Homeschooling Education: Longitudinal Study of Methods, Materials, and Curricula

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Abstract

In a comprehensive study of two-hundred fifty homeschooling families in urban, rural and suburban areas of the Commonwealth of Pennsylvania, the researcher examined all aspects of the instruction, materials and curricula employed by the families in a ten-year longitudinal study from 1998 through 2008. The researcher conducted interviews and gathered questionnaire data from: 1) all of the families in the sample in 1998, and 2) those families still residing within the same designated district in 2008. Significant changes occurred in the demographical data and the families' instructional programs. Within the methods/materials/curriculum data, increases occurred in the: 1) use of prepared curricula (religious and non-religious), 2) the acquisition of more textbooks from local school districts, 3) use of the public library, 4) technology applications, 5) consultation with instructional specialists/teachers, and 6) greater networking with other homeschooling families. In their pooling of resources, sharing of expertise, and communicating with other homeschooling families, the homeschoolers had upgraded and diversified their choices of pedagogy and their modalities for delivering instruction.

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Historical Background

Homeschooling has existed as one of the oldest forms of education. Early Judeo-Christian records established it as a focus within the family, and its prevalence parallels the spread of Christianity in Western society (Power, 1970). Both the Native Americans and the Puritan immigrants had utilized home education, and Rakestraw and Rakestraw (1990) noted that the earliest American education was a family-based religious effort. As the colonies grew, the Founding Fathers recognized the need for educating the masses in political and religious tenets, and the common schools were born in the 1820s (Gorder, 1990; Gutherson, 1992).

By the late 19th century, the Industrial Revolution witnessed the exploitation of child labor and the dissolution of the strong family unit. New compulsory attendance laws addressed the need for education and the protection of children. As Rakestraw and Rakestraw (1990) postulated, the goals for public education "reflected national concern over (a) advancing the ideals of, and preserving, a democracy, (b) economically strengthening the country, and (c) equalizing opportunity among races and classes of people" (p. 69). Many parents objected to the transfer of educational power from family to state, and the enactment of the last compulsory attendance law in 1918 took their homeschooling efforts underground.

Legal decisions during the 1920s, commonly referred to as the Lochner Trilogy, restored some power to parents with respect to their children's private education (Tompkins, 1991). After an interlude of almost 50 years, the Yoder decision (Wisconsin v. Yoder, 1972) once again addressed parental rejection of compulsory public school attendance on the grounds of personal choice and religious right. As the Yoder court case permitted home education for just cause, more homeschooling families brought their cases and causes to court. Although statutory provisions for home education existed within certain states, others clearly refused to acknowledge homeschooling as an acceptable form of alternative education. As Avner (1989) asked, "Does the state responsibility for education stand in the way of parental rights of privacy, due process and freedom of religion" (p. 31)? Bitter legal disputes ensued and parents accepted rejection, alienation, and incarceration for their homeschooling choices.

With the Russian launch of Sputnik in the late 1950s, national dissatisfaction with public education surfaced and many parents sought educational alternatives. Reform efforts of the 1960s brought little to assuage the concerns of this element of disenchanted parents, and sincere homeschooling efforts were revitalized across the country. Researchers Knowles, Marlow, and Muchmore (1992) addressed the infant stages of the movement and believed that "despite such claims during the years between 1850 and 1970, relatively few children in the United States were educated at home by their parents" (p. 201).

With the legalization of homeschooling in all 50 states by 1989, rapid changes occurred within the movement across the United States. Some states have supported this alternative form of education in very specific ways, and other states have not. It is this point of departure that has made the discussion of state-by-state requirements into a hornet's nest. Within the Commonwealth of Pennsylvania, specific regulations dictate procedures that are consistently monitored on school district levels. Children whose families are not adhering to these prescribed legal requirements are routinely ushered back into their local public school. This is not the case in many states where a single phone call to the local school district secures permission for homeschooling. These inconsistencies have caused many to decry the concept of homeschooling and its poorly regulated status in many states. For this reason many critics of homeschooling are well founded in their objections to programs that are not properly supervised by state agencies and local school districts. Situations exist where parents lack the proper education, maintain unacceptable programs, fail to provide adequate instruction, and have limited or no accountability (Hanna, 1996). In contrast, there are serious questions being raised about the child's rights and power within the program itself and the rights of parents in crafting a curriculum that may or may not be in the child's best interests (Waddell, 2010).

