

Indications of the Influence of Teacher Training On Standards-Based Middle School Geography

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Abstract

Since the 1994 publication of *Geography for Life: National Geography Standards*, which specifies what students in American schools should learn and be able to do with regard to geography, educators have questioned the extent to which the national standards' framework for grades K-12 has been incorporated into state standards documents, and then subsequently, adopted by teachers and included in their classroom instruction. Using a survey design of a sample of middle school teachers throughout the State of Maryland, this research examined the degree to which a significant difference exists between the intended geography curriculum developed at the state level and informed by the national standards, and the geography curriculum actually taught in classrooms. In addition, this research tested the degree of association between teaching specific standards and teachers' formal and informal training, as well as, between teaching specific standards and other explanatory variables related to their classroom preparations. Findings suggest the need for additional preparatory training of teachers in geography standards as well as opportunities for targeted professional development in applying standards in the classroom. This research further suggests that, creation of a "geography study community" might be useful for teachers who might need assistance for understanding geography content within the broad context of the discipline's overarching themes.¹

Keywords: Geography K-12, National Geography Standards, state geography standards: intended versus taught, geography study community, application of geography standards

Introduction

As early as 1983, following the dissemination of a groundbreaking report, *A Nation at Risk: The Imperative for Educational Reform*, the call for standards in curriculum development and implementation for major subject areas in K-12 education has been recognized as an important part of the United States' educational reform movement (Goldberg & Harvey, 1983). During the 1989 Charlottesville Educational Summit, education leaders called for "demonstrated competency" of teachers in geography and other subjects (U. S. Department of Education, 1991). The State of Maryland early on showed an interest in reform with the publication of the *Sondheim Report* in 1989 which urged the public school system to institute a set of assessments and instructional accountability (Maryland State Department of Education (MSDE), 1989). Several studies have compared Maryland's current "intended" geography curriculum with national standards in geography and social studies, and have bestowed an acceptable grade on the state standards, albeit, not outstanding (Bailey & Dixon, 2007; Cooper, 2011; Finn & Petrilli, 2000; Maryland Social Studies Task Force, 2010; Munroe & Smith, 1998). Since the publication of *Geography for Life: National Geography Standards* (GESp, 1994), which specifies skills and content that students in American schools should learn and be able to do with regard to geography, educators have questioned the extent to which the national standards' framework has been incorporated into state standards' documents, and then subsequently, adopted by teachers and included in their classroom instruction.

Beyond assessing the quality of curriculum standards developed and issued at the state level, researchers have called for evaluating the degree to which standards in classroom teaching have been implemented, including the examination of classroom practice (Brophy, Alleman, & O'Mahony, 2000; Segall & Helfenbein, 2008). Researchers also have evaluated teacher training and call for additional study of pre-service and continuing professional development, as well as, suggesting how to develop different formats for professional development (Bednarz, Bockenbauer, & Walk, 2005). Recent research also highlights the use of activities in the classroom along with problem-based learning and constructivist-style teaching indicating that active learning may lead to greater retention of the material by students (Maryland Social Studies Task Force, 2010; Pawson et al., 2006). Another prominent strand in teaching practice focuses on the role of assessments with some educators fearing that if material is not tested, then it is not taught (Engel, 2005).

Based on this evolution of research concerning geography standards-based K-12 education, the goal of the research was to examine the extent

to which the “taught” geography curriculum conformed to the “intended;” that is, to respond to the question, “To what degree is there a statistically significant difference between the intended geography curriculum developed at the state level — informed by the national standards — and the geography curriculum actually taught in the classroom?” And, for the sample of teachers who responded that they did follow and incorporate standards in their classroom teaching additional questions asked: “To what degree was there a statistically significant association between teaching specific standards as compared to teachers’ formal and informal training; and, between teaching specific standards and other explanatory variables related to teachers’ classroom preparation and instruction?” Finally, this research asked: “Are actions indicated for professional development that might enhance the classroom delivery of standards-based geography?” (Cooper, 2011).

