment (when supervised and managed by the school) (Dorris, 1923b).

It is important to note that visual instruction at this early date was viewed as an aid to education and by no means a substitute for a well-prepared lesson plan (Weber, 1922a). The Dorris committee went to great lengths to match the most appropriate visual materials with a particular class. Dorris thought that "history, perhaps more than any other subject, can be effectively enriched, and revivified by means of visual aids" (Dorris, 1923b, p. 48), and in support of this opinion she cites William C. Begley: "We cannot understand an event in History unless we are able to imagine ourselves in the same situation that conditioned the event, and in order to do this we must have had experiences which we can recall and

reconstruct into a likeness of the situation" (Dorris, 1923b, p. 48). One way to accomplish this, Dorris suggested, was by establishing a miniature museum in the classroom after the class had taken an excursion to a museum (one sixth-grade class actually did this in Berkeley in the 1920s). The students collected illustrations and articles dealing with Egyptian history and then constructed their own museum exhibits. Artifacts in this school museum included clay and stone tablets with impressions of hieroglyphics, jewelry fashioned out of modeline (modelling clay), soap and clay models of the Sphinx, miniature replicas of the pyramids, and dolls wrapped up as mummies. A second sixth-grade class was so inspired by the exhibits that they decided to expand the museum to include replicas of Greek and Roman objects as well. The male students built a cross section of a Roman house in their Manual Training class (industrial arts or "shop" when I was in intermediate school in 1965). The female students dressed dolls to represent Roman and Greek characters and constructed furniture for the Roman house (Dorris, 1928).

The Dorris committee did not adopt a one size fits all approach for visual instruction. They classified the material both by grade level and by subject matter. For example, the Visual Instruction Center of the Berkeley Public Schools possessed a wide variety of visual materials for the third grade which comprised a unit entitled "Children of Other Lands." Included was an exhibit of educational dolls dressed in "nature" (indigenous) costumes. However, as of 1923, "the committee of Visual Instruction has not been able to find educational films which they can recommend whole-heartedly for class room instruction in the lower grades" (Dorris, 1923b, p.31). For the fifth and sixth grades, on the other hand, several suitable films were available, including "Paper Making," which illustrated the various

ways of manufacturing paper both from pulp and from rags. This film dovetailed nicely with the exhibit on paper making on display in the sixth-grade classroom.

Anna Verona Dorris's book, *Visual Instruction in the Public Schools*, which grew out of the recommendations of the Berkeley Committee, gives us a glimpse of visual instruction departments in their infancy (Dorris, 1928). She described their organization, the services they provided, and what types of equipment they owned. *Visual Instruction in the Public Schools* showed how the Berkeley school district adopted the initiatives proposed by its study committee. At that time, the position of director of a visual instruction department was comparatively new, and Dorris estimated that there were fewer than two dozen such directors scattered throughout the United States. She was appalled at the relative lack of credentials possessed by some of these individuals. In one instance, for example, the director was a mechanic who, "while thoroughly understanding how to operate a motion-picture projector, knew nothing regarding public school education" (Dorris, 1928, p. 391).

Based on her experience in the field and knowledge of modern educational procedure, Anna Verona Dorris called for six qualifications necessary for a director. The sage director (Dorris, 1928):

- Must be a scholar with a broad knowledge of the fundamental principles of modern education; i.e., in modern terms, the director needed both subject specialties and knowledge of the philosophy of education.
- Would be purchasing material for every subject and every grade, and hence, she or he must have a clear conception of both elementary and secondary education.

- Needed supervisory experience, since teachers must be trained to use visual materials. If the director lacked supervisory experience, it may suffice to substitute adequate college training courses. However, Dorris warned, the job would prove to be much harder if the director had not worked previously with teachers (Dorris, 1928).
- Required a modicum of business acuity. One of the first requisite tasks for any administrative department would be to establish economic and efficient organization and maintenance. It went without saying that visual instruction departments would have large sums of money to spend and must do so judiciously.
- Needed a thorough knowledge of visual instruction. Unfortunately, at that time (1928) very few colleges and universities offered training in this field. Hence, directors were compelled to gain their knowledge of visual instruction through personal experience and the process of trial and error.
- Would be able to work with both teachers and supervisors. Networking skills were vital because the director would be out in the public, meeting with community leaders and the business community.

At this point, it is interesting to ask if these requirements reflect Dorris's biography. She comments, "Students of visual instruction now have the opportunity to profit by the years of experience of pioneer workers" (Dorris, 1928, p. 390). Anna Verona Dorris herself was one such pioneer and literally wrote the first book on visual instruction (Johnson, 2008).

No single administrator, even one as accomplished and experienced as Anna Verona Dorris, could perform all of the duties required of a well-functioning department (Dorris, 1923b). The department also needed a mechanical expert who assumed full responsibility for

the maintenance of equipment and could deal with electrical problems. Another vital employee was a stenographer (Anna Verona Dorris assumed this job would be filled by a woman) who also acted as a general assistant to the director and ideally had some teaching experience, since she would constantly be interacting with teacher. The stenographer's tasks also included filing and cataloging materials as well as filling orders for materials. A third employee was the office helper (Anna Verona Dorris assumed this position would be staffed by a woman), who would mend slides, bind books, and check the materials that were returned to the visual instruction department. Finally, the department required a delivery person. Based on her experience, Dorris knew that prompt delivery of materials was of vital importance. While teachers were urged to plan ahead, unanticipated events often arose, and the delivery schedule needed flexibility. Dorris recommended that each school arrange to have materials delivered at least twice a week. She observed that it was usually possible to find a student with a car who was able to make deliveries, but it would be preferable to hire a delivery man with a truck (and, of course, in several large cities the visual instruction department already owned a truck). A professional delivery person could be held responsible for the safe delivery of visual materials (Dorris, 1923b).

Anna Verona Dorris' description of the genesis of the Visual Instruction Department of the Berkeley Public Schools shows that the founding committee had a detailed and well-conceived "business plan." The committee set aside a room in the administrative offices for the visual instruction center and furnished this room with shelves, cabinets, and other office equipment. The school system at this time owned some visual material, and the department collected other items from the individual schools. Of particular import was the acquisition of

2000 colored slides. The committee then purchased a portable motion picture projector and two projection lanterns (several of the schools also owned their own opaque or slide lanterns and movie projectors) (Dorris, 1923b).

A portion of the budget was set aside for the rental of educational films, and members of the committee went to great lengths to identify suitable ones. The teachers were able to request specific films, which in turn were delivered by a college student. The student making deliveries used his own car and was paid one dollar per hour. He originally worked an hour a day, but soon his work doubled and he was working two hours a day. In order to facilitate the increased demand for delivery, the department had to purchase a truck. The committee contacted commercial and industrial firms in the area, requesting relevant visual materials, and as a result of this initiative, the department acquired a large number of industrial exhibits. The department also obtained several hundred copies of the *National Geographic* (a fact sure to be appreciated by librarians). Colored pictures were cut from this magazine and mounted (the remaining pages were bound and shelved separately). The committee engaged in painstaking collection development work regarding slides, pictures, and stereographs. These were correlated with specific subject matter and then classified in small sets. After the first month of operation, the department held a seminar "to enlighten and instruct the teachers regarding the use of materials" (Dorris, 1928, p. 395). The committee also conducted separate training sessions for the teachers of each grade. The principal of each school was encouraged to appoint a teacher to act as visual instruction adviser for each respective school, and the advisors, in turn, acted as liaisons with the Berkeley Visual Instruction Department (Dorris, 1923b).

According to the first bulletin issued by the Berkeley department (*Bulletin No. 1*), the Berkeley Visual Instruction Center was open every afternoon between 1:00 and 5:00 pm, Tuesday mornings from 8:00 am to noon, and Saturday mornings 9:00 to noon. Principals and teachers were often invited to the center to inspect the material on hand and to preview slides. In addition to instructional materials, the center had a portable motion picture projector, projection booth, and stereopticon lantern. Training sessions were offered by appointment for any teacher who wanted to learn how to operate a projector. By 1928, the Visual Instruction Department was still borrowing or renting films rather than purchasing them. Arrangements had to be made with the Visual Instruction Department at the University of California to have films shipped across town to the Berkeley school system. Dorris warned, however, that films should not be shown in class before they had been previewed by the principal or teacher. In her dual role, Dorris could guarantee that the University of California Visual Instruction Department would deliver the films to the schools early enough to permit them to be previewed before they were to be used in classes. The Berkeley Visual Instruction Department made daily deliveries to the schools between 9:00 and 11:00 am (Dorris, 1923b).

To promote efficient service, Anna Verona Dorris requested the cooperation of classroom teachers in observing the following guidelines (Dorris, 1928):

- Requests for visual materials were to be made between 1:00 and 5:00 pm (either in person or over the phone). Dorris requested that the requisition forms be filled out properly and left in the drop box at the superintendent's office.
- Materials might normally be kept three days, but renewals were possible upon request.

- Motion pictures were rented on a daily basis and hence must be returned promptly. Since the films must be inspected after each showing, Dorris asked that they **not** be rewound.
- Materials were to be returned in good delivery condition before 9:00 am "so that no time will be wasted" (Dorris, 1928, p. 398).
- Slides were loaned in sets and accompanied by text. When the slides were returned, they should placed in numerical order.
- Schools were to assume responsibility for loss due to carelessness. The slides were to be handled with care and thumb tacks were not to be stuck in the pictures.
- Visual aids were to be used in the same manner as other reference materials – to enrich the subject matter. Teachers would be well advised to study *Visual Instruction. Course of Study for the Elementary Schools*, published by the Berkeley, California, Public Schools and to use only one visual aid at a time (Dorris, 1923).

Two Urban Extension Services (Detroit and Philadelphia)

Other cities, such as Philadelphia, Pennsylvania, and Detroit, Michigan, also documented the activities of their extension bureaus, albeit not as thoroughly as did the Visual Extension Department of Berkeley, California.

Philadelphia

The available material on visual instruction activities in Philadelphia is brief but included here because it provides a glimpse of extension services on the eve of the Visual

Instruction Movement. The Pedagogical Library in Philadelphia was founded in 1883 by the Philadelphia Board of Public Education (MacDowell, 1907). The board wanted to possess and maintain a collection of books "representative of the standard literature in the subject of pedagogy and in closely allied subject" (MacDowell, 1907, n.p.) and make these available to teachers in the city. Eventually, the Pedagogical Library acquired sets of lantern slides and set up a circuit to distribute this material**.**

Prior to establishing its circuit, the Philadelphia public schools used a personal messenger system of obtaining and returning slides. In order to facilitate use of lantern slides in the school system, the Pedagogical Library in Philadelphia encouraged the principals of the schools to follow carefully several rules and regulations (Sigman, 1933, p. 35):

1. The days for borrowing and returning slides were Wednesday and Saturday.
2. Messengers sent for slides must bring a written request signed by the principal of the school.
3. Applications for particular sets of slides may be made in advance.
4. Principals, in returning slides, should be careful to return the "reading" accompanying them and also arrange the slides in the proper order.

During the period 1905-1923, the lantern slide service spent an average of $500 annually to add approximately 1,000 slides per year to the catalog. Eventually, the total holdings reached 32,000 slides. The service circulated 50 boxes of slides per day, or about a thousand boxes per month during the school year. The publication of the 1928 supplement to the *Pedagogical Library Bulletin* marked the end of the lantern slide library in Philadelphia. The next year (1929), it was transferred to the new Division of Visual Education (Sigman, 1933).

Detroit

The Department of Visual Education of the City of Detroit was organized to provide film and slides for teaching. The material was available for classroom use at any time. The teacher needed only to contact the Department of Visual Instruction, 338 John St., by mail or telephone (far enough in advance to assure the availability of the desired items) and "a boy can then be sent for the material on the proper date" (Barnes, 1926, p. 7). The department insisted that films be returned promptly in order to ensure fairness: "If films are not returned other schools reserving them are disappointed and their programs deranged" (Barnes, 1926, p. 7). The director, Burton Barnes, requested that films not be rewound unless they are going to another school before being returned to the Department of Visual Education. Outside organizations, such as Parent-Teacher Associations and Boy Scout troops, could also request materials from the department. The department recommended a lead time of one month when ordering movies.

All schools in Detroit were placed on a film circuit. They received two reels of film (selected by the department) once every two weeks on film day (Monday, Wednesday, or Friday). The department published the schedule at the beginning of the school year and "the days for the regular film circuit are *always* the same" (Barnes, 1926, p. 8). Films on the circuit were delivered and picked up by department truck. Schools could order films not included in the film circuit, but these were not delivered or picked up by circuit drivers. Rather, the department supplied car tickets for a boy from the school to come to the department and pick

up the films. However, “no boy should carry more than two reels of films” (Barnes, 1926, p. 8).

Before obtaining the material, the teacher (a) must know how to operate a film projector and stereopticon, (b) know which visual material to use, and (c) know when to use the material. In order to address these necessities, the Department of Education published *Course of Study in Visual Education* (1926). *Course of Study* provided guidelines for operating a projector:

1. Keep films in their metal containers when not in use.
2. Keep the booth free from scrap film and other waste.
3. No more than two people in the booth at one time.
4. Keep the exhaust fan in running order.
5. Do not rewind films when running the projector.
6. When either the projector or the fan is out of order, call the Supervising Engineer, Board of Education.
7. The booth is to be used exclusively for motion picture projection.
8. Do not use the projection outside of the booth.

In addition to these instructions, *Course of Study* warned that the projector should never be left unattended while running. It was the responsibility of the school principal to ensure that “all auditorium teachers know how to run the machine before they attempt to operate it” (Barnes, 1926, p. 10). Further, “boys in the school should not operate the projector. Their assistance will be helpful only in rewinding films” (Barnes, 1926, p. 10).

The department advised that visual aids were particularly useful in the social science classroom: “Probably no subjects have greater need of illustrative material than the social sciences” (Barnes, 1926, p. 31). Given the amount of available material, two problems ensued. In the first place, the teacher must appreciate the value of visual material as an aid to instruction. The second problem concerned supplying materials for use, which was the task of the Visual Education Department. The department could provide films and slides, “but it will be a wasted effort unless teachers make use of it in instruction” (Barnes, 1926, p. 32).

An Extension Course

For many years, the Board of Education of Detroit maintained a Visual Education Department which circulated materials to the city’s schools (Smith, 1926). The city was spending thousands of dollars a year purchasing visual aids, but only a small percentage of teachers were availing themselves of this material. In the spring of 1925, the department created new office, the Supervisor of Visual Instruction, and hired Mildred Smith to instruct the city’s teachers in the efficient use of visual material. Smith developed an extension course for teachers in a limited number of schools to demonstrate how slides and stereographs could be incorporated into reading, composition, literature, and geography instruction (Smith, 1926).

Ms Smith identified three areas of emphasis to be addressed by the extension course (Smith, 1926):

- Instruction for teachers already in service.
- Training for students in the teachers’ college.

- An inventory of visual material and suggested methods of incorporating it into courses of study.

The first issue addressed by Mildred Smith was instruction for teachers in service. She enlisted teachers who had already incorporated slides and stereographs into their lessons to give demonstrations to other teachers in Detroit. Teachers in the district were released from afternoon work so they could attend the demonstrations. (Smith mentioned that students from an unnamed local teachers' college took their places in the classroom.) Nearly two hundred teachers attended these demonstrations. Smith noted an increase in the number of requests for visual material from the central office as a result of these demonstrations (Smith, 1926).