The Phases of Homeschooling

Within a comprehensive overview of homeschooling, Knowles et al. (1992) have outlined the movement in the United States as passing through five distinct phases: (1) contention, (2) confrontation, (3) cooperation, (4) consolidation, and (5) compartmentalization. Although specific years are not associated with each phase, the categories represent the different growth stages within the country. In the same vein, some homeschoolers reflect specific growth phases more than others, as the suggested five phases do not speak to individual attitudes (Hanna, 1996).

Parental Motivation

With the rapid increase in the number of homeschooled children (estimated at 2,000,000 by the year 2008 (Ray, 2008), came a greater need to research and monitor the specifics associated with the movement, including the following: demographics and parental motivation. Research studies in estimating the homeschooled population have been conducted by Lines (2000), Ray (2006), and other government agencies and research units. For an examination of the ideological and pedagogical motivation of homeschooling parents, Van

Galen (1986, 1991) examined these factors within a specific population in the Southeastern part of the country. Her results have become a hallmark for differentiation between the motivating factors for the two distinct schools of homeschooling parents: the ideologues and the pedagogues.

In the Van Galen (1986, 1991) seminal study, the ideologues chose homeschooling for two distinct reasons: (1) an objection to public/private school teachings, and (2) a desire to strengthen the parent–child bond. These parents were Christian fundamentalists, subscribed to specific conservative beliefs/values, championed the role of the family, and decried the absence of moral teaching in formal institutionalized schooling. Their orientations and personal identity arose from an individual call by God to teach their children, and they vehemently opposed regulations that sought to undermine their efforts. In the execution of their homeschooling programs, Van Galen (1991) noted that ideologues modeled the formalized classroom environment without the harmful curriculum. Children progressed through workbooks/textbooks, worked in time-defined schedules, experienced extrinsic motivations, and learned values espoused by their parents. Although the ideologues desired to be more controlling of their children's education, they oddly enough relied on publishers to provide materials/instruction for their children's education (Knowles et al., 1992; Riemer, 1994; Van Galen, 1991).

Conversely, Van Galen (1991) classified the parents who taught their children for pedagogical reasons in a second category, the pedagogues. Many of these parents possessed an educational background and objected strongly to what they perceived as poor teaching in schools. These pedagogues encouraged individuality and creativity in learning and did not shackle the time and efforts of their children. Their personalized and libertarian approach to home education in the spirit of John Holt was activity rich and intrinsically motivated. The learner took a central role as the pedagogues created a holistic, experiential, and unstructured learning laboratory that bore little resemblance in form and function to the public schools. As Lubienski (2003) noted, "Debates over curricula and pedagogy highlight the messy and contested nature of schooling in the public realm, but the simple and efficient solution of homeschooling only withdraws from such public discussions, privatizing and enclosing the common benefits of educational endeavours" (p. 176).

Homeschooling Curricula and Materials

Parents may choose appropriate materials from a variety of sources and modified commercial products as needed for the children (Knowles, Muchmore, & Spaulding, 1994; Marlow, 1994; Riemer, 1994; Van Galen, 1988). Curricula became as creative as parents chose to be, with choices ranging from printed

materials to computer-generated programs, libraries/museums, field trips, resource facilities, networking opportunities, and public school resources (Hanna, 1996).

Those who choose homeschooling today have many more choices available to them than the homeschoolers of the 1970s. More than 70 publishers currently supply various kinds of materials, and parents can purchase appropriate educational books in local bookstores (Kuznik, 1994) or online (Hanna, 1996). For those ordering curricular kits of textbooks, workbooks, and/or testing programs, Calvert School, Christian Liberty Academy, Rod and Staff, Alpha Omega, A Beka and Family Centered Learning Alternatives rank as some of the larger suppliers (Knowles et al., 1992; Van Galen, 1988). Within Mary Pride's *Practical Home School Magazine* and the same publisher's *Guide to Education Software* are lists of durable packages and options. Also, for those homeschoolers enjoying public school access, there are computer and science labs and other district resources and opportunities (Hanna, 1996). With the addition of computers and the Internet to many programs, parents may access close to 1-million different links with resources, printed materials, or curricular support. As Isenberg (2007) noted, "the establishment of a legal right to homeschooling combined with the expansion of the Internet to energize a growth spurt in homeschooling in the mid-1990s" (p. 389). Homeschooling vendors and suppliers have even tailored materials to accommodate individual motivations or philosophical ideologies (Hanna, 1996). For many "homeschooling represents the apex of customization in education" (Reich, 2002, p. 56). Taking all of this into consideration, there is something for everyone.