Methods and Results

An explanatory, mixed methods design comprised of two sequential phases was used for this study. The first phase involved the use of a survey design where quantitative data was collected using a formal survey instrument disseminated electronically to a sample of Maryland middle school geography and social studies teachers to determine by descriptive and statistical testing what were the elements of, and explanations for, the “taught curriculum.” Phase two was comprised of focus group discussions to procure qualitative data and information in order to supplement and support the statistical analysis (Creswell & Plano, 2007). The “intended curriculum” for middle school geography courses is published in the document, “Maryland State Curriculum” (MSDE, 2006).

Taken together, the quantitative and the qualitative data from both phases shed perspective on relationships between forms of training and other significant factors that help to explain why teachers do, or do not, engage in standards-based classroom teaching. In addition, several traditional and new formats of professional development were reviewed. Finally, based on the research data, a particular mechanism for professional development, a “geography study community,” is suggested with the idea that it may respond to particular needs expressed by teachers to enhance their classroom delivery and their students’ understanding of geography.

Phase One: Quantitative Analysis

The invitation to participate in the survey was sent to 800 Maryland teachers of geography in grades 6-8. The invitation was delivered electronically via the Internet and included a link to the survey questionnaire hosted by the Internet service *SurveyMonkey* (Cooper, 2011). The list of e-mail addresses was supplied by a vendor which maintains an extensive national database of educators. Forty-five teachers completed survey forms which supplied the data for quantitative analysis of phase one. Survey questionnaire items represented variables on which data was collected and included:

- Teachers' backgrounds (i.e., number of years of teaching).
- Teachers' confidence with content knowledge and self-rating of content knowledge.
- Various geography training and source materials used in classroom teaching.
- Teachers' reports on the effectiveness of geography training and source material on their teaching.

Descriptive statistics of the 45 respondents provided the context for statistical tests of associations derived in the first phase of the analysis.

Teachers' Levels of Formal Education and Experience, and Awareness of the Standards. Table 1 summarizes teachers' levels of experience, whether they were aware of the publication that formed the basis of standards in geography, and levels of education. In terms of the number of years of teaching experience, survey respondents, in general, were experienced teachers. Seventy-one percent (32 teachers) had seven or more years of experience and twenty-nine percent (13 teachers) had six or fewer years of experience. Of the survey respondents, 7% (3 people) answered "Yes" to the question, "Are you aware of the national standards in geography book entitled *Geography for Life?*" (GESP, 1994). Ninety-three percent (42 people) responded "No" to the question. All respondents with less than seven years of classroom experience lacked familiarity with the book. Nor were focus group participants familiar with the national standards publication. Approximately one-half of survey respondents had either one or two college level courses in geography. Another 42% had either 3, 4, or 5 college level geography courses.

Teachers' Self-reporting of Confidence Levels of Understanding Geography Content and Non-formal Sources of Training and Background that Influence Geography Teaching. Tables 2 and 3 summarize data and

Table 1

Breakdown of college geography courses taken by survey respondents.

Number of college level geography courses taken	Percent of respondents	Number of respondents
1	24	11
2	24	11
3	9	4
4	27	12
5	7	3
6	2	1
7	0	0
8	0	0
9	2	1
10 or more	5	2
	100	45

Table 2

Non-academic geography background and training.
(percent of respondents)

	Workshops, Institutes	U.S. Travel	Inter- national Travel	Reading, TV, Web
None	25	2	15	2
Some	58	53	56	33
A Lot	4	36	20	56
No Response	13	9	9	9
Total	100	100	100	100

Table 3

Selected influences on geography teaching. (percent of respondents)

	College courses	Workshops, institutes	Travel, reading	TV, Internet
Not reported	2	2	2	0
A lot	7	7	42	20
A fair amount	24	11	22	33
Some	45	31	20	31
A little	9	20	7	9
Not at all	13	29	7	7
Total	100	100	100	100