The second challenge faced by Mildred Smith was providing college students with instruction in the use of visual materials. Rather than teaching an elective class on campus, which would be available only to the few students enrolled in the class, she decided to open up her extension course to all students so that each could receive instruction in visual methods of teaching. Accordingly, she divided her extension course into three parts offered over the course of three semesters. In the first semester, the student was introduced to the lantern projector, stereoscope, lantern slides, and stereographs. During the second semester, the students studied actual lessons from regular courses and learned how to incorporate visual material into classroom instruction. For the third semester, the students used the visual aids to teach lessons to each other in the classroom. Thus, over the course of three semesters, the students came in contact with different phases of visual education (Smith, 1926).

Finally, a group of teachers, selected because of their previous work in visual instruction, thoroughly examined and listed all of the visual materials owned by the city of

Detroit. In this manner, an inexperienced teacher could see at a glance which material was available for a given subject. The inventory was presented to school supervisors, who were encouraged to incorporate this material into regular courses of study (Smith, 1926).

University Extension Bureaus.

Two of the earliest university extension services in the beginning of the twentieth century were those at Iowa State College in Ames, Iowa, and the University of Pittsburgh in Pittsburgh, Pennsylvania.

Iowa State College

The Visual Instruction Service of Iowa State College in Ames, Iowa, began its activities under the direction of J. W. Parry of the Engineering Extension Department in 1915 (Williams, 1954). Prior to this time, visual aids used on the Ames campus were limited to the personal resources of the college faculty. The Agricultural Experiment Section of the college loaned lantern slides and charts to any interested parties. Also, the Engineering Extension Department owned a library of 35 mm silent films which they showed to manufacturing concerns throughout the state of Iowa. As it turned out, local teachers were often in the audience when the films were screened and these teachers saw the educational value of film and subsequently requested it for use in their classrooms (Iowa State College Visual Instruction Service, 1925).

The Visual Instruction Service of Iowa State College discontinued its service during World War I. However, the demand for films for the high school classroom did not diminish.

This continued demand for films led J. Will Parry to write to his colleagues at Iowa State Teachers College (in Cedar Falls, Iowa) and the State University in Iowa City suggesting that the schools cooperate in securing and distributing educational films (Iowa State College Visual Instruction Service, 1925). Iowa State College and Iowa State Teachers College established a joint film rental service. The State University, however, "both as a matter of policy and expediency were not cordial to the plan" (Iowa State College Visual Instruction Service, 1925, p. 2). Schools could obtain motion pictures from the joint extension bureau in one of three ways: (a) pay one way, incoming postal charges (with the proviso the school assured immediate and continuous circulation of the film), (b) subscribe to a circuit plan for a charge of $1.25 per reel plus one-way postage, or (d) flat rate rental (Iowa State College Visual Instruction Service, 1925).

In 1919, 69% of the counties in Iowa received films from the Visual Instruction Service. That year, 208,822 people attended 1,095 program showings. The next year, 396,289 people attended 2,295 shows, and the Visual Instruction Service expected 100% growth in the figures for 1921. The Visual Instruction Service decided that it should start preparing lantern slides for circulation and obtained an additional 100 reels of film. The popularity of the service continued to grow, and for the fiscal year ending June 30, 1922, attendance had reached 627,069 for 4,760 showings (Iowa State College Visual Instruction Service, 1925).

By 1923, many of the films circulated by the service had become damaged beyond repair and the personnel of the Visual Instruction Service had grown to include a director, stenographer, bill clerk and bookkeeper, shipping clerk and inspector, a half-time clerk, part-time photographer and two part-time assistants. The service felt that an increase in rental fees

was necessary in order to cover the replacement costs of the damaged films and increased administrative costs. The service's financial statements of 1923 reported that a total of $3,933.07 was spent for new film and $346 for equipment. Other expenses brought total operational costs to $8,134.66 ($1,424 in excess of receipts) (Williams, 1954).

The next year, the staff of the Visual Instruction Service had grown again to now include an assistant head, a full-time shipping clerk, and a second part-time photographer. With this increased staff, the service was able to undertake several new projects. A second circuit was established, comprised of educational material used primarily by the schools. Schools in the circuit were able to select thirty programs and coordinate these with their classroom instruction. Other new projects included the production of a series of motion pictures depicting the educational activities of Iowa State College and the development of exhibit panels (Iowa State College Visual Instruction Service, 1925).

Towards the end of the Visual Instruction Movement (1925), the Visual Instruction Service at Iowa State College adopted five new initiatives:

- The service started publishing *County Agents' Newsletter* in order to inform the extension specialists in the field about the latest developments in visual instruction.
- Postcards were used to notify subscribers about new films in the circuit.
- A series of art prints was made available.
- A special exhibit on the corn borer and examples of the damage caused by this insect was created.
- A second exhibit showing the various items produced by cornstalks was ordered for subscriber panels (Iowa State College Visual Instruction Service, 1925).

Finally, figures show that circulation of films dipped between 1926-27 and 1927-1928. The service attributed this decrease to the drought affecting Iowa in 1928 (Iowa State College Visual Instruction Service, 1925).

The University of Pittsburgh

The Visual Instruction Bureau of the University of Pittsburgh in Pittsburgh, Pennsylvania, was recognized as the distribution center of visual aids for the state of Pennsylvania. Its geographical location allowed the bureau to extend its visual instructional services to all educational institutions, civic organizations, and individuals throughout Pennsylvania, eastern Ohio and northern West Virginia (Egner, 1921, p. 7). The bureau was organized for the purposes of (a) securing and circulating educational and recreational films and slides to non-theatrical (commercial) organizations, (b) providing general information to these organizations regarding motion pictures and equipment and the installation of projectors, and (c) arranging special programs, as well as supporting research on methods of presenting visual material more effectively. In support of these goals, the Visual Instruction Bureau gathered 500 films and more than 6,000 slides on a variety of subjects, including agriculture, Americanization, electricity, oral hygiene, physical culture, religion, war activities, etc. (Egner, 1921).

According to Russell Egner, Head, Public Service Department, Extension Division, University of Pittsburgh, “Previous experience in conducting a visual-instruction service had taught us that reasonable service charges or registration fees are essential for the building up and maintaining a large library and efficient service” (Egner, 1921, p. 7, 25). So, the extension

division established a registration fee of $50.00, which entitled “remitters to our film and lantern slide service for a period of one year” (Egner, 1921, p. 25). The registration fee for lantern slide service exclusively was $25. Subscribers were permitted to book three to five reels of film and one set of lantern slides per week and the bureau used the receipts to cover expenses and purchase new material (Egner, 1921).

Egner (1921) listed eight conditions that must be strictly met by all subscribers. If these rules and regulations were followed, Egner promised that fewer delays in shipping would result:

(1) Subscribers were responsible for the lost or damaged material (except ordinary wear and tear), so they must handle and pack visual materials properly. Egner requested that patrons *not* rewind the films before returning them, since the Extension Division was required to rewind all returned film to check for damage. Should the film break, Egner suggested the application of film cement. If film cement was not available, paper clips would do in a pinch (but under no circumstances were patrons to use pins to join films together). Since film was extremely flammable in 1921, Egner also insisted that the reels must be kept in metal containers when not in use.

(2) All films and slides must be insured while in transit and the transportation paid both ways. The films could be shipped either parcel post or express mail. Proper shipping notices were to be included.

(3) A competent projector operator was to be employed at all times – one who was not only capable of operating the projector but also understood the value of films. An unqualified projectionist could ruin a new film merely in one showing.

(4) Subscribers were to return the material to the Visual Instruction Bureau (or another specified institution) promptly. Material was booked far in advance and "delays will handicap and disappoint the next borrower" (Egner, 1921, p. 26). The bureau would supply all shipping notices and labels.

(5) Subscribers were to notify the bureau as early as possible if they were unable to use the material on the specified date.

(6) Borrowers were to submit report cards after each exhibition indicating approval or disapproval of each subject, the outline of the method used in presenting the material, and list of the supplemental information introduced when presenting the visual materials.

(7) Subscribers were advised to book films and slides far ahead of time and provide first, second, and third choices. The bureau requested that all material be ordered by serial number and subject heading.

(8) Finally, subscribers were notified that they were to abide by the rules and regulations regarding visual material set forth in the bureau's visual bulletin. Failure to comply with these rules and regulations would result in loss of borrowing privileges (Egner, 1921).

Not only did the bureau engage in collection development, it also acted as a clearinghouse/distribution center for commercial films. Commercial film producers were permitted to distribute their films through the bureau, and in return for this service, the bureau would collect a commission. The statistics for the period November 1920 – June 1921 demonstrated the reach of the Extension Division through the state of Pennsylvania. The

division circulated 5,761 reels of film for 1,913 different film exhibitions which were attended by 681,699 people. The figures for stereopticon slides were more modest: 612 sets (approximately 30,000 slides) were circulated, exhibited 455 times with an attendance of 91,347 (Egner, 1921).

The bureau also compiled data that found 640 non-theatrical institutions in the territory served by the University of Pittsburgh were equipped with motion picture projectors, 380 of which were in use in the state of Pennsylvania. These institutions included schools (254 institutions), churches (84), YMCAs (51), clubs and fraternities (35), industrial companies (136), hospitals (10), and miscellaneous organizations (7) (Egner, 1921).

More than 200 institutions used visual materials, and of these, 50 subscribed to the cooperative plan. Egner concluded, these "institutions have been educated to the fact that a free film service is not practical and that next to production is required a well-organized visual-instruction bureau and an effective distributing service" (Egner, 1921, p. 28).

Visual Education Departments in Education Institutions: A survey by A.P. Hollis

Hollis observed that visual education departments were very recent additions to the educational landscape, and as such, "their place in our educational institutions is not very well defined" (Hollis, 1924c, p. 1). In order to provide a sense of the role of these departments in American education, he surveyed two types of institutions: those affiliated with state institutions, such as universities, and those in cities of a population of 100,000 (with the addition of Berkeley, California) or more which provided service to school systems. Hollis sought to investigate existing practices in visual instruction bureaus, compare these practices

among the various institutions, and then use his findings to suggest standards for the duties of visual education professionals. He sent questionnaires to 152 such departments and received replies from forty cities and fifty-four state institutions. Given below, based on Hollis' findings, are (a) the title (and department) of the chief operating officer (COO), (b) this officer's duties, (c) qualifications, (d) the assistants (and duties, if stated), (e) salary, and (f) the budget apart from salaries of selected universities (italicized).

University of Arkansas: (a) Director, Bureau of Visual Instruction (General Extension Division), (b) "securing and distributing good visual material; giving information in regard to visual instruction; general promotion of work" (Hollis, 1924c, p. 3), (c) Ph.D., University of Chicago; Professor of Mathematics, (d) one secretary, one stenographer, one shipping clerk, (e) $3,750, (f) $600.

University of Minnesota: (a) Head of Department of Public Services (General Extension Division), (b) "determine duties and select materials" (Hollis, 1924c, p. 4), (c) B.A., three years of high school, (d) general assistant, inspection girl, stock boy, two stenographers, and one student, (d) $2,750), (f) $1,000.

University of Texas: (a) Head of Visual Instruction Division (Visual Instruction Division), (b) "supervise routine and policies" (Hollis, 1924c, p. 4, (c) B.A. and Ph. D. from Columbia University, seven years experience in the public schools, and special training in physics, electricity, and the preparation of exhibits, (d) librarian, mechanician, slide inspector, stenographer, and artist, (e) $3910, (f) $2,000.

Indiana University: (a) Secretary of the Bureau of Visual Instruction (Extension Division), (b) "administrative, experimental, custodial; in charge of distribution in

State chiefly; acts with teaching departments in visual material on campus; course in visual instruction in summer" (Hollis, 1924c, p. 3), (c) A.B., courses in education, some practical experience in practical work and special training in preparing exhibits, (d) one in charge of slides, one of picture exhibits, three for film and slide inspection, shipping, etc., one part-time stenographer, (e) $2,000, (f) $9,097.

University of Wisconsin: (a) Chief, Bureau of Visual Instruction (University Extension), (b) "administrative" (Hollis, 1924c, p. 5), (c) twenty-five years experience in education, (d) twelve assistants, (e) salary (not given), (f) $22,000.

North Dakota Agricultural College: (a) Officer in Charge: Publications, Regulatory Work, and Visual Instruction (Extension Department), (b) "selecting, purchasing and renting films and slides, overseeing shipping and repair" (Hollis, 1924c, p. 4), (c) B.S., three years farmers institute work, seven years in teaching, eleven years editor college publications, (d) one shipping and recording clerk, one part-time stenographer, one part-time photographer, (e) salary not given, (f) $200 (Hollis, 1924c, pp. 3-5).

As the survey showed, the University of Wisconsin was "in a class by itself" (Hollis, 1924c, p. 10) regarding budget, at $22,000. The budgets, other than salaries, ranged from $200 at North Dakota Agricultural College to $9,000 at Indiana University (the average salary was $4,808) (Hollis, 1924c).

Based on his survey, Hollis provided the following summary of the duties of visual education officers in selected universities (Minnesota, Texas, Indiana, Wisconsin, etc.) in the United States:

(a) All officials supervised the distribution of visual aids.

(b) All officials selected visual aids for purchase or rent.

(c) Four officials supervised the production of films.

(d) Four officials also reported that they prepare synopses of the films.

(e) Fifteen officials also taught courses in visual instruction.

(f) At least six institutions manufactured slides.

(g) Three institutions worked with academic departments on campus to prepare slides for class instruction.

(h) All directors prepared printed material (labels, bulletins, etc.).

(i) One official was tasked with spreading "visual instruction throughout the State" (Hollis, 1924c, p. 7).

(j) One director collected negatives, distributed high-grade carbons, worked on state grants, evaluated visual aids, and made suggestions (Hollis, 1924c).

Hollis concluded, "This is not a task for the uneducated man. A master's and doctor's degree are not beyond the demands of such a program" (Hollis, 1924c, p. 9).

Hollis also queried the evaluation and distribution of visual aids by the state (university) visual education departments. The purchase of films, which had been regarded as prohibitively expensive (Ellis & Thornborough, 1923), had become the prevailing practice by 1924. According to Hollis' survey, only two schools, Kansas State Normal School and Utah University, still rented films from commercial distribution centers (20% and 8% respectively). One institution, the University of Wisconsin, purchased film negatives and produced prints. Several other schools reported that they produced motion pictures on their own campuses. Strangely enough, not a single school reported that it was purchasing stereographs (Hollis,

1924c), perhaps an indication that this type of visual material was not considered suitable for university work.

A majority of the state visual education departments still valued lantern slides over motion pictures in 1924. Hollis provided two reasons for this: first, the general lack of educational films available at that time (Dench, 1917), and second, the length of the films (Hollis, 1924c). The standard reel of film was 1,000 feet, which required twenty minutes to project. Hollis observed that this length of time consumed more than half of a school period, which left little time for the teacher to find scenes relevant to the lesson at hand and then discuss the movie.