For homeschoolers on limited budgets, the cost of materials and programs may appear cost prohibitive. Michael Farris, president of the National Center for Home Education, reported that a parent should expect to spend US$300 to US$400 per year for each student (as cited in Davis & Quillen, 1993) and cost could exceed US$1,000 per child for sophisticated programs (Preiss, 1989). In her writings Van Galen (1988) noted that Goodlad found that homeschooling parents were moving more rapidly toward engaging and integrated curriculum than formal education institutions have done. The area in which many home-educating parents have encountered difficulty is in purchasing from companies selling only to established schools or in large quantities. Improved networking among families has addressed this issue favorably in recent years (Mueller & Brunetti, 1989). Both John Holt and Raymond Moore have published newsletters/magazines that assist homeschoolers in networking efforts, curriculum selection, and support services. The Holt publication *Growing Without Schooling* and *The Moore Report* provide similar reference points for parents and bring information to national and international readers (Knowles et al., 1992). Many critics believe that

homeschooling parents are working in isolation, but, in reality, more than 70% of these families belong to homeschooling organizations that provide support and advice (Litcher & Schmidt, 1991). Among these is the Home School Legal Defense Association that provides legal expertise, support, and materials to a growing national membership (Lines, 1987). For the technologically versed homeschooler, *America Online* features a homeschooling forum, lesson-planning assistance, tutoring, legal information, and networking information (Riemer, 1994). A variety of publications, services, resources, and networks exist for homeschooling families who are versatile and wish to instruct their children in a state-of-the-art manner.

Purpose of the Study

The current study examined 225 homeschooling families within 25 five public school districts within the Commonwealth of Pennsylvania. This state was selected for two distinct reasons: (1) Pennsylvania represents one of the seven most highly regulated homeschooling states within the United States, thereby affording more accurate and up-to-date data to the researcher, and (2) this researcher resides within the state and had previously examined homeschooling programs within Pennsylvania. The state demographics indicate a diversified blend of urban, suburban, and rural public school districts, and the sample for the study clearly reflected each of these distinct areas. The purpose of this study was to determine (a) the demographics of this population with respect to (i) the number of homeschooled children, and (ii) the educational background of the instructing adult(s); (b) the methods, materials, and curriculum utilized for homeschooling; and (c) the basic motivation(s) for homeschooling this population of students as related to the research of Van Galen (1986).

Research Hypotheses

In her research, Van Galen (1991) identified two very different philosophical and ideological beliefs that support homeschooling as a viable and appropriate alternative form of education. According to this research and these predispositions among parents, the parents within this study should emerge as clearly reflecting either the ideological or the pedagogical school of thought. Another expectation suggests that methods and materials utilized by homeschooling parents and homeschooling students across the pedagogical and ideological motivations will differ greatly with some parents employing different media for transmission of lessons/instruction.

Method

Design and Instruments

The study was a nonexperimental descriptive research design (Best & Kahn, 1993) in which the researcher gathered both qualitative and quantitative data. A between-subjects approach examined the following: (a) the demographics of the homeschooling families within the study, (b) the methods/materials/ curricular choices utilized by each homeschooling family for instruction, and (c) the motivation (either pedagogical or ideological; Van Galen, 1991) behind each family's choice of homeschooling to determine what similarities and differences existed.

Validity and Reliability

In order to ensure the internal validity of the study, the following strategies were used: (a) triangulation of data (comparing of the district data, interview responses, and questionnaire information), and (b) member checks (data were confirmed by participants). In the consideration of external validity, the study was not to be generalized to a larger population within or outside the Commonwealth of Pennsylvania. Whereas the statewide composition of school districts may be classified as urban, suburban, or rural, diverse socio-economic, multicultural and demographic factors impact and distort the possible generalizations at this time.

   Merriam (1986) suggested that "reliability in a research design is based on the assumption that there is a single reality which if studied repeatedly will give the same results" (p. 170). For this reason reliable data were sought by posing the identical questions in a variety of forms.