opinions on the influence of non-formal sources of background and training for teaching geography. The question, "What other background or training in geography have you had?" provided the response options of: a) workshops, institutes; b) U.S. travel; c) international travel; and, d) reading, TV, Internet geography enrichment. Response choices for each selection were: a) None; b) Some; or, c) A lot. The most often cited response options were "U.S. Travel" and "Reading, TV, and Internet," all of which are non-formal sources. To elaborate on the teachers' background and training, the survey asked about their perceptions of the influence of various sources on their teaching ability with the statement: "My abilities as a geography teacher were influenced by the following," where response choices were on a five-part Likert scale. Respondents reported that non-formal sources of influence had the greatest influence on ability. "Travel and reading" and "TV and Internet" had response rates of 64% (29 people) and 53% (24 people), respectively, in the categories of "a lot" plus "a fair amount" of influence. "College courses" and "workshops/institutes" had lower response rates of 31% (14 people) and 18% (8 people), respectively, in the response categories of "a lot" plus "a fair amount." Table 4 summarizes data on teachers' perceptions of their levels of confidence in teaching geography content. A survey item that prompted teachers to assess their level of confidence with understanding geography content by stating: "I know and understand: a) appropriate geography content." Responses showed that teachers had a high level of confidence in their content knowledge. Most respondents, 98%, rated themselves, "More than average," or, "Quite a bit," in assessment of their adequacy of geography content knowledge. Table 5 summarizes other items of self-rating of content knowledge. Data came from survey questions that were similar to the above "confidence questions" but couched in terms of self-rating. The questions asked participants to, "Please rate yourself on the following items." Most, 85%, rated themselves, "Above

Table 4

Confidence in understanding geography content.

	"I know and understand . . ."	
	Number of respondents	Percent of respondents
Quite a bit	21	47
More than average	23	51
Some	1	2
Little	0	0
Not at all	0	0
Total	45	100

Table 5

Self-rating of level of geography content knowledge.

	Number of respondents	Percent of respondents
High	16	36
Above average	22	49
Average	7	15
Below average	0	0
Low	0	0
Total	45	100

Average,” or, “High,” indicating a high degree of self-confidence. None rated him/herself as “Low,” or, “Below Average.”

Exploring the Use of Standards in the Classroom. To compare teachers’ background and training with their classroom teaching, respondents were queried about the individual themes (standards) stated in the “Maryland State Curriculum” for geography at the particular grade level. For this part of the analysis, there were 55 lines of data. Of the 45 teachers who completed the survey, several taught multiple grade levels and completed the survey questions for each grade taught. The researcher copied the entries of the background data and aligned them with the responses to other questions for each grade the teacher taught. Thus, 55 “teacher-grade level assigned” responses were analyzed for teacher background and training compared with the degree to which standards-based teaching was incorporated in classroom teaching.

To gauge the degree of standards-based teaching, the survey questionnaire listed five themes of the Maryland standards which are common across the three grade levels (grades 6, 7, and 8). These five themes (restated items from the Maryland standards) were:

- Theme A: Use of geographic tools (maps, photos, graphic images, etc.).
- Theme B: How physical and human characteristics shape identity and development of place, region.
- Theme C: How physical characteristics shaped human economic activity.
- Theme D: Population growth, migration, settlement patterns.
- Theme E: Consequences of natural hazards and human induced environmental change.

For each theme, the survey asked respondents to check relevant items for: a) “I do not teach this theme;” b) “I teach this theme;” c) “I have activities around this theme;” and d) “I assess this theme” (Figure 1). The choice of responses was intended to determine a level of intensity of the teacher’s focus on a given theme. In line with the research indicating greater learning when students engage in activities around a lesson, one teacher reported using activities associated with a theme which indicated a greater degree of incorporation of the standards than simply teaching the theme. Also, in line with the research indicating the importance of assessments, one teacher reported adding an assessment to the lesson which indicated greater degree of incorporation by showing that the intention is for students to achieve a thorough understanding and mastery of that content.

In preparing the survey data for quantitative analysis, one “point” was given for each box checked, “teach the theme,” “have activities,” and “assess the theme.” So, a score for an individual teacher’s response to a given theme could vary from 0 to 3. This is a numeric score in the data preparation at an ordinal level of measurement. That is, a score of three indicated more than one, but not necessarily three times as much.

One research question that asked teachers to score their incorporation of a particular theme shed perspective on the differences between the intended

7. Teachers of 6th Grade and Ancient Worlds please mark how you address each theme in your class/classes. If you teach the theme, also mark if you use activities around the theme and if you assess the theme. (Teachers of 7th and 8th grades, please skip to following questions.)