Hollis also compared the visual education departments in large cities. Not all of the cities (for example, Philadelphia) responded to the questionnaire and he included the smaller city of Berkeley, California, perhaps because of its prominence in the Visual Instruction Movement. As with the university departments, for each city I include (a) the title (and department) of the chief operating officer (COO), (b) this officer's duties, (c) qualifications, (d) assistants (and duties, if described), (e) salary, and (f) budget (apart from salary):

> *Chicago*: (a) Director of Visual Instruction (Educational), (b) "everything pertaining to administration of visual instruction" (Hollis, 1924c, p. 12), (c) S.B., LL.B, forty years in public school work, special training in physics and electricity, preparation of exhibits, (d) seven assistants, (e) $5,000, (f) $20,000.
>
> *New York*: (a) Director of Lectures and Visual Instruction (Bureau of Lectures and Visual Instruction), (b) "supervision of illustrated lectures for adults; distribution and use of slides and films in schools" (Hollis, 1924c, p. 13), (c) M.A., graduate work in

language, literature, and pedagogy; fifteen years teaching and supervision; special training in physics and preparation of exhibits, (d) one stenographer, one teacher assistant, and one contractor to furnish films and operators on schedule, (e) $6,000, (f) $25,000.

Berkeley, California: (a) Director, Visual Education (Visual Instruction), (b) "building up a distributing center, training teachers in methods of procedure, writing monograph with a committee of 18" (Hollis, 1924c, p. 12), (c) normal diploma, courses in education at the University of California, Berkeley, and Columbia College, seventeen years experience as a high school teacher, (d) one clerk, (e) $2,760, (f) $5,000.

Detroit: (a) Supervisor (Visual Instruction), (b) "take charge of film slides, and machines, and instruct in their educational use" (Hollis, 1924c, p. 12), (c) A.B., graduate work in education at Teachers College, Columbia University, (d) one assistant, one clerk, one chauffeur, (e) $3,900, (f) $18,000.

St. Louis: (a) Curator, Educational Museum (Educational Museum of the Public Schools), (b) "securing and rendering fit for transportation visual aids of every conceivable sort" (Hollis, 1924c, p. 13), (c) St. Louis high school and normal schools, various and sundry college courses, fourteen years of teaching, (d) two former teachers, one stenographer, two packers, two chauffeurs, one chief clerk, and one shopman, (e) $2,800, (f) $4,000.

Hollis pointed out that the average salaries are higher in city departments ($4,030) than in state departments ($2,251), as were budgets ($11,692 in the cities and $4,030 in state departments). Several cities had budgets in excess of $20,000: New York ($31,600), Chicago

($25,500), Los Angeles ($23,700), San Francisco ($23,000), and Detroit ($22,000). As noted above, only the University of Wisconsin, among university visual education departments, had a budget of at least $20,000.

Hollis asked each type of visual education department (university or city) to provide a list of titles for "films of highest educational value" (Hollis, 1924c, p. 35). The titles supplied by the university extension included *Julius Caesar*, *Pompeii*, *Silas Marner*, *Animal Studies and Magnetism*, *Selecting a Laying Hen*, *History of the Telephone*, and *Embryology of the Egg*. The city visual instruction departments listed titles such *Toads*, *Nanook of the North*, *Yellowstone National Park*, *Blossom Time in Normandy*, and *Beyond the Microscope*. A few films were mentioned by both groups, *Story of a Mountain Glacier*, *The Priceless Gift of Health*, and *Milk as Food*. (Hollis, 1924c). Hollis attributed this distinction to the fact "a majority of the cities use strictly textbook films for classrooms" (Hollis, 1924c, p. 35). "As to what aids are most useful, the city heads of visual instruction agree with the State institutional heads on slides" (Hollis, 1924c, p. 36).

Conclusion

Content analysis (Berelson, 1952) of the primary documents of the Visual Instruction Movement identified visual instruction departments and extension services as constituent components of the movement. My study reproduced a number of the documents pertaining to visual instruction departments and extension services and placed them within the context of the Visual Instruction Movement, 1918-1928 (Tuchman, 2004). This chapter profiled visual instruction departments and extension services during the Visual Instruction Movement: the

Visual Instruction Department of the New York State Department of Education (a state agency), the Visual Instruction Department of the Berkeley, California, Public Schools (a school district), the Pedagogical Library in Philadelphia, Pennsylvania, and the Department of Visual Education of the City of Detroit, Michigan (two urban entities which worked in conjunction with the public schools in their respective cities), and the Visual Instruction Service of Iowa State College Ames, Iowa, and the Visual Instruction Bureau of the University of Pittsburgh, Pennsylvania (two university services). The immediate historical context of these departments was the extension services extended to the public by museums and libraries. The early school museum movement, exemplified by the Milwaukee Public Museum, Milwaukee, Wisconsin, and the St. Louis School Museum, St. Louis, Missouri, and the library extension movement, attempted to make its exhibits available to the schools in their respective cities. The university library extension movement sought to cooperate with public libraries in distributing materials to underserved user groups.

One of the principal problems faced by the bureaus of visual instruction concerned the distribution of visual material. These bureaus used two distribution methods: the “circuit” and “special order” methods (Saettler, 2004). With the circuit method, films and sets of lantern slides passed from school to school on a regular schedule. The special order method was relatively straightforward: a principal or teacher from a school ordered a specific film or set of slides and contacted the school’s visual instruction department to arrange delivery on a specified date.

Visual instruction was so vital to modern education during the Visual Instruction Movement that it warranted a supervisor (and should not be left solely to the classroom

teacher). Larger school systems required a full-time director. The director was to know how to use visual aids and coordinate visual instruction throughout the school system (Skinner, 1923). The Survey of Visual Education Departments in Educational Institutions by Hollis (1924c) provided an insight into the professional status of visual education officers and the evaluation and distribution of visual aids during the Visual Instruction Movement.

Why extension services? “Many could not come to the University to enjoy its educational opportunities, so the University has gone out to them. Many cannot come to the Metropolitan Museum for a like purpose, so the Metropolitan Museum is preparing to go out to them” (De Forest, 1919, p. 190). When the patrons could not visit the museum, the museum brought its exhibits to them. When readers could not visit the library, the library shipped its books to them. When students needed visual representation for their lessons, the visual instruction departments shipped the needed material to them.

CHAPTER SIX

"A HAPPIER WAY OF LEARNING":

TEXTBOOKS

Paul Saettler listed journals and professional organizations, research in visual instruction, coursework and professional development, and visual instruction departments and extension services as components of educational technology that originated during the Visual Instruction Movement (Saettler, 1998). A historicist reading of the primary documents of the Visual Instruction Movement permits us to expand Saettler's list of developments: we can add the appearance of visual instruction monographs and textbooks (Dale, Dunn, Hobart & Schneider, 1937; McClusky, 1950). Andrew Yeaman identified thirteen visual education textbooks from the 1920s (Yeaman, 1985), which are treated below. In many respects, the texts identified by Yeaman are the *book-length* primary documents of the Visual Instruction Movement. The reading of these books demonstrates that the earliest texts often adopted an apologetic slant regarding the use of motion pictures in the classroom and discussed the mechanical and technical aspects of motion picture projection. By the close of the Visual Instruction Movement, motion pictures had proved their worth in the curriculum. Subsequent texts were thus more comprehensive and concerned with incorporating a wide variety of visual material into lesson plans. These books were written by practitioners of visual instruction for educators.

This chapter is comprised of four sections: (a) "The Historical Context: Early Textbooks in Geography," (b) "Early Textbooks on Motion Pictures," (c) "Other Texts Identified by Yeaman," and (d) "The Comprehensive Textbooks: William Johnson and Anna Verona Dorris." After working through each of the books included in Yeaman's listing, I checked JSTOR for reviews of them. JSTOR indexes many of the leading educational journals of the early decades of the twentieth century, including *The Junior-Senior High Clearing House*, *The Elementary School Journal*, *Peabody Journal of Education*, and *The Journal of Educational Research*, etc. The reviews indexed in and retrieved from JSTOR provide a sense of the professional reception accorded each of the textbooks.

Historical Context: Early Textbooks in Geography

Early textbooks on geography generally conformed to one of two patterns: they were either dry lists of facts or breezy travelogues. J. R. MacDonald's *Geography of New Zealand* (1903), for example, reads like an almanac. It is full of maps, diagrams, illustrations and facts that a teacher needed to know, but it contains no discussion. On the other hand, Eduardo De Amicis began his *Holland and Its People* with, "Whoever looks for the first time at a large map of Holland, wonders that a country so constituted can continue to exist" (De Amicis, 1880, p. 1). After viewing the landscape and determining that it was more suited to seals and beavers than human habitation, he was inspired to write a geography textbook describing his travels through the Netherlands.

The National Society for the Study of Education took note of the "meager statements of the ordinary textbooks of geography" (National Society for the Study of Education, 1920,

p. 83) and issued a series of study guides and lesson plans covering the various geographical regions of the world. The lesson plans included three parts: (a) a complete description account of a country or geographical area, (b) a series of related geographical questions to be answered, and (c) a bibliography (National Society for the Study of Education, 1920).

The lesson plan for the Netherlands, "Outline for the Type Study of the Netherlands," was developed by Miss Myrtle Kaufmann of Springfield, Illinois (National Society for the Study of Education, 1920). The three parts of the lesson were presented sequentially and not as an integrated whole. Her description of the Netherlands was introduced with rhetorical questions or statements. The first question in the lesson was, "If we were to visit Holland, we should find it a strange country, different in many ways from any other we have studied. Our first impression upon travelling through it, would be one of vast levelness" (National Society for the Study of Education, 1920, p. 85). The lesson plan described the topology of the Netherlands, stated that fifty percent of the country lies below sea level, and described a series of dunes and dykes that protect it from flooding.

The relevant geographical question addressed by this part of the lesson was, "We study Holland because it stands out clearly as a type in the following ways" (National Society for the Study of Education, 1920, p. 83). The students were expected to learn not only the topography of the Netherlands but also how the Dutch people adapted to their geographical surroundings. The lesson concluded with a "Leading Thought: The development of a people depends largely upon the geographical influences of a country" (National Society for the Study of Education, 1920, p. 85) and students were given the prompt, "Considering the development of the country…what shall we think of the Dutch as a people?" (National

Society for the Study of Education, 1920, p. 90). The students were expected to describe the effect of geographical influence upon the Dutch character ("their constant struggle with the sea has made them brave and independent"), how the physical conditions of their country have affected their habits (the conditions "brought about their thrift and cleanliness"), and how the geography affected Dutch clothing ("their quaint dress and wooden shoes show this plainly") (National Society for the Study of Education 1920, p. 85).

Following the outline, a bibliography was provided to guide the teacher in the preparation in the instructional unit. The bibliography for the lesson included books, such as *Holland and Its People* (De Amicis, 1880) and *People of Holland* (Home, 1920), and magazine articles from *World Today*, *Journal of Geography*, and *National Geographic Magazine*. Other than pictures contained in the magazines, no mention of visual material was made in the textbook for the lesson on the Netherlands.

Anna Verona Dorris and the Visual Instruction Center of the Berkeley, California, Public Schools (see Chapter Five) demonstrated the type of visual material that the classroom geography teacher could use in the third-grade lesson "Children of Other Lands," which included the Netherlands (Dorris, 1923b). Each school in Berkeley had a set of *National Geographic* magazines, which had flat pictures depicting life in Holland. The Visual Instruction Center had an exhibit of educational dolls dressed in native costumes, including a Dutch boy and girl that the teacher could borrow for the instructional unit. For stereographs, the committee referred the teacher to the Keystone "600" set (see below), which was available in each school. Teachers also could rent for one dollar a set of fifty stereopticon slides on Holland from the University of California Extension Division. The Berkeley Committee

regretted that they had been unable to find suitable educational films “which they can recommend whole-heartedly for class-room instruction in the lower grades” (Dorris, 1923b, p. 31), but suggested that *Hulda from Holland* by Paramount contained pertinent material (Dorris, 1923b).

Early Textbooks on Motion Pictures

The first section includes Ernest Dench’s *Motion Picture Education* (1917), *Motion Pictures for Community Needs* by Henry and Gladys Bollman (1922), *Motion Pictures in Education* (1923) by Don Carlos Ellis and Laura Thornborough (1923) and *Motion Pictures for Instruction* by A. P. Hollis (1926). As their titles indicate, these texts are concerned with the use of motion pictures in the classroom (Yeaman, 1985).

Ernest Dench, *Motion Picture Education* (1917)

The first textbook identified by Yeaman is Ernest Dench’s *Motion Picture Education* (Dench, 1917). Dench wrote his book in response to an outbreak of infantile paralysis in New York City. Critics of the motion picture industry contended that movie patrons were exposed to the contagious disease in crowded theaters. As a preventive measure, children were barred from attending photoplay theaters. In response, the motion picture industry produced a film, in cooperation with the city’s Board of Health, illustrating that it was the unsanitary living conditions in the city’s tenements and not movie theaters that was responsible for the outbreak of the disease (Dench, 1917).

Dench sought to set the record straight and discuss the educational value of motion pictures. He was one of the earliest proponents of motion pictures and advocated screening movies for hospital patients (Dench, 1918) and the mentally insane (Dench, 1916b). Before turning his attention to the educational use of films, Dench authored three books on their commercial use: *Making the Movies* (Dench, 1915a), *Playwriting for the Cinema; Dealing with the Writing and Marketing of Scenarios* (Dench, 1915b), and *Advertising by Motion Pictures* (Dench, 1916a).

Motion Picture Education described the reception of motion pictures in American schools at the dawn of the Visual Instruction Movement. It appeared to Dench that many students attended movies as their chief form of entertainment. In Duluth, Minnesota, he noted, 2,621 students on average attended the theater at least once a week. Skeptics took note of this figure and contended that children were not in a fit mood to absorb their school lessons after attending the theater. Motion picture theaters in 1917 were notorious for their poor ventilation, and Dench was sorry to report that many motion picture exhibitors paid scant attention to the health of their patrons. The Health Commission for New York City, Dr. Haven Emerson, visited 1,000 theaters in the city and discovered that only 87 of them were properly ventilated. Dench noted, incredulously, “Perfumed disinfectants are being sprayed in some of the theaters with a cattle sprayer. The spraying process does nothing to eliminate germs coming from the mouths of patrons, which causes epidemics in the winter” (Dench, 1917, p. 14). The lack of ventilation (accompanied by perfumed disinfectant) caused the average patron to leave the theater feeling tired. It was no wonder, Dench concluded, that students were tired the morning after attending the movie theater (Dench, 1917).

The appropriateness of movies for educational purposes was called into question during the early years of the Visual Instruction Movement because of their connection to the entertainment industry. Critics contended that bad films (particularly sensational dramas and vulgar comedies) did an immense amount of harm in the classroom; Dench took issue with he view that motion pictures actually interfered with education: “The right kind of films actually assists the education of the child” (Dench, 1917, p. 18) because they “sharpen the brain of a child, make it move quicker, and allow things to be grasped which were previously beyond its mental capacity” (Dench, 1917, p. 22).

Dench conceded that textbooks may be superior to motion pictures in imparting facts, but motion pictures were superior at providing meaning and context. Motion pictures would never replace teacher-centered instruction; rather, he recommended that teachers introduce the subject and follow up with an appropriate motion picture. Dench also averred that motion pictures played a valuable civic role: they could be used to improve Sunday School attendance, promote temperance, “Americanize” foreigners, and fight tuberculosis. A common complaint in 1917 was that attendance in motion picture theaters was leading to a decrease in the demand for modern fiction. In other words, people were watching movies instead of reading books. Dench demurred and claimed that many people are introduced to great literature through theatrical adaption. He stated that these movie-goers subsequently would visit the public library or bookstore to obtain a copy of the book on which the movie they had seen was based.