Participants

To examine (a) demographics, (b) methods/materials/curriculum, and (c) motivations, the researcher identified 25 different school districts within the Commonwealth of Pennsylvania. These districts represented a sampling of (a) urban, (b) urban-suburban (bordering an urban area), (c) suburban, (d) suburban-rural (bordering a rural area), and (e) rural areas. The researcher (a) selected these five designations because each identified a particular population within the Commonwealth of Pennsylvania, and (b) chose school districts according to (i) the Pennsylvania Census data as disseminated by the Department of Commerce (1995), and (ii) the school district's willingness to participate in the research study. Each respective school district randomly selected ten homeschooling

families that had (a) completed the appropriate documentation required for homeschooling within the Commonwealth, and (b) received approval for homeschooling from the district superintendent or his or her designate. In the Commonwealth of Pennsylvania, homeschooling families must (a) file an affidavit with the superintendent that contains (i) name of the supervisor, (ii) name and ages of the involved children, and (iii) address and phone number of the program site; (b) provide an outline of the proposed educational objectives, by subject area, for the subjects required by law; (c) produce evidence that the involved children have received health services and appropriate immunizations; (d) document that the educational program meets the requirements of PA Act 169 PA School Code, 11 22 § 11.25 (1986); (e) provide certification documenting that all adults living in the home possess criminal clearance (for the previous 5-year period); and (f) guarantee that the proposed educational program conforms with IDEA (Individuals with Disabilities Education Act Individuals with Disabilities Education Act, Pub. L. 101-476. see references).

Each district contacted a random sample of families, sought permission, and identified willingness to participate in the research study. Once this was completed, the researcher contacted each of the participating families for (a) formal written permission. and (b) appropriate contact information.

Instruments

For the purposes of the study, both qualitative and quantitative data were collected by the researcher. The researcher conducted phone or computer interviews using open-ended probes for qualitative data. Prior to the interview, the participating homeschool instructor completed (a) an informed consent document, and (b) a checklist containing demographically related items. After the interview was completed, each instructor was sent a written questionnaire (a) examining the methods/materials/curricular choices utilized in the homeschooling program within the family, and (b) exploring the family's motivation for homeschooling according to the Van Galen's (1986, 1991) designations of either ideologue or pedagogue.

Data Sources

This 10-year longitudinal research study, which addressed Pennsylvania homeschooling families' (a) demographics, (b) methods/materials/curriculum, and (c) motivations for homeschooling, commenced in the fall of 1998. The researcher sought (a) geographically appropriate districts to represent the five categories (urban, urban-suburban, suburban, suburban-rural, and rural as designated by PA 1993 Census) of population within the Commonwealth of

Pennsylvania; (b) interest, cooperation, and permission from the sample of chosen districts; (c) a random sample of interested and willing homeschooling families; (d) approved consent forms from the respective districts and families; (e) demographic information for the involved families from the districts and homeschooling families; (f) a documented interview (by phone or computer) with each instructor; and (g) a completed questionnaire from each family. The number of involved districts totaled 25 with a families' sample of 250 different families by the fall of 1998.

Data Collection

The researcher conducted interviews and distributed questionnaires to the families upon the return of the informed consent document. Each interview and questionnaire consisted of questions (a) documenting demographical information concerning the number of homeschooled children, their ages, the instructor's educational background, (b) assessing the methods/materials/curriculum used by the instructor to provide the homeschooling, and (c) determining which, if either, of Van Galen's homeschooling types (ideologue or pedagogue) identified each family's motivation for homeschooling its children. The researcher utilized the questionnaire as a tool to confirm information and strengthen the validity and reliability of the study. A collation of the data by the conclusion of 1998 and 2008 provided an accurate description of each family's efforts. Some unforeseeable gaps in the research occurred with the following factors: (a) unreturned questionnaires, (b) partially completed questionnaires, (c) family's relocation within the 10-year period, and (d) students no longer being homeschooled. Whereas these instances were minimal in number, the researcher believed that neither the integrity of the study nor the preliminary data were compromised.

During the 10-year period between 1998 and 2008, the researcher was contacted by some homeschoolers who voluntarily communicated with her and reported changes within their programs. This additional information was not gathered or collated as part of the original research study. In the fall of 2008, the researcher contacted the sample families to gather data for a second time (see Table 2) and to compare the changes in light of the original research hypotheses. When all data had been received, the researcher utilized analysis-by-inspection to compare interview data and questionnaire responses.

Results

All of the families who were currently living within the sample districts responded to a request from the researcher for demographic information

Table 1. Demographical Information 1998

Districts	Urban	Urban-suburban	Suburban	Suburban-rural	Rural
Number of districts	4	5	8	3	5
Number of children	111	148	199	86	149
Ages/children					
6-8	53	94	133	44	81
9-11	38	39	43	31	46
12-16	16	14	30	9	17
15-18	4	1	3	2	5
Education of the instructor					
High school	38	32	18	17	31
2 years, post–high school	6	16	6	1	12
3 years, post–high school	4	4	20	4	4
College degree	9	9	52	15	12
Number of Instructors	57	61	96	37	59
Number of families	40	50	80	30	50
Percentage of computer usage	27.5	68	80	90	32
Percentage of unanswered questionnaire	1	4	0	0	2

(see Tables 1 and 2). The principal instructor had remained a constant in both collections though (a) many of the instructors had broadened their educational backgrounds, (b) several of the families had moved out of the district, and (c) others were no longer homeschooling their children. The educational background of the instructors as reported in 1998 (see Table 1) reflected that 43.8% possessed a high school diploma, 13.2% had 2 years of education/formal training post–high school, 14.8% had 3 years of education/training post–high school diploma, and 29.6% possessed a college degree. After a 10-year period the educational levels had changed (see Table 2) considerably: 38.9% possessed high school diploma, 7.1% had 2 years of education/formal training post–high school, 11.7% had 3 years of educational/formal training post–high school, and 42.2 % possessed a college degree. The greatest differences between 1998 and 2008 were (a) an increase of 12.6% in college degrees, and (b) 60% of all the homeschooling instructors had acquired education/training beyond a high school diploma.

Areas of notable differences (see Tables 1 and 2) also occurred in (a) the numbers of children in the respective categories, (b) the number of instructors,

Table 2. Demographical Information 2008

Districts	Urban	Urban-suburban	Suburban	Suburban-rural	Rural
Number of districts	4	5	8	3	5
Number of children	46	102	158	69	124
Ages/children					
6-8	5	31	28	14	45
9-11	11	46	36	18	31
12-16	12	18	55	12	26
15-18	18	7	39	25	22
Education of the instructor					
High school	26	18	16	6	27
2 years, post–high school	1	7	1	2	6
3 years, post–high school	2	2	15	4	5
College degree	11	19	47	16	8
Number of instructors	40	46	79	28	46
Number of families	37	46	78	28	46
Percentage of computer usage	78	93	94	86	72
Percentage of unanswered questionnaire	3	8	2	4	6

and (c) the percentage of families owning computers. In the earlier 1998 sampling, many of the families had younger children who had completed their education by 2008. Among several of the families, both parents provided instruction for the family in the 1998 sample, but several parents had returned to the work force by 2008. This adjustment reduced the number of actual instructors across the sample, but among the participants, no one had discontinued homeschooling for this reason.

Within Tables 1 and 2, an area of significant fluctuation was the number of families owning computers in 1998 as compared with 2008. Many families cited the following reasons as affecting their choices between 1998 and 2008: (a) the cost of computers, (b) the absence of a need, (c) the fear of a negative influence on their children, (d) a lack of training, (e) an inability to monitor its use, (f) a perception of irrelevance, and (g) a waste of time. In the 2008

demographic information, several families restated their unwillingness to invest in a computer for many of the previously stated reasons. In most of the families lacking a computer, it was not an economic decision but rather one of personal preference.

A second focus within the study examined the methods/materials/ curriculum that the homeschooling families had chosen for the instruction of their children. This request for information by the researcher appeared among the interview probes and on the questionnaire checklist. A very large percentage of the participants completed and returned the questionnaire to the researcher, though a small percentage did not (see Tables 1 and 2). The choices on the written checklist reflected (a) previous research studies, and (b) the current literature. In completing the checklist, the participants were encouraged to check all applicable choices (see Tables 3 and 4).

Within the Commonwealth of Pennsylvania, homeschooling families may request textbooks from their local school districts; however, the use of the district facilities/resources and inclusion in district extracurricular activities are determined by the local districts according to Act 361 (2005) and may differ from one district to another. Among the districts being studied, one superintendent invited all of his homeschoolers to attend any classes that they wished with two conditions: (1) that their presence did not necessitate the opening of a new section, and (2) that their behavior adhered to the district's code of acceptable conduct. The same superintendent met twice a year with each of the homeschooling families and provided materials and suggestions to enhance their efforts. If the families had not made the required measurable progress, the parents were instructed to return the children to the district schools. At the conclusion of the student's 12th year of schooling, the superintendent then conducted a graduation program for those who had successfully completed their required goals.