Several of Dench’s comments illustrate concerns or situations regarding motion pictures common in 1917. First, Dench noted the meager selection of educational films. He

had viewed several films about Native Americans but complained that other aspects of American history had been neglected by film producers. Dench eagerly anticipated the film adaptations of Yale University's "Chronicles of America" because "we could then appreciate the wonderful progress we have made, while if there were films available, showing the history of the United States from Puritan days to the present time, we should feel immensely proud of ourselves for descending from such splendid stock" (Dench, 1917, p. 69). Second, Dench advocated abolishing zoos and deporting their occupants to their place of origin. He wanted to replace conventional zoos with "motion picture zoos" (movies of animals in their native habitat). "A motion picture zoo is as essential as a well-stocked library" (Dench, 1917, p. 81). Finally, Dench devoted an entire chapter to "The Photoplay Theater Crying Baby Problem." Mothers who attended the movie theater often brought their babies with them, who cried during the screening of the film. Dench did not blame the mothers when their infants squealed in the theater. After all, the mothers attended the theater for entertainment and relaxation. Rather, he insisted that all theaters install a nursery and hire an attendant to look after babies and suggested that the movie-going public patronize only those theaters which did so (Dench, 1917),

Motion Picture Education was one of the first texts to furnish instructions for the classroom production of educational film. Dench provided guidance for producing a local photoplay, or "scenario construction" (Dench, 1917, p. 269). Each scenario had five constituent parts (very similar to a modern storyboard): (a) *title*, which should be written around the main idea of the play, (b) *cast of characters* (which explained each leading role), (c) *synopsis* (the story in condensed form), (d) *list of scenes* (which eventually was used in

preparing lesson plans and (e) *scenario proper* (the arrangement of the scenes). Other important considerations included the acting, makeup, securing permission to use certain locations, lighting, staging, and special effects. After filming, three steps remained to be taken before the movie was ready for classroom use: developing the negative, supplying the title, and printing the positive (Dench, 1917).

Dench concluded his book with a plea to the motion picture industry to produce more material for a younger audience. Apparently, theater operators did not consider it profitable to screen educational films suitable for children in 1917. That year, nearly 100 "photoplays" were produced each week, the vast majority of them dealing with "robberies, murders, cases of drunkenness and divorces, abduction of girls, saloon and café scenes, and exaggerated love affairs" (Dench, 1917, p. 89-90). Rather than censor such films, Dench suggested that the film industry (producers, promoters, and theater owners) provide more fare for younger viewers. It was a mistake to prohibit children from attending the theater, he continued, even if the fare was inappropriate for younger audiences. If children were barred from the theater, Dench argued, they would certainly get into mischief in the streets. The Parent Teacher Association of Missouri went so far as to lobby theater owners to screen age-appropriate material on Friday and Saturday evenings, when children were most likely to attend the theater (Dench, 1917). Dench looked forward to the time when companies that specialized in the production of child photoplays were formed and a chain of theaters catering to young folk were opened all over the country. "But until this time comes it is up to the mothers to leave no stone unturned to persuade exhibitors to forsake their present cheap policy" (Dench, 1917, p. 353).

Professional reception of Dench. According to Yeaman, "Having written three cinema books, Dench (1917) turned his attention to education and created a chatty text filled with newsy tidbits. His global approach was made up of fragments linked by common-sense suppositions and advice based on intuition" (Yeaman, 1985, p. 7). *Motion Picture Education* attracted little if any professional interest, although it was included in the bibliography printed in the VIAA Handbook (1924).

Henry and Gladys Bollman, *Motion Pictures for Community Needs* (1922)

In 1922, most motion pictures were still intended primarily for entertainment and it was not yet clear what role they would play in American education. The Department of the Interior sent out a questionnaire to elementary schools, high schools, and colleges and universities in an effort to determine how many of them included movies in their curriculum. In *Motion Pictures for Community Needs: A Practical Manual of Information and Suggestions for Educational, Religious, and Social Work,* Henry and Gladys Bollman reported on the results of the questionnaire: of the 38,282 schools queried, 1,513 reported that they were using motion pictures for educational purposes (which meant that only 4% of schools used motion pictures in their educational curriculum). When the film *Bottom of the World* (which portrayed Ernest Shackleton's exploratory voyage to Antarctica) played in Omaha, Nebraska, the manager of the Moon Theater, where the film was booked, persuaded the high school to close for the day so that the students might view this "really educational picture" (Bollman & Bollman, 1922, p. 97). However, because this film was produced for the theatrical audience, it was necessary for an educator to preview the entire movie to justify its

inclusion in the curriculum and ensure that it did not contain objectionable material (Bollman & Bollman, 1922).

The Bollmans noted with approval that many of the fine commercial releases were suitable for educational use, for example, film adaptations of literary masterpieces such as *Les Miserables, Dr. Jekyll and Mr. Hyde,* and *Treasure Island*. Other visual material that teachers might find useful included travelogues (of great use to geography teachers), nature study pictures (the lives of plants, animals, and birds), news weeklies (which provided endless suggestions for further research), and industrials (which portrayed various examples of trades and industries, factories and labor conditions, and local color). There were caveats to the use of commercial films in the classroom. Many early historical dramas were plagued by anachronisms, the classic example of which showed a portrait of Abraham Lincoln in hanging on the wall of George Washington's private office. In another movie, medieval highwaymen prowled smoothly paved roads with sewer gratings and electric poles visible in the background. Serials, running weekly in cheaper neighborhood theaters, were "always sensational and often utterly preposterous" (Bollman & Bollman, 1922, p. 20).

Writing five years after Dench, Henry and Gladys Bollman provide an illuminating picture of the concerns of educators regarding the use of motion pictures in the classroom in the early 1920s. The Bollmans were among the first to describe the mechanical requirements for screening motion pictures. In *Motion Pictures for Community Needs* they stated: "Mechanical considerations must be carefully weighed in the original analysis of the problem" (Bollman & Bollman, 1922, p. 99). The Bollmans' subsequent remarks give an

early estimation of the start-up costs associated with screening movies in the schools (Bollman & Bollman, 1922).

Three primary purchases must be made before a school can show motion pictures: projector, screen, and projection booth. When the Bollmans wrote, a standard professional projector could be obtained for under $500. A Simplex motor-driven machine, for example, cost $495; while the hand-driven version could be had for $425. A portable Zenith safety projector cost $298. Suitcase models ran between $180 (Acme) and $250 (DeVry) (Bollman & Bollman, 1922).

The most readily available screens were produced by the Wertsner Company, who charged $38.40 for a six-foot by eight-foot Super-Lite screen (and an extra $25.00 for the frame). Wertsner also offered to build any size screen for 80 cents per square foot (Bollman & Bollman, 1922). The Bollmans did not provide very much information regarding projection screens. The Visual Instruction Association of America's (VIAA) handbook filled this information gap and described the various types of screens available in 1924, the only lengthy description of these screens that I found in my study.

Wall screen. A wall could function as a screen if was painted with a white matte finish. The VIAA handbook claimed that a wall provided the most economical of all screens while being equally efficient as a plain or roller screen (Visual Instruction Association of America, 1924).

Plain screen. A plain screen is a linen canvas, or other type of material, hung on the wall. In place of plain fabric, an ordinary bed sheet could be used, "but this is very inefficient,

because so much light passes through the material" (Visual Instruction Association of America, 1924, p. 37).

Roller screen. The roller screen was the most widely used screen. It was a piece of canvas mounted on a heavy metal spring roller. The VIAA suggested that the best quality roller screens were coated "with a non-cracking sizing" (Visual Instruction Association of America, 1924, p. 37) on the surface and were practically opaque. This was the type of screen usually sold by the leading projector manufacturers for use with their equipment (Visual Instruction Association of America, 1924).

Mirror screen. Mirror screens were exceptionally expensive and therefore not recommended for educational use (Visual Instruction Association of America, 1924).

Rubber-backed screen, with flat white fabric. The handbook considered this type of screen to be the finest available. It was exceptionally heavy, absolutely opaque, and manufactured of high-grade materials. "The surface is the *most* nearly perfect of all reflecting surface screens…and the angle of visibility is, without doubt, the greatest yet produced" (italics in the original, Visual Instruction Association of America, 1924, p. 38).

Translucent screen. In 1924, this was the newest screen available. The stereopticon or movie projector was placed behind the screen and the audience viewed the visual material from the front. The handbook recommended translucent screen for classroom use because it could be used in a fully illuminated room (Visual Instruction Association of America, 1924).

Motion picture theaters were considered a fire hazard during the Visual Instruction Movement and many venues installed fire-proof projection booths. During one particular year, the National Safety Fire Protection Association reported forty-two fires in theaters.

According to its *Quarterly Bulletin* (National Safety Fire Protection Association, 1918), over half of the fires, twenty-two, were caused by careless smoking and twelve were caused by lighting defects. The obvious remedy, of course, would be to refrain from smoking in the projection booth. For safety's sake, the Bollmans (1922) suggested that film containers never be opened in a room where cigars and cigarettes were smoked. Another good idea would be to use only non-flammable film. Massachusetts law regarding projection booths was quite detailed. The booth must be a minimum 6 feet 6 inches by 5 feet square, padded with asbestos, properly ventilated with two apertures (one for the projector, one for the projectionist) and approved by a state-licensed inspector. If schools found it impractical to build such a booth, the Bollmans observed that the Johns Manville Corporation sold portable asbestos booths from $200 (Bollman & Bollman, 1922).

Three primary legal concerns had to be addressed before screening motion pictures: state law (in the Bollmans' case, Massachusetts), insurance regulations, and federal law. The three pertinent state laws, which were meant to ensure the safety of the viewing public, were the Acts of 1913, Chapter 280: *An Act to Authorize the Mayor of the City of Boston to Grant Permits for Special Moving Picture Exhibitions in Churches, Halls, or Other Buildings*; the Acts of 1914, Chapter 791: *An Act Relative to the Operation of the Cinegraph and to the Exhibition of Motion Pictures*; and the General Acts of 1915, Chapter 169: *An Act Relative to the Cinegraphs Using Only Cellulose Acetate Film*. The insurance regulations by and large followed the stipulations of the state laws. The relevant federal statutes concerned the shipping of films, and the Interstate Commerce Commission prescribed the type of metal case that had to be used when shipping film (Bollman & Bollman, 1922).

Before showing movies, schools had to obtain permits from the fire department, insurance company, and building inspector. The Bollmans (1922) also suggested that a school consult an electrician before installing a projector to check the current and see if special wiring was needed and consider employing a licensed projectionist. At the time that the Bollmans wrote, three months experience was required to become a licensed projectionist in the state of Massachusetes. However, the Bollmans thought a man of average mechanical ability could learn to use a portable machine after one or two lessons (Bollman & Bollman, 1922).

Motion Pictures for Community Needs expands upon Dench's *Motion Picture Education* (1917) in two areas. First, whereas Ernest Dench provided guidelines for producing a photoplay, the Bollmans offered guidance on actually projecting a good, steady picture and they addressed a wide variety of issues involved in the use of motion pictures in schools. According to the Bollmans, schools must consider setting up the projector (including wiring) and its actual operation (threading, focus, etc.); the care of the machine (oiling and replacing worn parts) and maintenance of its coils and wiring; what to do in case of fire (have water and sand handy); the various tools needed in the projection booth and the disposal of film (in this case neatness was necessary); patching, trimming, rewinding, and inspecting the film; and finally, preparing labels for returning the film to the library or extension bureau (most schools at this time did not own films, but rather borrowed them from various civic agencies) (Bollman & Bollman, 1922).

Also, in contrast to Dench, the Bollmans included an extensive bibliography in their book. By 1922 the motion picture industry had spawned a vast literature, broken down by the Bollmans into five classes:

- Publicity. These were generally puff pieces and probably provided the least information to non-theatrical readers.
- Trade papers. These were written for exhibitors and contained technical material, such as problems associated with the production of movies.
- Fan magazines. These generally did not contain anything particularly worth knowing, since they dealt with the more sensational aspects of motion pictures.
- Educational magazines, which provided information for selecting material. These magazines reviewed worthwhile pictures and provided information on securing them. The Bollmans drew attention to three monthly educational magazines of note: (a) *Educational Film Magazine* (which they considered the international authority in the non-theatrical field), (b) *Moving Picture Age* (they deemed its editorial policy essential reading), and (c*) Visual Education*, an educational magazine for educators published by the Society for Visual Education.
- Miscellaneous reviews of photodramas, such as those published in the *New York Times* (Bollman & Bollman, 1922).

Professional reception of Bollman and Bollman. As with *Motion Picture Education* by Dench (1917), *Motion Pictures for Community Needs* (1922) by the Bollmans attracted little attention in the professional literature. However, in Yeaman's opinion, they made the

point that “motion pictures as a new means of expression – whether an art or a tool – are here to stay” (Yeaman, 1985, p. 11).

Don Carlos Ellis and Laura Thornborough, *Motion Pictures in Education* (1923)

According to Philander Claxon, Provost at the University of Alabama and former U.S. Commissioner of Education, Don Carlos Ellis and Laura Thornborough were well qualified to write on the use of motions in the classroom. Ellis was chief of the Education Section of the United States Forest Service and organizer and director of the Motion Picture Section of the United States Department of Agriculture (Ellis & Thornborough, 1923). Prior to co-authoring *Motion Pictures in Education* with Ellis, Laura Thornborough offered a course, “Motion Pictures in Education,” at the University of Tennessee. According to *The Educational Screen*, her credentials included coursework at Columbia University and experience in film editing with the U.S. Department of Agriculture (*The Educational Screen*, 1922j, p. 197).

In the early 1920s, naysayers raised a host of objections regarding the use of motion pictures in the classroom. For example, at the annual National Education Assocation convention, held in Cleveland in 1920, a speaker opined that visual education is “…an exhibition of misfit effort” (Ellis & Thornborough, 1923, p. 39,) and a New Jersey newspaper subsequently editorialized, “Visual education is incidental and has the demerit of cultivating intellectual slothfulness” (Ellis & Tornborough, 1923, p. 37). Ellis and Thorborough vigorously defended the educational use of motion pictures and their organized and detailed rebuttal of these and other objections represent a valuable contribution to the Visual Instruction Movement.

Listed below are the various objections raised regarding the use of movies in the classroom and the responses of Ellis and Thornborough.

Eye strain. The first objection raised by opponents of visual education was that viewing motion pictures caused eye strain. According to Ellis and Thornborough, the main causes of eye strain were faulty projection, defective film and weak eyes (Ellis &Thornborough, 1923). They stated flatly that there was no excuse for faulty projection and schools should refuse to accept scratchy film. “The most serious cause of eye strain, weak or defective eyes, is a problem of the exceptional child, not of pedagogical practices” (Ellis & Thornborough, 1923, p. 41) and “the abnormal child should not be allowed to determine the policy for the normal individuals in the class” (Ellis & Thornborough, 1923, p. 63).

Mechanical difficulties. Schools encountered many mechanical difficulties when screening films in the early 1920s, including those relating to wiring, electrical current, licensing, etc. “To put films into schools does take time, trouble, thought and investigation and study of the problems involved,” conceded Ellis & Thornborough, and “we can advise no one to install films who has not considered these problems and reached some solution (Ellis & Thornborough, 1923, p. 42). However, as Ellis and Thornborough pointed out, schools also had challenges in installing light, heat, and water, yet these utilities were universally present in school buildings. Later in their book, Ellis and Thornborough devoted an entire chapter (XI) to the installation and operation of video equipment (Ellis & Thornborough, 1923).

Fire hazards. As discussed by the Bollmans (1922), film stock in the 1920s was highly flammable. Ellis and Thornborough contended that the threat of fire was greatly exaggerated and advised schools and churches to follow the safety precautions prevalent in

commercial theaters. When properly handled, film and projection equipment were no more dangerous than electric lighting. If schools would install safety equipment and follow local fire regulations, they could minimize the threat of fire (Ellis & Thornborough, 1923).

Expense. In 1923, it could cost a school over $4,000 in startup costs to show movies (for projectors, screens, projection booths, wiring, staff, etc.) and the average film rented for four dollars per reel per day. In addition, schools had to take out separate insurance policies before screening films, which could run $600 per year. Ellis and Thornborough recognized that the cost of motion pictures appeared prohibitive but countered that "expense should not be permitted to stand in the way of the way of introduction into the school of so valuable an aid as either the slide or motion pictures" (Ellis & Thornborough, 1923, p. 68).

Films make learning too easy. A common complaint uttered at the outset of the Visual Instruction Movement was that motion pictures made learning too easy. Critics contended that the primary purpose of movies was entertainment. In the classroom, therefore, the use of films substituted entertainment for instruction and passive acceptance of what is shown on the screen for active effort in learning. "Other writers and observers maintained that the cinema proved harmful instead of helpful because a fundamental principal of pedagogy was that the pupil should learn by dint of laborious study" (Ellis & Thornborough, 1923, p. 46). Film was not meant to replace study, countered Ellis and Thornborough. Rather, film was a supplement to academic work. And if motion pictures do make learning quicker and easy, they asked, wherein lies the harm (Ellis & Thornborough, 1923)?

Films create superficial thinkers, dull the imagination, harm the use of language, and reduce reading. Closely related to the previous complaint was the tired canard that films

created superficial thinkers and reduced the level of reading. As one teacher claimed, “Motion pictures do more harm than good in the study of the classics, for the pervading soul of the author is lost and the original is gone” (Ellis & Thornborough, 1923, p. 47). Ellis and Thornborough pointed out that no one could intelligently discuss a play or motion picture merely by watching the screen adaptation. On the contrary, properly used, films did not dull the imagination; rather they encouraged further research (reading) into a subject. Members of the Pennsylvania and New York Library Associations reported that films actually “were making readers of many who cared nothing for books” (Ellis & Thornborough, 1923, p. 79).

The introduction of films into the classroom causes distractions. Many teachers insisted that children did not behave or were not attentive when “darkness hides them from the watchful eye of the master” (Ellis & Thornborough, 1923, p. 48). Ellis and Thornborough scoffed at this notion. “If the teacher has proper control over his class…and takes suitable measures to effect a smooth and quick transition from the spoken lesson to the picture” (Ellis & Thornborough, 1923, p. 74), there would be no disorder.

Films tend to replace the teacher and textbook. One of the perceived weaknesses of the use of motion pictures ca. 1923 was their tendency to relieve the teacher of personal effort. While “this may be pleasant for the teacher, it is not good for the class” (Ellis & Thornborough, 1923, p. 49). Ellis and Thornborough emphasized time and again that motion pictures were an aid to education: “a supplement to the text and the teacher and not a supplanter of them” (Ellis & Thornborough, 1923, p. 73). Rather, to be used effectively, film required additional effort on the part of the teacher.

Slides and pictures are superior to films. Proponents of pictures and lantern slides maintained that these visual aids were more readily available and less expensive than motion pictures. The authors conceded that in many instances still pictures were preferable to movies. Certainly, a slide showing Mt. Shasta might be better than a motion picture of it. However, in other cases, the motion picture had superior educational value. For example, a motion picture of Niagara Falls was certainly preferable to a still life showing the same scene (Ellis & Thornborough, 1923).

The benefits of films are unproven. As of 1923, no one knew for certain "what motion pictures are capable of accomplishing in our schools, for the very simple reason that they have not been thoroughly tried out" (Ellis & Thornborough, 1923, p. 56). However, Ellis and Thornborough referred to the early research of Weber and Freeman (see Chapter Three, "A Happier Way Learning: Research in Visual Instruction and Educational Technology"), which seemed to prove that motion pictures did improve student performance (Ellis & Thornborough, 1923).

Professional reception of Ellis and Thornborough. The book by Ellis and Thornborough was widely reviewed after its publication. One of the main practical issues facing educators in 1923 was the use of motion pictures in the classroom. Current sentiment (as of 1923) ran the gamut from enthusiastic reformers who saw movies displacing textbooks in the near future to stodgy conservatives who regarded the Visual Instruction Movement with amusement if not disdain. Brownell felt that the work by Ellis and Thornborough represented one of the first efforts to combine the essentials of the issue into a single book. It furnished a body of worthwhile information and "this particular treatment of the subject is more valuable

because the authors speak from an abundance of personal experience" (Brownell, 1923, p. 631).

According to Frank Freeman, many books on visual education were "baldly propagandic in nature" (Freeman, 1923, p. 150). He was pleased to report that Ellis and Thornborough avoided the extreme statements commonly found in discussion of motion pictures. Although they were generally enthusiastic about the use of films in schools, Ellis and Thornborough recognized their limitations. Julian Butterworth of Cornell University wrote, "While the book is frankly a defense of teaching by means of moving pictures, it gives the impression of being a restrained and well-balanced presentation" (Butterworth, 1927, p. 426). Donald Young regretted that the lack of similar studies made it difficult to evaluate the work as a whole, but he anticipated that it would be of practical value to teachers anxious to incorporate movies into lesson plans (Young, 1924).

Andrew P. Hollis, *Motion Pictures for Instruction* (1926)

At the turn of the century, A. P. Hollis was the principal of the Brodhead, Wisconsin, school and authored "The High-School Paper: Its Status and Its Possibilitie,s" in which he compared the "distinctly literary pages in some high school papers with those given over to other matter" (Hollis, 1901, p. 174). A. P. Hollis was well known to proponents of visual instruction, having authored "The Effectiveness of the Motion Picture Used as an Introduction or as the Summary" (in Freeman, 1924) (see Chapter Three) and *Visual Education Departments in Educational Institutions* (1924c) (see Chapter Five).

A. P. Hollis announced that his text, *Motion Pictures for Instruction*, had an advantage over others in the field of visual instruction because it dealt solely with film, not with slides, stereographs, etc. (Hollis, 1926). He compiled three separate film libraries for schools in the first part of his book, one each for 40 films (which permits one screening per week), 80 films (two films per week) and 120 films (three per week). He personally screened many of these films and the rest were included based on the recommendations of educators. In Part II of his book, Hollis created a "Comprehensive List of Educational Films" (which included free films, films for rent, and films to purchase) (Hollis, 1926, pp. 253ff). Hollis recommended that schools purchase their own films. He reminded readers that most schools purchased books for their permanent libraries, and he thought that the same procedure should be followed in the case of films. This procedure would give the school control over the film(s) and do away with the uncertainty of renting, should the desired film not be available. He further suggested that each school system have a Director of Visual Instruction, who would be responsible for purchasing, distributing, and caring for film. Furthermore, the director should appoint a Committee of Visual Instruction, which would correlate films and textbooks (Hollis, 1926).

Hollis realized that not all school subjects could be adapted to film, for example, mathematics (students still needed to memorize equations). Athletics, however, with its abundance of action, lent itself particularly well to film. Many topics in physics could also be clearly illustrated by motion pictures. According to Hollis, nearly all educators agreed that geography lessons should incorporate film. Although students could not travel to all of the places studied in geography class, they could see films and gain a concrete physical experience about the subjects. The relation of film to great literature was murkier. Some

librarians noted an increase in requests for certain titles after the film adaptation had been shown in the theater. Other individuals, having seen the photoplay "Hunchback of Notre Dame" assumed they knew the story and hence did not come to the library to check out the original novel (Hollis, 1926).

Hollis made two novel contributions to the texts of the Visual Instruction Movement. First, he wanted teachers to screen films before showing them to a class and provided a scorecard for evaluating a film. Hollis seems to be using the same criteria as J. J. Weber (see Chapter Three, "A Happier Way of Learning: Research in Visual Instruction and Educational Technology"). The scorecard evaluated film on the bases of truth and authenticity (were the facts presented in the motion picture true?), relevancy (did the film illustrate the topic at hand?), concentration (did it draw attention to pertinent information or to unimportant details?), and technical quality (for example, did the film make proper use of light and have a clear focus?) (Hollis, 1926).

Second, Hollis also created a tentative, detailed plan for a motion picture lesson and repeated the mantra of the Visual Instruction Movement that visual aids were not a substitute for a properly prepared lesson. After previewing a film for class, Hollis advised, the teachers should write a *synopsis* of the film. Films at this time did not have audio, so it was necessary for the teacher to check the films' titles (or subtitles) and make sure they were in the correct order (synopsis). Most educational films in 1926 were accompanied by a synopsis supplied by the producer or distributor and sometimes the titles were too long, in which case, the teacher should cut them (and re-splice the film after use). The teacher also needed to ensure continuity between the synopsis and the film. Second, the teacher needed to create an

introduction to the film in the form of lecture, map study, blackboard work, etc. The teacher should then prepare a limited number of questions for discussion during projection of the film. Further questions (including assignments for follow-up work) could be entertained after the film had ended. Hollis *recommended a second showing of the film to link* it with the general course material. This second showing would clear up mistakes or confusion in the lesson plan, provide for further discussion, and stimulate written work by the pupils. Finally, the teacher should administer *a test or assessment instrument* covering the material in the lesson (Hollis, 1926).

Professional reception of Hollis. According to Yeaman, Hollis' "purpose in writing *Motion Pictures for Instruction* was to avoid wasting money and pupils' time" (Yeaman, 1985, p. 30). Hollis issued a declaration: visual education was not experimental psychology. It should investigate the educational use of motion pictures based on commonsense classroom tradition. As was *Motion Pictures in Education* by Ellis and Thornborough (1923), *Motion Pictures for Instruction* by A. P. Hollis was widely reviewed. In the opinion of *The Educational Journal*, it was the first book to offer specific instructions on the use of films in the classroom. "What the unabridged dictionary and an elaborate encyclopedia is to a student, *Motion Pictures for Instruction* is to the educational use of film. There has been no equally useful book of instruction in many a day" (*The Journal of Education*, 1927, p. 356). *Motion Pictures for Instruction* was also reviewed by the *American Journal of Sociology*, which deemed it "a practical handbook for the use of teachers and administrative officers who desire to secure educational films for schools" (*American Journal of Sociology*, 1927, p. 155).

Other Texts Identified by Yeaman

Two of the texts mentioned by Yeaman are viewed together: The Keystone View Company's *Visual Education Teacher's Guide to Keystone "600" Set* (1922) and Laura Zirbes' *Teachers' Guide: Keystone Primary Set* (1927). Following comment on the texts dealing with Keystone slides, I will look briefly at two texts which attracted scarce attention in JSTOR: Austin Lescarboura's *The Cinema Handbook* (1921) and Sir James Marchant's *The Cinema in Education* (1925). Yeaman included the research of Weber (1922a, 1928b), Frank N. Freeman (1924) and Wood and Freeman (1929) in his discussion. Since that research was treated in Chapter Three of this dissertation ("Research in Visual Instruction and Educational Technology"), I include only comments by Yeaman and the reviews from JSTOR in this chapter.

The Keystone View Company, *Visual Education Teacher's Guide to Keystone "600" Set* (1922) and Laura Zirbes, *Teachers' Guide: Keystone Primary Set (*1927)

Not all of the early texts during the Visual Instruction Movement dealt with motion pictures. The Keystone View Company introduced stereographs and lantern slides into public libraries in 1906. These visual aids originally did not meet classroom requirements, so the company revised the photographic content and editorial work of the original material into the "600" set (Keystone View Company, 1922). By 1922, the Keystone material covered every state in the union as well as "every important country in the world" (Keystone, 1922, p. iv). In the view of Hollis, the Keystone 600 set brought order out of chaos (Hollis, 1926).

The company enlisted leading educators to contribute to its teacher's guide. In his introduction to the volume, Charles W. Eliot, president emeritus of Harvard University, complained that American education remained deficient because it did not use more visual aids. He preferred slides to film for two reasons: film was too passive, because students were able to respond orally to slides, and slides were applicable to a greater variety of subjects than were films (Keystone View Company, 1922). William C. Bagley of Columbia University contended that geography was best learned by travel, but expense and time constraints often stood in the way. Bagley said that Keystone slides were the perfect substitute for travel because they lent concreteness to geography lessons, and stereographs were also much superior to film because slides provided a three-dimensional perspective to pictures (Keystone View Company, 1922). Bagley recommended one slide per day be shown in the lower grades and no more than two slides per day in the upper grades. Russell Conwell, president of Temple University, provided lecture suggestions to accompany the slides. For example, the topic "A Day in the Outlying Possession of the U.S." could incorporate Keystone slides of Alaska, Hawaii, Panama, Puerto Rico, the Philippines and Guam (Keystone View Company, 1922).

In its advertisement for the "600" set, the Keystone View Company invoked the name of Edward Thorndike:

> Dr. Thorndike says over eighty percent of our public school children are eye-minded. Therefore we ought to get results by using the eyes for seeing things, instead of seeing words in a book. The Keystone system of 600 classified stereografs and lantern slides is the one useful means of visualizing the elementary school curriculum. It has been tested for 16 years in over 30,000 schools. Efficient schools systems use it and promote over 90 per cent. of their total enrollment. North Carolina has now reached

> the point where its teachers can become efficient. (*High School Journal*, 1922, unnumbered)

Laura Zirbes (1884-1967), an "Investigator in Reading" from Columbia University, wrote a teachers' guide to the Keystone slides. While at Columbia, she heard Edward Thorndike and Thomas Dewey discuss the value of testing (Reid, 2003). "Stereographs cannot be dispensed with," Zirbes claimed, "because there is no other way of giving three dimensions in pictures, or such perspective" (Zirbes, 1927, p. 10). She thought particularly highly of the Keystone Primary Set as a visual aid because these slides provided experiences which prepared students for reading. It is interesting to note at that date, 1926, that Zirbes emphasized meaning rather than phonetics as a key to reading comprehension. The Keystone Primary Set could be used as "sources of vicarious experience and of stimuli" (Zirbes, 1927, p. 187) to foster inquiry about a given subject. According to Zirbes, the slides helped students see significant relationships, gave them concrete data for problem solving, promoted continuity in learning experiences, stimulated social responsibility, encouraged inquiry and experimentation and provided bases for generalizations (Zirbes, 1927).