The data displayed in Table 3 represent the methods/materials/curriculum utilized by the homeschooling instructors in delivering the program to the children. The percentages reflect that most families chose an eclectic approach and used a variety of options. Many of the religious-oriented instructors purchased both forms of prepared curricula to compare the contents of both. Several families reported struggling with the math and science curricula and wished to borrow from both types. Those adopting the religious-oriented materials reported purchasing these through local stores or suppliers. Some cited their church program as the source for needed materials, and others reported using materials that were shared and passed down among other homeschooling families. All of the families were entitled to receive textbooks from their local school districts. Many among the urban families reported that their distancing themselves from the public school included the use of district textbooks as

Table 3. Methods/Materials/Curriculum 1998

Methods/materials/ curriculum, percentage of parents using each option	Urban	Urban-suburban	Suburban	Suburban-rural	Rural
Prepared curriculum— nonreligious	45	90	95	66.6	48
Prepared curriculum— religious	57.5	22	15	77.7	96
Traditional textbooks	85	94	95	33.3	58
Texts from school district	55	82	96.25	73	30
Public libraries	80	96	98.75	90	42
Museums/planetariums	85	78	98.75	66.6	18
Field trips	75	86	100	90	22
Purchased resources	90	84	76.25	90	98
Computers	25	62	78.75	90	36
Internet materials	0	0	0	0	0
Online programs	0	0	0	0	0
Local educational specialists	17.5	78	93.75	30	12
Teacher (other than home instructor— used at least once	10	86	78.75	10	16
Private school(s)	15	6	12.5	16.6	22
School district programs	0	40	25	10	0
School district resources	0	28	25	33.3	0
Networking with other homeschooling families	22.5	94	87.5	66.6	4
Combination of many options	92.5	96	98.75	100	82

Note: All numbers in Columns 2 to 6 indicate percentages.

they perceived these materials to be (a) inadequate, (b) limited, and (c) biased. The rural families suggested that their use of district textbooks would create a reason for increased district monitoring, which they did not wish to happen. Some of the families in all five populations resided in districts that did not permit homeschooling access of district resources and programs in 1998;

Table 4. Methods/Materials/Curriculum 2008

Methods/materials/ curriculum, percentage of parents using each option	Urban	Urban-suburban	Suburban	Suburban-rural	Rural
Prepared curriculum— nonreligious	75	92.5	87.5	83.3	40
Prepared curriculum— religious	75	82	62.5	83.3	90
Traditional textbooks	87.5	78	92.5	83.3	50
Texts from school district	87.5	80	87.5	66.6	20
Public libraries	85	92	90	90	64
Museums/ planetariums	80	88	92.5	85	76
Field trips	95	96	97.5	83.3	38
Purchased resources	97.5	96	97.5	80	92
Computers	78	93	94	72	72
Internet materials	80	92	90	80	30
Online programs	40	84	85	80	30
Local educational specialists (at least one contact)	80	92	96	93.3	60
Teacher (other than home instructor— used at least once)	90	82	90	80	62
Private school(s)	10	28	18	10	2
School District Programs	10	8	5	10	4
School district resources	0	5	12.5	6.6	2
Networking with other homeschooling families	80	82	80	90	35
Combination of many options	100	98	95	100	94

Note: All numbers in Columns 2 to 6 indicate percentages.

therefore, the percentages in these categories are somewhat erroneous. None of the rural school districts' homeschoolers wished to use these resources and programs even though four out of the five districts made these available. The general consensus was that (a) the paperwork to access these was burdensome, and (b) most families wished to be left alone to conduct their programs. Noticeably absent from the data was the use of Internet services. These options were available in a limited capacity to most of the participants, but they did not wish to incorporate these at this time.

In the second data collection (see Table 4), the researcher observed a trend toward increased homeschooling within each of these districts, though it is not reported among these families. The family sample remained a constant, as the researcher examined the same families after a 10-year interval. The homeschooling populations had increased in every one of the districts over the 10-year period between 1998 and 2008. Within the 2008 interviews and questionnaire responses, parents shared possible reasons for these noticeable increases: (a) the deaths and destruction at Columbine High School on April 20, 1999, (b) the terrorist attacks of September 11, 2001, and (c) the slayings at the Amish School in West Nickel Mine, Pennsylvania on October 2, 2006. This group of parents believed that safety and security needs had motivated some parents to adopt homeschooling instruction. Another school of thought suggested that the increase was generated by (a) increased testing within the public school, (b) a prevalence of bullying and violence, (c) the wealth of homeschooling resources available, (d) the flexibility of homeschooling, (e) the lack of moral values in the schools, and (f) the overcrowded classrooms within many of the urban schools.