Zirbes also found many practical advantages to Keystone slides. They allowed for individual differences among learners and provided "additional advanced experiences for the bright pupils and extra practice for slow learners" (Zirbes, 1927. P. 191). The slides were adaptable to local conditions. When studying "wheat," for example, children in urban areas could view stereographs of wheat fields. The slides were so lifelike that they could be substituted for field trips and excursions "when these cannot be arranged because of local conditions" (Zirbes, 1927, p. 193). Finally, the slides were adaptable to one-room schools.

According to Yeaman, Zirbes wrote her book "to foster teaching of reading as a pleasure rather than a requirement" (Yeaman, 1985, p. 29). Pictures were playing an increasingly important role in the classroom and "wide awake teachers are turning more and more to the projection lantern and stereoscope when they wish to teach quickly, accurately, and vividly" (Getchell, 1912, p. 321). Nearly all of the schools in Boston had such equipment, so E. L. Gretchell, submaster of the George Putnam schools, secured the Keystone "600" set for each school and made sure that the "splendidly classified teachers' guide" (Gretchell, 1912, p. 321) by Zirbes was placed on each teacher's desk. Getchell noted that each slide or stereograph was accompanied by a synopsis or explanatory material, which made them ideal for classroom use. Getchell found the material particularly useful for the class Commercial Geography: "The boys and girls receive vivid visual impressions, almost as clear as if they had actually travelled to the foreign countries and seen the industries about which they are studying" (Gretchell, 1912, p. 321).

Austin Lescarboura, *The Cinema Handbook* (1921)

Yeaman mentioned *The Cinema Handbook* in his study but devoted scant attention to it. He confessed that he did not have a copy at hand and felt that it was of such little consequence that he did not attempt to locate a copy via inter-library loan. Fortunately, courtesy of I-Share and the Hathi Trust, I was able to locate and read an uploaded version of *The Cinema Handbook*.

Lescarboura, managing editor, *Scientific American*, took up motion pictures as a hobby in 1916. He wrote *Behind the Motion Picture Screen* (1919), which was intended as a

compilation of general information on the broad subject of motion pictures. No sooner did this treatise hit the bookstores than he "was veritably flooded with inquiries from even the farthermost corners of the world, asking for more definite information" (Lescarboura, 1921, p. x). In response to this demand, he penned *The Cinema Handbook* (1921). Lescarboura's book was not meant for educators or "for the professional picture man" (Lescarboura, 1921, p. xi). Rather "it is intended for the non-theatrical worker who wishes to make use of motion pictures for pleasure or for profit" (Lescarboura, 1921, p. xi). The book is dedicated to the technical aspects of motion picture equipment and film and not to their educational use. Yeaman (1985) thought that *The Cinema Handbook* essentially echoes the material contained in *Motion Pictures for Community Needs* by the Bollmans (1922), and chapters in Lescarboura's book such as "Selecting the Proper Type of Camera for the Job," "The Operation and Care of the Motion Picture Camera," "Projecting and Caring for the Positive Film," "The Why and Wherefore of Screen Advertising," and "The Acetate Film, or Motion Pictures Made Safe" (Lescarboura, 1921, pp. xii-vix) confirm this judgment. Lescarboura's *The Cinema Handbook* was not reviewed in any periodical indexed in JSTOR.

Sir James Marchant, *The Cinema in Education* (1925)

In the early 1920s, expert opinion in Great Britain had reached no consensus as to the educational value of motion pictures. To study this issue, a special sub-committee of the Cinema Commission of Enquiry, under the direction of Sir James Marchant, was tasked with carrying out a series of experiments in visual instruction. In one experiment, a sample pool of boys was shown a series of slides, five slides per minute, and asked to write an essay on what

they had observed. The test was replicated with a group of girls, and the results indicated gender differences regarding how the boys and the girls viewed the slides. As it turned out, the boys had memorized the subtitles, whereas the girls apparently ignored the subtitles and described the pictures they saw. In a second study, the committee viewed thirty films which in their opinion possessed educational value. After viewing the films, they concluded that the films were not compatible with present-day school curricula, and lesson plans would have to be revised if films were to be shown in the classroom (Marchant, 1925).

Sir James Marchant was a Free Church minister and not an educator. He previously published works such as *Theories of the Resurrection of Jesus Christ* (Marchant, 1899) and *Immortality* (1924). Regarding Marchant's project, Yeaman commented, "The National Council of Public Morals was concerned about the physical and moral renewal of the British race, nevertheless their report on the influence of the cinematograph on young people also received attention in this country" (Yeaman, 1985, p. 26). The attention it attracted, however, was not positive. "J.F." reviewed Marchant's study in *The Geography Teacher* in 1926. He wrote, "One opens this document with a feeling of anticipation, but closed it with a feeling of disappointment" (J. F., 1926, p. 343). He took a dim view of the quality of its research: "At least in form it is all that an account of scientific investigation, or any piece of teaching, ought not to be," and concluded, "a vast amount of the report and its appendices is quite irrelevant to the matter at hand" (J. F., 1926, p. 343).

The Research of Weber (1922a and 1928b), Freeman (1924), and Wood and Freeman (1929)

Yeaman included the research of J. J. Weber, Frank N. Freeman et al., and Wood and Freeman in his discussion on the textbooks of the Visual Instruction Movement. He felt that Weber's research "starts off with a kick of vitality by asking if visual aids have real value or are merely a fad" (Yeaman, 1985, p. 17) and concluded that Weber identified important issues, "but a common methodology has yet to be agreed upon in the field of visual instruction" (Yeaman, 1985, p. 19). The research supervised by Freeman (including F. D. McClusky's) "leaves the reader with the overwhelming impression, there is, indeed, value for the various forms of visual education as part of the parcels of skills and methods all instructors ideally should possess" (Yeaman, 1985, p. 24-25). *The Journal of Education* opined, "Not only is there no book of equal importance on this subject, but there is not likely to be one of equal importance in many a day" (*The Journal of Education*, 1924, p. 248). Yeaman was less impressed with the work of Wood and Freeman: "Although Wood and Freeman assure readers of their impartiality, it seems clear from the introduction that the object was to justify school funds spent on films and to sanction further expenditure" (Yeaman, 1985, p. 42).

J.E. Hanson, chief of the Bureau of Visual Instruction at the University of Wisconsin, contended that the research of Weber, Wood and Freeman, proved conclusively that pictures vitalized and enriched the curriculum. Hanson thought that the work of Weber (1928b), in particular, demonstrated that visual aids were especially beneficial to students with low

intelligence quotients (Hanson, 1930). In other words, “the more limited the intellectual capacity of pupils, the greater is the need for visual aids in their instruction” (Hanson, 1930, p. 204).

The Comprehensive Textbooks by William Johnson and Anna Verona Dorris

Many of the earlier monographs sought to demonstrate and justify the use of motion pictures in the classroom. The final two books of the period, *Fundamentals in Visual Instruction* by William Johnson (Johnson, 1927) and *Visual Instruction in the Public Schools* by Anna Verona Dorris (Dorris, 1928), discussed the entire range of visual aids and their use in a wide variety of classes.

William Johnson, *Fundamentals in Visual Instruction* (1927)

William Johnson moved from the chemistry classroom to professor of education at Loyola University in Chicago where he penned *Fundamentals of Visual Instruction* (Johnson, 1927). Prior to writing the book, Johnson taught courses in visual instruction and directed the practical use of visual aids in the classroom (Johnson, 1927). It was Johnson’s desire in writing *Fundamentals of Visual Instruction* “to get away from the philosophy of the experimenter and also from the type of book which the seller of visual equipment has to offer, usually a biased and limited treatment” (Johnson, 1927, p. 158).

Johnson painted a gloomy portrait of the teaching corps in the United States in the 1920s. According to Johnson, of the 600,000 teachers in the country, 30,000 had not completed the eighth grade; 100,000 had not gone beyond the eighth grade; and an additional

200,000 had not completed more than two years of high school. Further, 150,000 of the teachers had less than two years experience in the classroom, 75,000 two to three years experience, and 75,000 three to five years experience (Johnson, 1927). As a result, he maintained, “children learn largely through self-activity, that is, by their own responses” (Johnson, 1927, p. 6). He wrote his book to help teachers improve classroom learning with the aid of visual instruction.

In many regards, Johnson reiterated the emphases of his contemporaries. He described the equipment and its care (various types of projectors, film and slides, screens) and made specific suggestions for incorporating visual aids into instruction (articles made of ivory for a study of Africa or minerals when studying natural resources). He moved beyond the other authors in his discussion of the experiments of Weber and Freeman. In this regard, *Fundamentals in Visual Instruction* represented an early contribution of secondary literature to the Visual Instruction Movement. Johnson also appended a fairly extensive bibliography to his slender volume (including the books by Dench, Bollman and Bollman, Ellis and Thornbourgh, and Hollis) and concluded, “Visual instruction with modern devices will cease to be considered a fad, but rather the improvement and expansion of an educational procedure which is probably as old as civilization itself” (Johnson, 1927, p. 98).

Johnson anticipated many of Anna Verona Dorris’ remarks on the various types of visual aids and supplements her book by providing discussion on the maintenance of visual aids: stereopticons, slides, screens, opaque projectors, motion picture projectors, and film. Examples of Johnson’s guidance include the following:

Stereopticons. Stereopticons were used to project slides, and when not in use, the machine must be kept free from dust and moisture. Most stereopticons were equipped with a Mazda light bulb (400 to 1000 watts) and the lamps and lenses were to be wiped with a clean, damp cloth. Now and then, the on-off switch might malfunction, in which case the school engineer would need to be summoned for repair work. It was also vital that the wiring in the school was sufficiently heavy to prevent overheating. At the time Johnson wrote, black-and-white slides for the stereopticon could be purchased for $0.50 to $0.75 apiece. Since the projection of the slides was inverted, the individual slide should be placed upside down in the projector. He cautioned machine operators to avoid touching slides (except along the edges) because finger marks would be visible when the slide was projected onto the screen. Most slides at this time had a "thumb mark," the operator faced the screen and dropped the slide into the projector with his right thumb on the thumb mark, invariably assuring proper projection. As with the stereopticon, the slides should be cleaned occasionally with a soft, damp cloth. When not in use, the slides were to be stored in covered boxes with partitions between the separate slides (Johnson, 1927).

Opaque projectors. Opaque projectors project opaque objects such as pictures in textbooks and postcards. Johnson cautioned against the purchase of an opaque projector if a school already owned a stereopticon. If opaque projection was desired in the classroom, Johnson suggested purchasing a combination stereopticon-opaque projector (Johnson, 1927).

Motion picture projectors. Three classes of projectors were available in 1927: professional, semi-professional and portable. Schools generally purchased portable machines, which sold from $180 to $300. These machines came in a "suitcase" which was really a

fireproof container. In 1927, motion picture projectors had a throw of 30 feet, which made them ideally suited for classrooms. As opposed to the stereopticon, which was easy to operate, using the motion picture projector required extensive training. Should any questions arise regarding the use of motion picture projectors, Johnson suggested that the city department of visual instruction be consulted for instruction (Johnson, 1927).

Motion picture film and screens. Unfortunately, most of the film used in 1927 was highly flammable. To protect the film, Johnson suggested storing the material in metal containers, preferably in a cool place. Also, numerous types and sizes of screens were available in 1927. For classroom use, Johnson recommended a screen of five or six feet square (25–36 square feet) for projection from a distance of twenty to thirty feet. When not in use, the screen should be carefully rolled to prevent creasing or cracking. As with all devices, the screen must be protected from dust and moisture when not in use (Johnson, 1927).

Johnson took note of the research of Weber and Freeman et al. Despite their extensive efforts, Johnson feared that "the future development of the film is highly speculative" (Johnson, 1927, p. 98). However, he anticipated that motion picture projectors and stereopticons would soon be standard equipment in schools across the country.

Professional reception of Johnson. According to Yeaman, Johnson "believed that the needs of American learners change over time and so should schools" (Yeaman, 1985, p. 32). Johnson reviewed his own book in the *Phi Delta Kappan* (1928). He hoped his efforts presented "to the busy teacher a non-technical discussion of the how and why of visual instruction (Johnson, 1928, p. 158). Johnson hoped it was precise, informative, and practical

and “would render valuable service as a guide for the efficient use of visual aids in teaching” (Johnson, 1928, p. 159).

An advertisement for William Johnson’s *Fundamentals in Visual Instruction* proclaimed:

> This volume presents, for the first time, what has long been sought by thousands of educators; namely, a resume of visual education to date, in thoroughly readable form, that is at the same time Concise, Comprehensive, Authoritative. Dr. Johnson covers the outstanding results of research on this field, the various types of visual aids available, the methods of using each, together with suggestions for visual aids in the teaching of specific subjects, and clear-cut exposition of what should and should not be attempted by visual methods. The book is a stimulus and a time-saver for the progressive but busy teacher. (*The Educational Screen*, 1928b, p. 83).

McClusky had high praise for *Fundamentals in Visual Instruction*, particularly its discussion on “Equipment in Visual Instruction and Its Care.” According to McClusky, many teachers were ignorant about the educational benefits of visual instruction because they did not come into contact with its materials and equipment during their teacher training (McClusky, 1928) (see Chapter Four, “A Happier Way of Learning: Coursework and Professional Development”). He felt it was “little short of tragedy to find equipment covered with dust and never used simply because the teachers have not been taught to use and care for it” (McClusky, 1928, p. 549). McClusky also appreciated that Johnson took pains to familiarize himself with recent research in visual instruction. Johnson differentiated between “the results of more important experiments and the results of the crude variety lacking in scientific controls. This separation of the wheat from the chaff gives worth to the monograph” (McClusky, 1928, p. 548). McClusky concluded that *Fundamentals in Visual Instruction* was a credit to the Visual Instruction Movement (McClusky, 1928).

Anna Verona Dorris, *Visual Instruction in the Public Schools* (1928)

Anna Verona Dorris was in the vanguard of the Visual Instruction Movement, and a brief biography of her life and work was included above in Chapter Five, "Visual Instruction Services and Extension Bureaus." Anna Verona Dorris provided the most extensive discussion of the various types of visual aids in her *Visual Instruction in the Public Schools*. As the most commonly used materials in visual instruction, she listed excursions, photographs and prints, exhibits, graphic charts, maps and globes, stereographs, stereopticon slides, and motion pictures (Dorris, 1928).

The excursion. It was interesting to read that Davis considered excursions (or field trips, in modern parlance) an example of a visual aid. In her words, an excursion is "a lesson in which pupils are taken from the schoolroom to the actual source of information" (Dorris, 1928, p. 60). She highlighted four types of excursions:

(a) ***excursions for the study of geography (natural processes and physical features of the earth) as it affects human beings and their activities***. A trip to the shoreline, for example, provided the students with an opportunity to study the action of waves and the strata of cliffs. Climbing hills gave students a clearer conception of an area's topography. From elevated vantage points, students could observe valleys, deltas, harbors, etc. (Dorris, 1928).

(b) ***excursions to industrial plants***. Dorris wanted all students to visit mills and factories to gain first-hand information about the production and manufacture of food, clothing and shelter. She thought that when students saw workers toiling in hot, stifling

conditions, they would begin to think sympathetically about economic and social problems (Dorris, 1928).

(c) ***trips to civic institutions***. Dorris thought that trips to the state legislature provided training for good citizenship. There, students could view legislation being debated and gain a sense of appreciation for good government. A visit to the neighborhood fire department or police station reinforced the idea that these public protectors were friends of the student (Dorris, 1928).

(d) ***trips to zoological gardens***. Here, students could gain correct impressions of the physical appearance and habits of various animals. Unfortunately, in 1928, zoos did not seek to replicate the natural habitat of the animals, so excursions needed to be supplemented by other visual aids, preferably the motion picture (Dorris, 1928).

If an excursion was to be educationally successful, certain requirements had to be met. First, the teacher must be very familiar with the destination of the excursion and the phenomena to be studied. Second, the students should feel a need and desire for the trip. Third, the excursion must include a discussion on the ground regarding the lesson(s) to be learned. Finally, the teacher could only be responsible for a small group of students at one time. Dorris recommended that two or three competent mothers accompany the class to help the teacher supervise the students. Finally, upon returning to the classroom, it was imperative that both the teacher and the students make definite use of the information garnered. The key to a successful excursion was planning, organization, and supervision. In her experience, she found that excursions were easy to easy to arrange, convenient to use, and cost effective. The

sole limitation to the excursion pointed out by Dorris was that children should not to be allowed to wander aimlessly through museums without a stated purpose (Dorris, 1928).

Photographs and prints. Despite the technological advances evidenced by projection (motion pictures, lanterns, etc.), photographs, prints, and drawings remained invaluable teaching aids and, according to Dorris, were probably the most widely used of all visual materials. Students and teachers were already very familiar with photographs since most textbooks contained pictures. “Children must be taught to treasure pictures,” she advised (Dorris, 1928, p. 79) and bemoaned the fact that hundreds of pictures were carelessly torn out of the *National Geographic Magazine* every term and discarded. Pictures should be mounted (which, she claimed, increased their educational value fifty percent), classified, and properly stored. As with all visual aids, pictures had certain limitations: they were flat (two-dimensional), lacked color, and were static (they cannot show changes in activities or processes). Because of these limitations, it was necessary that teachers supplement flat pictures with other more realistic visual aids (such as excursions, exhibits, and models) (Dorris, 1928).

Graphs and pictorial charts. Closely related to photographs and prints were graphic charts, which Dorris considered a new symbolic language. The nearly universal use of charts in industry and business made it necessary that all students be able to interpret them (Williams, 1924). Dorris identified four types of graphs commonly used in textbooks: the bar, circle, curve, and pictorial chart. Charts were either readily available or could be created at minimal cost, and Dorris suggested that teachers could make these visual aids out of magazines such as *Ladies Home Journal*, *Good Housekeeping*, etc. (Dorris, 1928).

Exhibits, specimens, and models. Ideally, students gained concrete knowledge of the outside world from the first-hand experience of an excursion. If an excursion was not possible, Dorris said that the best substitutes were specimens, representations in miniature (models), and exhibits (which can be collections of specimens). Dorris contended that the value of such visual aids could not be over-emphasized, and she further explained that many public museums (the American Museum of Natural History in New York City, the Field Museum in Chicago, and the Milwaukee Public Museum, to name a few) had developed outreach programs to help meet the educational needs of students (Dorris, 1928).

As an example for her readers, Dorris summarized a lesson on squirrels taught to the first-grade class in the Franklin School, Berkeley, California, where the students spent three weeks constructing exhibits about squirrels for their nature study work. The students found pictures of squirrels, visited the library for stories about squirrels, composed chart stories about squirrels and their habitat, and brought in samples of squirrels' food (acorns). Dorris noted the educational benefits to the students in such a project: reading and language skills (an increased vocabulary, practice in silent reading, and composing entire sentences), writing (practice writing the letters *q* and capital *S*), arithmetic (counting the squirrels and comparing the number of ground squirrels to the number of tree squirrels), civics (a discussion of the habits of squirrels taught the students to look for and treasure their animal friends), art (the children learned to draw pictures of squirrels and acorns), music (the children learned three new songs about squirrels), physical education (the students learned the game "The Squirrel in the Hollow Tree"), and memory training (the children memorized the poem "The Mountain and the Squirrel") (Dorris, 1928).

The stereograph. Dorris insisted that the stereograph was the most valuable of all static pictures as a means of conveying vivid experiences. Unfortunately, she demonstrated the tenor of her time when she writes that stereopticons are “practically indispensable to effective teaching of retarded or defective children” (Dorris, 1928, p. 147). However, she cautioned that along with the motion picture, the stereograph was the least understood and most misused of all visual materials. She gave two reasons for this: (a) teachers had not been properly trained in its use and (b) it represented an entirely new experience for most children. In her own teaching experience, Dorris discovered that stereopticon slides were most effective when a few pictures pertaining to the same subject could be studied prior to recitation. She noticed two limitations to the use of stereographs. First, they were not suitable for group work, and second, as with pictures, they were static and could not show change in activity (Dorris, 1928).

Although stereographs represented a considerable expense, by 1928 they were available to most teachers. Dorris indicated that nearly all county libraries in California had stereograph collections and, additionally, many schools possessed them. However, stereograph collections must be kept up to date, coordinated with lesson plans, and were worthless if not properly catalogued. Ideally, each school system would establish a central collection and loan it as needed to local schools, and she suggested that teachers visit the local library to obtain additional pictures (Dorris, 1928).

Stereopticons (and lantern slides). Stereopticons projected large images and were particularly suited to illustrating scientific lectures. Distribution centers and extension bureaus reported that lantern slides were the most widely distributed visual aid. The slides were

inexpensive (from $.30 for black-and-white slides to $1.00 for color), widely available, and easy to use. Dorris thought that every school should own a lantern projector and suggested that two or three trustworthy pupils from each class be trained in its proper use. Lantern slides suffered from the same limitation common to all pictures – they were static. In addition, stereopticons and lantern slides require electricity, not a given in 1928 school buildings. Finally, not all schools could afford the expense of a projector, which ran between $45 and $65 for a small machine (Dorris, 1928).

Film slides (or still film). Closely related to the stereopticon were film slides, or film strips, which were still pictures presented on nonflammable motion picture film. These represented an improvement over lantern slides because they were more durable, cost one-tenth as much and were more convenient to use. (Dorris thought that the film projector was the most convenient and cheapest of any screen projection device available in 1928.) If a school already owned a stereopticon, a film slide attachment could be purchased for a few dollars. The main disadvantage to still film was that the pictures were arranged in a permanent sequence on the film, thus it was difficult to locate a particular picture on the roll (motion picture film could be cut and spliced). Also, Dorris found that the quality of the film and pictures in this type of visual material was far from ideal (Dorris, 1928).

Professional reception of Dorris. According to Yeaman**,** Anna Verona Dorris' position could be summed up as, "Excessively verbal learning founded on mediocre example reaches only half the students at best" (Yeaman, 1985, p. 35). *Visual Instruction in the Public Schools* was perhaps the most widely reviewed textbook of the Visual Instruction Movement, and the reviews were nearly unanimous in their approval (Johnson, 2008). B. A.

Aughinbaugh, state supervisor of visual instruction for Ohio, approved of the book because it was "something more than a trade catalogue, a compilation of useless statistics, or a doctor's dissertation padded up to book length" (Aughinbaugh, 1929, p. 297). Helen V. Brown wrote, "For the classroom teacher or school official who is planning to establish a visual education department in his school system this book should prove a valuable and practical aid" (Brown, 1929, p. 353.). F. Dean McClusky thought that contemporary educational literature was in need of such a book on visual instruction. His main criticism of Anna Verona Dorris' book was that it did not discuss thoroughly the research supervised by Frank N. Freeman (see Chapter Three, "A Happier Way of Learning: Research"). On the whole, according to McClusky, "the book is a timely, pioneering work and is to be commended for its solid, professional point of view. It deserves a good reception among teachers" (McClusky, 1929b, p. 468).

A note of gratitude. I began my study of the Visual Instruction Movement nearly ten years ago after reading *Women in Audiovisual Education: A Discourse Analysis* by Rebecca Butler (and not coincidently the director of this dissertation) which introduced me to Anna Verona Dorris. As I commented in the first chapter of this dissertation, Butler wrote that Anna Verona Dorris was in the vanguard of the Visual Instruction Movement and her textbook was an early contribution to it (Butler, 1995). I would like to conclude the body of this dissertation with a quote from B. A. Aughinbaugh: "*Visual Instruction in the Public Schools* will go down in the annals as the *first* book of its kind ever written, and it will be sometime before anyone does anything any better on this subject" (Aughinbaugh, 1929, p. 298). Thank you.

CHAPTER SEVEN

EPILOGUE

The purpose of this dissertation is to provide a historical narrative of the Visual Instruction Movement based on primary documents. Langlois and Seignobos viewed history as the accumulation of primary sources, which "are the traces which have been left by the thoughts and deeds of men (sic) of former times" (Langlois & Seignobos, 1909, p. 17). Tuchman (2004) pointed out two distinct ways of viewing documents: reproduction and representation. Representation includes postmodernist views that regard historical documents as texts that take sides in struggles for power. Reproduction includes empiricist epistemologies (such as the one employed here) that contend that historical documents accurately capture the essence of a particular time and place, in this case, the Visual Instruction Movement, 1918-1928. Content analysis (Berelseon, 1952) of the primary documents of the Visual Instruction Movement identified professional journals and organizations, research studies, coursework and professional development, visual instruction departments and extension services, and textbooks as constituent components of the movement (Saettler, 2004; Yeaman, 1985).

The Visual Instruction Movement gave rise to two national organizations devoted to visual instruction: the National Academy for Visual Instruction (NAVI) and the Visual Instruction Association of America. During the decade 1918-1928 several journals entirely

devoted to visual instruction appeared. Early titles included *Reel and Slide* (later *Moving Picture Age*), *The Screen*, *Educational Film Magazine*, *Visual Education*, *Visual Review* and *The Educational Screen*. *The Educational Screen,* which became the first official organ of NAVI, began publication in 1922 and by 1925 was the only visual instruction journal still in print.

Three comprehensive cycles of research into visual education were carried out during the Visual Instruction Movement. J. J. Weber (1922a) was the pioneering investigator who used pictorial media rather than verbal tests to measure the results of learning (Saettler, 2004). Weber thought that the problem of visual aids had become sufficiently important to warrant serious research. The second individual who conducted extensive research into visual instruction during the Visual Instruction Movement was F. Dean McClusky. He claimed that the materials of visual education could be divided into three groups: (a) objects in their natural settings, (b) objects taken from their natural settings, and (c) representations of those objects, whether by means of movies, stereopticons, or photographs, etc. (McClusky, 1924b). The third main cycle of research in visual instruction and educational technology conducted during the Visual Instruction Movement was supervised by Frank N. Freeman (1924). On April 1, 1923, Freeman obtained a $10,000 grant from the Commonwealth Fund to study educational motion pictures.

Chapter Four of this dissertation looked at the provisions made for teacher training and professional development during the Visual Instruction Movement. Anna Verona Dorris (1923a) and F. Dean McClusky (1925) surveyed the state of teacher training in the use of visual aids in U.S. colleges, universities, and normal schools, thereby offering a glimpse of

the types of coursework in visual instruction available to teachers. The primary documents also described various opportunities for professional development around the country, both formally (teachers' institutes and conferences in visual education) and informally (in terms of monographs and articles).

The primary documents of the Visual Instruction Movement also describe a variety of visual instruction departments and extension services: the Visual Instruction Division of the New York State Department of Education (a state agency); the Visual Instruction Department of the Berkeley, California, Public Schools (a school district); the Pedagogical Library in Philadelphia, Pennsylvania, and the Department of Visual Education of the City of Detroit, Michigan (two urban or civic entities); and the Visual Instruction Service of Iowa State College in Ames, Iowa, and the Visual Instruction Bureau of the University of Pittsburgh, Pennsylvania, (two university services). A. P. Hollis (1924c) presented an overview of these departments during the middle years of the Visual Instruction Movement in *Visual Education Departments in Educational Institutions*, a bulletin published for the United States Bureau of Education.

Andrew Yeaman identified thirteen visual education textbooks from the 1920s (Yeaman, 1985), which are treated above. In many respects, the texts identified by Yeaman are the book-length primary documents of the Visual Instruction Movement. The reading of these books demonstrates that the earliest texts often adopted an apologetic slant regarding the use of motion pictures in the classroom (Dench, 1917) and discussed the mechanical and technical aspects of motion picture projection (Bollman & Bollman, 1922; Ellis & Thorborough, 1923). By the close of the Visual Instruction Movement, motion pictures had

proved their worth in the curriculum. Subsequent texts were thus more comprehensive and concerned with incorporating a wide variety of visual material into lesson plans (Dorris, 1928; Johnson, 1927). These books were written by practitioners of visual instruction for educators.

Alma Viola Delaney Discovers "A Happier Way of Learning": A Fictional Narrative of a Public School Teachers in the 1920s

In this epilogue, the Visual Instruction Movement (1918-1928) is described through the eyes of a public school teacher in service during the 1920s. At the beginning of the Progressive Era, 70% of elementary and secondary school teachers were women, and this number increased to 79% on the eve of the First World War (Whitescarver, 1996). Because the top names for females born in the United States during the decade 1900-1909 include Alice, Agnes, Alma, and Viola (Social Security Administration, 2014), I named our fictional teacher Alma Viola Delany (AVD).

Alma Viola Delany was born in 1900 in Boston, Massachusetts, and she decided to become an elementary school teacher when she finished high school in 1918. At that time, a four-year baccalaureate degree was not a prerequisite for elementary school teachers (Johnson, 1927). High school students such as AVD who aspired to teach elementary school in Boston had three educational options available to them in 1918: a licensure examination, a course of study at a two-year normal school, or a course of study at a four-year post-secondary school. Students who completed a four-year course in high school and obtained a high school diploma could sit for the teacher's licensure examination in June of the year of their high school graduation. Alma Viola Delaney knew several young women who followed

this route before becoming teachers. The course of study these would-be teachers followed included four years each of English, mathematics, a foreign language, physical education, and two years each of history and drawing (Manny, 1915).

All of the candidates were examined on the subjects they studied in their fourth year of high school. Teaching candidates who received an “A” or a “B” in each subject of the first three years study were excused from examination in these areas. Alma Viola Delaney knew several young women who followed this route before becoming teachers.

Alma Viola Delany and her high school classmates could attend five schools in the state of Massachusetts which offered two-year teachers’ training courses: Fitchburg, Hyannis, Lowell, North Adams, and Westfield State Normal Schools (and in the state of Massachusetts only the West Adams State Normal school offered extension work). Each of these schools required a high school diploma for admission. The enrollment in the Fitchburg State Normal School was 194 women and 72 men. The state normal schools in Lowell, North Adams and Westfield enrolled 197, 88, and 200 women respectively and not a single man (Phillips, 1924). However, it was not always a given in 1921 that students in normal schools in the United States had completed high school. The state normal schools in Montgomery, Alabama; Dickinson, North Dakota; and Glenville, West Virginia, for example, only required an eighth-grade education of prospective students (Phillips, 1924).

Most of the students who enrolled in two-year normal schools were training to become elementary school teachers. Normal schools offered courses such as “Technics” (a study of the various forms of handiwork and manual arts), “Lower Grade Methods” (or “Kindergarten Teaching”) and “School Management” (Vandewalker, 1924). Alma Viola Delany was

tempted to enroll in a normal school. The cost to attend such a school in Massachusetts was negligible in 1921-22. Total receipts for the 200 women enrolled at the Westfield campus was $275 for tuition and $25,685 for room and board (Vandewalker, 1924).