The data from 2008 reflected a significant amount of growth in most categories. Whereas the number of homeschooled children had decreased due to (a) chronological aging, (b) completed homeschooling, and (c) families relocation, the diversity among methods/materials/curricula had increased dramatically. Among the factors contributing to these increases, the most significant two were (a) the increased use of technology, and (b) the concept of networking among homeschooling families. A large percentage of the families reported using the computer and the Internet for (a) purchasing materials, (b) communicating with other homeschoolers, (c) seeking legal advice, (d) researching information for daily instruction, (e) requiring their students to complete assignments with the computer, (f) downloading information and assignments for their students, (g) seeking curricular advice, and (h) participating in course work. The other single factor influencing the movement in significant ways over this 10-year period was the networking factor. Most of the interviewed homeschooling families knew of other families and worked

together in the delivering of instruction. Some of the most common instances were (a) one parent with a particular expertise instructing a group of children, (b) parents sharing materials, (c) parents utilizing private school facilities (e.g., science labs, computer labs, science equipment) during off hours to instruct a group of students, (d) parents/families sharing resources and materials, (e) local religious groups and churches collating and sharing religiously oriented homeschooling materials with families and individuals, (f) curriculum specialists visiting families and tailoring specific homeschooling programs, and (g) parents joining local YMCA facilities for physical education and socialization opportunities with other homeschooling families. Within the sample, two of the rural districts were not networking in any capacity and admitted not knowing anyone else within their district who was homeschooling their children. Also, the homeschoolers within these districts did not wish to utilize any of the district programs or resources, even though the opportunity existed for them to do so. They wished only "to be left alone" by the local district.

There were some special needs children among the homeschooled children within the sample. Some of these children were unable to attend any local schools because of medical needs. Their parents wished to monitor their activities and education; therefore, they had chosen to homeschool. In both instances, a comfortable rapport existed with the local school district, but a formal educational setting was not deemed by the parents to be an acceptable environment for their children.

Within the sample, there were parents who wished to utilize district programs and resources. Among the districts extending this opportunity to the homeschooling community, only a fraction of the urban-suburban, suburban, and suburban-rural populations desired to exercise this option. The school district programs that were utilized by homeschoolers included sports teams, the school orchestra, the school band, drama clubs, community service clubs, computer clubs, the school newspaper, and the choral group. In some instances, this involvement existed for only 1 or 2 years, yet each is represented within Tables 3 or 4. The school district resources that were used by the homeschooling families consisted of science equipment, athletic equipment, maps/atlases, trade books, calculators, and projectors. There were no reports of this partnership having any negative repercussions, and it appeared to work well for all of the involved parties.

As a third aspect of the study, the researcher examined the homeschooling population as its members corresponded to Van Galen's (1986, 1991) two categories of ideologue and pedagogue. According to Van Galen's research there were two distinct types of homeschooling parent who emerged from her findings in South Carolina. The ideologues chose to homeschool for two

reasons: (1) an objection to public/private school teachings, and (2) a desire to strengthen the parent–child bond. Many of "these parents: (1) were Christian fundamentalists; (2) subscribed to conservative beliefs and values; (3) decried the absence of moral teaching in the schools" (Hanna, 1996, p. 25). The second Van Galen classification was the pedagogue:

> Many of these parents had an educational background and objected strongly to what they perceived as the poor teaching in today's schools. These pedagogues encouraged individuality and creativity in learning and did not shackle the time and efforts of their children. (Hanna, 1996, p. 26)

Within the questionnaire, the researcher listed the two previous quotations describing the two different motivations and asked the participants to make a selection of (a) ideologue, (b) pedagogue, (c) combination of both, or (d) other (none of these stated reasons). The results for both data collections appear in Tables 5 and 6 and reflect the participants' choices. Some respondents listed other reasons; however, this represented a very small population.

In the data collected it became apparent that the homeschooling parents saw themselves in the roles that Van Galen (1986, 1991) had described. Within the context of the interview, these terms were presented initially and later repeated in the questionnaire. Most of the participants immediately identified with one role or the other; others felt that they had grown into a combination of both belief systems. For many of the homeschoolers, what had begun as a religious decision became a pedagogical one, too, as time progressed. Families became aware of the intense measure of national and state-wide testing that had begun in the schools as a result of *No Child Left Behind (Elementary and Secondary Education Act)* and "did not wish to subject our children to another series of sorting and labeling" (Suburban Homeschooler, personal communication, 2008). For the homeschooling families who had selected "other," issues relating to their children's health and physical well-being emerged as their primary motivating force.