After considering her options, however, Alma Viola Delany decided to attend a school that offered a four-year program of teacher preparation. Six schools in Massachusetts offered four-year programs (beyond secondary school) of teacher education: Boston Normal School and the Massachusetts Normal Art School, both in Boston, and the state normal schools in Bridgewater, Framington, Salem, and Worcester (Phillips, 1924). Not one of these schools offered extension courses or summer classes.

Alma Viola Delany decided to attend Boston Normal School. Her course of study included “English Composition” and “Physical Education,” as well as classwork in history and political science. In contrast to her colleagues in two-year normal schools, Alma Viola Delany took a class in “Education” each semester during her four-year program. The second semester of her senior year was devoted to “Teaching” (student teaching today) (Vandewalker, 1924). This experience aimed to (a) present a survey of primary curriculum in primary education, (b) analyze the classroom and teaching experiences of student teachers in terms of educational principles, and (c) provide opportunities for student teachers to organize and present projects dealing with significant phases of the curriculum (Vandewalker, 1924). As a requirement for her degree, Alma Viola Delany was expected to spend 702 hours in practice teaching (Phillips, 1924). By comparison, Illinois State Teachers College in DeKalb, Illinois, required 300 such hours and Illinois State Normal University in Normal, Illinois, required only 135 hours (Phillips, 1924).

Regardless of which type of school Alma Viola Delany and her colleagues attended, they likely had no opportunity for formal coursework in visual instruction. At the time they were finishing their studies, Anna Verona Dorris surveyed normal schools, teachers' colleges, and universities and discovered that only four normal schools and teachers' colleges listed full-credit courses in visual instruction during the regular academic year (Dorris, 1923a). Also, doctoral work in visual instruction was nearly unheard of in the early years of the 1920s. J. J. Weber's Columbia University doctoral dissertation, *Comparative Effectiveness of Some Visual Aids in Seventh Grade Instruction* (1922), was the "first dissertation upon visual education to be accepted for the doctor's degree at a great university; this work is a highly significant contribution to the field in which very little research of serious character and scholarly worth has been done" (*The Educational Screen*, 1922a, p. 9).

When Alma Viola Delany began teaching in the Boston Public Schools in 1922, she had a large library of still pictures available to her for use in the classroom. She was curious about the pedagogical use of motion pictures, but she could find very few educational films suitable for classroom use (Gregory, 1922). The films that she previewed were generally salvaged theatrical, industrial, government, or welfare films (Saettler, 2004). In addition to this lack of suitable material, Alma Viola Delany faced two further issues that made screening motion pictures in Boston classrooms difficult: (a) the difficulty of operating the machine, and (b) state regulations regarding the operation of moving picture projectors (Bollman & Bollman, 1922; Committee on Instruction by Means of Pictures, 1913).

Alma Viola Delany read a report by the Committee on Instruction by Means of Pictures in Boston issued in 1913 to help perplexed principals and grade-school teachers such

as herself select materials for visual instruction. The committee emphasized the use of lantern slides, which it maintained possessed several advantages over still pictures:

- Lantern slides could be seen by all members of a class simultaneously.
- Lantern slides were large enough to be studied in detail.
- The teacher was able to instruct the class and explain the content of the slide while the students were watching it.
- Pupils could study a particular slide and discuss it with classmates (Committee on Instruction by Means of Pictures, 1913).

Alma Viola Delany read in the committee's report that lanterns slides and stereoscopes could add a third dimension to a flat picture, thus providing students with the opportunity of studying the natural distance between the objects portrayed in the picture.

Nearly all of the schools in Boston had a "Keystone Primary Set" of lantern slides and nearly every teacher owned a copy of Laura Zirbes' *Teachers' Guide: Keystone Primary Set* (Gretchell, 1913). Alma Viola Delany learned that there are two distinct methods for using the "Keystone Primary Set:" the lecture method and the recitation method. When Alma Viola Delany used the lecture method, she arranged the slides and provided comment. When she used the recitation method, Alma Viola Delaney flipped the classroom – she instructed a student to do the talking. The student was given a slide ahead of time and directed to find supplementary material in the library. The student was to tell the class what he or she learned. After the student used the projector, Alma Viola Delany was concerned regarding "the promiscuous handling of the stereoscopes by the pupils" (Committee on Instruction by Means of Pictures, 1913, p. 8), so she wiped it down with a solution containing one part denatured

alcohol and three parts water. Alma Viola Delany preferred the recitation method. She decided that it was “perhaps the very best practice in oral recitation that can be given” (Committee on Instruction by Means of Pictures, 1913, p. 106).

As were many teachers in the early 1920s, Alma Viola Delany was a member of the National Education Association (NEA) (Fenner, 1945). Through her membership in the NEA, Alma Viola Delany became acquainted with F. Dean McClusky’s (1925) survey of the administration of visual education. McClusky’s survey advocated a comprehensive program in visual education. Alma Viola Delany was excited to learn that such a program would focus on the use of motion pictures in the classroom and cover topics such as the theory and technique of using films in teaching, how to obtain films, and instructions on how to operate a motion picture projector. Alma Viola Delaney found several textbooks which treated these topics. She consulted Austin Lescarboura’s *The Cinema Handbook* (1921) for instructions on operating a motion picture projector and *Motion Pictures for Community Needs* by Henry and Gladys Bollman (1922) and *Motion Pictures in Education* by Don Carlos Ellis and Laura Thornborough (1923) for advice on the classroom use of motion pictures. Anna Viola Delany found the text by the Bollmans (1922) particularly helpful because it listed startup costs and legal requirements for screening movies in classrooms in Massachusetts.

The pedagogical possibilities presented by motion pictures piqued Alma Viola Delany’s interest in visual instruction. In order to keep up with developments in the field, she subscribed to *The Educational Screen*, which cost $1.00 for a year’s subscription (*The Educational Screen*, 1922e, p. 5). There, she learned that Yale University was producing the *Chronicles of America*, “the first really significant step forward utilizing the motion picture

for the higher purposes of education" (*The Educational Screen*, 1922d p. 18). After reading the announcement in *The Educational Screen*, Alma Viola Delany decided she needed advice regarding visual education in general and the classroom use of motion pictures in particular. She learned that the National Academy of Visual Instruction planned "for highly entertaining sessions, meeting the New Demand for Visual Education" (*The Journal of Education*, 1923) at its annual meeting in Cleveland, February 27-29, 1923.

Anna Viola Delany was part of this new demand for visual education, and so she decided to attend the annual meeting of the National Academy of Visual Instruction. In no small manner, Anna Viola Denlany's attendance at the Cleveland meeting of the National Academy of Visual Instruction cemented her professional interest in visual instruction. In the afternoon of February 27, 1923, she heard F. Dean McClusky and Frank N. Freeman preview their research and elaborate on assessment procedures for testing the educational utility of moving pictures. Alma Viola Delany was intrigued by the research of McClusky and Freeman. When their research was published the year after the Cleveland meeting, she obtained a copy of it from the Harvard University Library. Anna Viola Delany was particularly impressed with McClusky's lesson "Waste Disposal in Cities," which took as its background the sewage systems of Brockton and Boston, Massachusetts (Freeman, 1924). She thought that she could use this lesson in her own classroom.

Two days later, February 29, 1923, she attended several other sessions devoted to motion pictures: "Material for Film Instruction in City Classes" by E. H. Reeder, "Program for Statewide Film Instruction" by Charles Roach, and "Cooperation in the Foreign Film Loan, Plans for Practical Operation" by Charles Toothaker. When the sessions were over,

Alma Viola Delany was able to see demonstration lessons on the use of films and slides (*The Educational Screen*, 1923a). After attending the Cleveland meeting, Alma Viola Delany agreed with the opinion expressed in *The Educational Screen* that the National Academy of Visual Instruction's conference was thoroughly academic but "did much to bring down the visual idea from the realm of vague theory to vivid reality" (*The Educational Screen*, 1923a, p. 101).

The Cleveland meeting also introduced Alma Viola Delany to a second national organization concerned with visual instruction: The Visual Instruction Association of America (VIAA). The Visual Instruction Association of American presented no formal program at the Cleveland meeting but screened educational movies in a large auditorium (*The Educational Screen*, 1923c), which Alma Viola Delany attended. She saw that the National Academy of Visual Instruction was dominated by representatives of college and university extension services from the Midwest, whereas the VIAA grew out of the extension bureaus in the state of New York. Anna Viola Delany felt more comfortable with the work of the Visual Instruction Association of America because it reflected the practices of extension bureaus on the East Coast, offered membership to commercial producers of films (something proscribed in the constitution of the National Academy of Visual Instruction), and attempted to solve various educational problems of school teachers (*Moving Picture Age*, 1921b).

The next summer (1924) Alma Viola Delany decided to take coursework in visual instruction. Extension work was not widely available in Massachusetts, so she decided upon a summer course. Fortunately, *The Educational Screen* announced a roster of summer coursework to be offered that summer. Alma Viola Delany was tempted to take "Visual

Instruction" at Cornell College in Ithaca, New York, because it was taught by A. A. Abrams, who was well known on the East Coast because of his work at the Visual Instruction Division of the New York State Education Department and his publications in *The Educational Screen* (*The Educational Screen*, 1924b). However, the course he planned to offer during the summer, 1924 concentrated on "the psychological basis for the use of visual aids in instruction" and not on motion pictures (*The Educational Screen*, 1924b). Alma Viola Delany decided to enroll in Laura Thornborough's "Visual Aids in Education," to be taught at George Washington University in Washington, D.C. because of its emphasis on motion pictures. The course description read:

> The course is planned along eminently practical lines and is intended to help students toward the solution of the innumerable problems of visual education. While consideration will be given to the use of the slide, stereograph and other visual aids, special attention will be given to answering the questions – when, where and how shall motion pictures be used in teaching? The course will consist of lecturers, round table conferences, visits to motion picture laboratories and exchanges, practical demonstrations and film lessons, with screenings of educational films of various types. (*The Educational Screen*, 1924b, p. 217)

After taking a course on visual education, reading the research of Weber, McClusky, and Freeman, and consulting the textbooks of Bollman and Bollman (1922) and Ellis and Thornborough (1923), Alma Viola Delany felt confident that she could incorporate motion pictures into her classroom lessons. One challenge remained: where to obtain suitable material? Fortunately, *The Educational Screen* published an extensive list of film distributors as well as extensive reviews of films suitable for classroom use. One distributor stood out to Alma Viola Delany: George Kleine from Chicago, Illinois, who rented films to schools at extremely low prices (Saettler, 2004). Later, Alma Viola Delany would consult A. P. Hollis'

Motion Pictures for Instruction (1926). Hollis compiled three separate film libraries for schools: one each for 40 films (which permitted the screening of one film per week), 80 films (two per week), and 120 films (three per week). Alma Viola Delany also consulted Hollis for contact information for film distributors.

Eventually, Alma Viola Delany would read *Visual Instruction in the Public Schools* by Anna Verona Dorris (Dorris, 1928). Alma Viola Delany discovered that Dorris' book contained the most extensive discussion yet of the various types of visual aids. She thoroughly appreciated Dorris' work because it discussed stereographs and lantern slides in addition to motion pictures. However, little was she to know in 1928 that *Visual Instruction in the Public Schools* would be the last textbook published during the Visual Instruction Movement and the last textbook published on visual instruction for the next four years (Saettler, 2004). As a woman with a professional interest in visual instruction, Alma Viola Delany admired the accomplishments of Anna Verona Dorris. Dorris chaired a national committee (the National Education Association's Department of Visual Instruction), was the head of an extension bureau (the Visual Instruction Department of Berkeley, California), taught geography in a teachers' college (San Francisco State Normal College), and authored the most extensive textbook on visual instruction that was available in 1928 (*Visual Instruction in the Public Schools).* Alma Viola Delany thought, "Some day…."

A Happier Way of Learning: A Contribution to the History of Educational Technology

A primary contribution of this dissertation to the literature on the history of American educational technology is its use of primary documents in constructing a narrative of the

Visual Instruction Movement. The Visual Instruction Movement is rarely mentioned in the histories of educational practice, and as Paul Seattler (2004) points out, the term "visual instruction" does not even appear in Lawrence Cremin's history of American education, *The Transformation of the School* (Cremin, 1961). Saettler devotes a chapter to the Visual Instruction Movement, and in no small part, I depend upon Saettler's book to provide the categories for the content analysis of the Visual Instruction Movement undertaken in this dissertation: journals and professional organizations, research in visual instruction and educational technology, coursework and professional development, and visual instruction departments and extension services. To this list, I added the category of visual instruction monographs and textbooks.

This dissertation goes beyond Saettler's discussion of the Visual Instruction Movement by its use of primary sources. Saettler describes the research of Frank N. Freeman (1924) as "the University of Chicago Experiments" (Saettler, 2004, p. 224). His coverage of Freeman's experiments is contained in a chapter entitled "Beginnings of Media Research: 1918-1950," not discussed within the context of the Visual Instruction Movement. Saettler devotes less than a page to this early research in visual instruction and neither cites an individual experiment nor mentions the research of F. Dean McClusky (Freeman, 1924). In Chapter Three of this dissertation, I discuss and cite the fourteen experiments carried out by McClusky and the twelve University of Chicago experiments supervised by Frank N. Freeman.

Saettler notes that an important early aspect of the Visual Instruction Movement was its development in city school systems (Saettler, 2004). His discussion, however, omits

treatment of the Visual Instruction Department of Berkeley, California, under the leadership of Anna Verona Dorris. I include an extensive treatment of Anna Verona Dorris' work in Berkeley and expand the discussion of urban extension services to include the Pedagogical Library and Board of Public Education in Philadelphia, Pennsylvania, as well as the Department of Visual Education of the City of Detroit, Michigan.

Finally, Saettler devotes a single paragraph to early textbooks in visual instruction. He mentions in passing the works by Austin Lescarboura (1921), Henry and Gladys Bollman (1922), Don Carlos Ellis and Laura Thornborough (1923), A. P. Hollis (1926), William Johnson (1927) and Anna Verona Dorris (1928) (Saettler, 2004). In this dissertation, I devote an entire chapter to the topic of visual instruction textbooks and also include the reception afforded these works in the professional literature of the day.

Further Research

I began my research into the Visual Instruction Movement with my 2008 article, "Making Learning Easy and Enjoyable: Anna Verona Dorris and the Visual Instruction Movement, 1918-1928" (Johnson, 2008). The career of Dorris and her contributions to the Visual Instruction Movement are included in several chapters of this dissertation. Based on my examination of many of the primary documents of the Visual Instruction Movement, I conclude that the only other individual with comparable experience in the visual instruction during the Visual Instruction Movement was F. Dean McClusky. McClusky published in *Moving Picture Age* (1921) and *The Educational Screen* (1925), conducted research into the different methods of visual instruction (1922), taught coursework in visual instruction

(1924a), surveyed visual instruction departments and extension bureaus (1924b), and reviewed Anna Verona Dorris' book, *Visual Instruction in the Public Schools* (1929). Despite this significant presence in the history of American educational technology, McClusky's work has received no full-length scholarly treatment, either in a book or as the subject of a dissertation. Subsequent research into the history of American educational technology needs to account for the contributions of F. Dean McClusky to the history of the discipline.

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