Significance

The original purposes of this study were (a) to gather demographic information on the number and ages of children homeschooled in a sample of 25 school districts across the urban, suburban, and rural populations of the Commonwealth of Pennsylvania; (b) to determine the educational backgrounds of the approved homeschooling instructors; (c) to survey the types of methods, materials, and curriculum utilized by those homeschooling families;

Table 5. Reasons for Choosing to Homeschool 1998

Reasons for homeschooling	Urban	Urban-suburban	Suburban	Suburban-rural	Rural
Ideologue	20	22	41	18	38
Pedagogue	16	12	17	6	4
Combination of ideologue and pedagogue	4	16	21	4	6
Other	0	0	1	2	2

Table 6. Reasons for Choosing to Homeschool 2008

Reasons for homeschooling	Urban	Urban-suburban	Suburban	Suburban-rural	Rural
Ideologue	18	19	24	18	31
Pedagogue	12	14	21	5	6
Combination of ideologue and pedagogue	7	12	32	4	7
Other	0	1	1	1	2

and (d) to compare the motivations to homeschool with Van Galen's (1986, 1991) binary designations of ideologue and pedagogue. The researcher conducted interviews with (a) all of the families in the sample in 1998, and (b) those families still residing within the same designated district in 2008. Some fluctuations existed between the two data collection in (a) the number of homeschooled children, (b) the number of instructors, and (c) the number of homeschooled families; these were anticipated by the researcher as normal developments across a 10-year period.

In the demographics (Tables 1 and 2), more of the instructors had broadened their education within the 10-year period and many more families owned a computer. The dramatic gains in technology between 1998 and 2008 (Tables 3 and 4) undoubtedly had influenced the families who purchased computers, though a resistant part of the population did not wish to bring technology into their homes. Several of the families utilized computers in a family-generated business but did not intend to use the computer in their instruction.

Within the methods/materials/curriculum data, significant increases (+20%) occurred in the (a) use of prepared curricula (religious and nonreligious),

(b) the acquisition of more textbooks from the local school district, (c) use of the public library, (d) technology applications (computers, Internet materials, and online programs), (e) consultation with instructional specialists and teachers, and (f) greater networking with other homeschooling families. One area of less utilization for many of the districts was in the use of district resources, district programs, and private schools. From all of the interviews and written data, there was no one single fact to explain this change. The greatest areas of impact over the 10-year period were in (a) the use of the computer, and (b) the interest in networking with other families. In their pooling of resources, sharing of expertise, and communicating with other homeschooling families, homeschoolers have upgraded and diversified their choices of pedagogy and their modalities for delivering instruction.

In the third research area, the homeschooling families examined their motivations in light of Van Galen's (1986, 1991) research types of ideologue and pedagogue. Within the first sample (Table 5) a total of 98% participants responded. Of these, 56% could identify with the ideologue, 22% with the pedagogue, and 20% emerged as a combination of both types. Ten years later the results within Table 6 indicated very little change with 97.8% having related to Van Galen's descriptions (46.8% ideologue, 24.6% pedagogue, 26.4% a combination, and 2.2% other). Data generated within the interviews established several other reasons for the homeschooling choice, even though the interviewees believed that these were secondary to parents' primary motivations of being able to improve the quality of their child's education and preserve and foster moral values and family unity. Several of the secondary motivations were (a) assisting a special needs child, (b) attending to medical concerns, and (c) addressing safety and security issues.

The data suggested that homeschoolers today are choosing very specific methods and carefully selected materials for their children's instruction and most are conducting their business on a much larger stage than in the mid-1990s. Using the computer alone provides (a) an extensive variety of resources, (b) a wide range of curricula from which to choose, and (c) a much larger and readily accessible support base than existed in the 1970s, 1980s, or 1990s. Some concern may exist for the families who are not permitting their children to use the computer. Current studies, which address the use of information and communication technology (ITC) as an alternative or addition to traditional instruction, noted no significant difference in students' grades with or without the use of ITC. Without specific application to instruction, the reality and importance of ITC knowledge may be noted in all aspects of everyday life (Abdous & Yoshimura, 2010). Selwyn and Husen (2010) reported, "According to governments around the world, developing and sustaining technological

skills and competencies are seen to be a key part of a student's ability to engage with twenty-first century schooling" (p. 137). These authors also reported that the value of ITC competence must not be lessened for students growing up in this information age. Many commonplace and everyday tasks such as paying bills, maintaining personal contact, and obtaining daily news information require some form of ITC. Among the homeschooling families choosing not to use computers, their reasons for doing so were deemed "personal or religious," and for this specific population that may be a well-founded and deeply ingrained decision.

Over the passage of time, with standard-driven curricula regularly taught in local school districts, the implications for homeschooling instruction will be boundless. For the purposes of this study, all indications suggest that this population is growing by leaps and bounds and has brought its children, methods, and materials into the 21st century.

Declaration of Conflicting Interests

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Bio

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