	1. I do not teach this theme	2. I teach this theme	3. I use activities around this theme	4. I assess this theme
A. Use of geographic tools (maps, photos, graphic images) to locate places and describe the human and physical characteristics in early world history.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Examine how physical and human characteristics shape the identity of places and regions and influence the development of civilizations in world history.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Identify and	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 1. Top of survey page of Question #7 of standards for Grade 6.

and the taught curriculum. The range of scores gave descriptive results to answering this question. The maximum possible “score” for a theme common to all three grades was 165 (55 teacher-grades times 3 points). The actual scores for the 5 themes varied from 104 to 133, or 63% to 81% of the maximum possible score (165) in degrees of teaching the various themes.

Another approach to exploring relationships between the intended and the taught curriculum was provided by a review of open-ended responses from teachers on certain questions. Qualitative data indicated that there were instances where a teacher in one grade responded that s/he did not teach a certain theme while another teacher in the same grade responded that s/he included that theme with associated activities and assessments. Qualitative data also indicated that teaching was uneven among the different standards and that a given standard was taught unevenly among the different teachers. Focus group participants concurred and substantiated the ordinal data response patterns for this question.

Statistical Testing of Associations between Teacher Training and Standards-Based Delivery. The level of intensity scores of each of the five themes was then compared with the other teacher data on background, confidence, and influence of training and resources. These tests of associations were performed using the Chi-Square Test of Independence. Because survey questions were categorical and provided response choices that were at the nominal or ordinal level of measurement, as well as, the data being non-normally distributed from a sample of respondents, the chi-square test was chosen as being the most appropriate for investigating possible associations between data collected from the sample of teachers, including their classroom teaching adherence to standards-based practices.

Chi-square tests were based on defining a null hypothesis. For example the null hypothesis, “There is no association between the intensity of teaching Theme X and BLANK,” where “BLANK” was a survey indicator for background, confidence, and influence. For instance, the first null hypothesis read, “There is no association between the intensity of teaching the theme of the use of geographic tools and the number of college geography courses.” As summarized in Table 6, there were no statistically significant associations between any of the survey indicators/explanatory variables and the theme, “use of geographic tools.” Thus, I failed to reject the null hypotheses of “no associations” for this set of hypotheses.

The second research question subjected to statistical testing was, “Is there a statistically significant association between teachers’ types of training and experience and their intensity of standards-based classroom teaching?” Results from chi-square tests shown in Tables 7 and 8 indicate the following:

Table 6

*Matrix of intensity levels of explanatory variables for teaching geography themes.**

Themes ↓ Questions	Use of geographic tools	How characteristics shape identity & development	How physical characteristics shape economic activity	Population growth, migration, settlement patterns	Consequence of natural hazards, environ change
Background					
Years teaching experience					
Number of college geography courses		Strong		Moderate	
Other background & training					
Influences on teaching					
College courses		Moderate		Moderate	
Workshops & institutes					
Travel & reading					
TV & Internet		Moderate		Strong	
Confidence					
Content knowledge					

*Chi-Square Test of Independence, statistically significant associations at $p \leq .05$ to $.03$ for "moderate" and $p \geq .02$ for "strong."

Table 7

*Statistically significant explanatory variables for teaching theme B.**

	χ^2 statistic	df	p-value	Strength
Number of college geography courses	26.282	14	.024	Strong
Influence of college work on teaching ability	25.125	15	.048	Moderate
Influence of TV and the Internet	15.608	8	.048	Moderate

*Chi-Square Test of Independence, statistically significant associations at $p \leq .05$ to $.03$ for "moderate" and $p \geq .02$ for "strong."

Table 8

*Statistically significant explanatory variables for teaching theme D.**

	χ^2 statistic	df	p-value	Strength
Number of college geography courses	33.394	21	.042	Moderate
Influence of college work on teaching ability	25.125	15	.048	Moderate
Influence of TV and the Internet	23.128	12	.027	Strong

*Chi-Square Test of Independence, statistically significant associations at $p \leq .05$ to $.03$ for "moderate" and $p \geq .02$ for "strong."

- In no case did years of teaching experience show an association with the intensity levels of teaching the standards. This was consistent with Gandy and Kruger's (2004) study that found no significant relationship between years of teaching experience and use of national geography standards.
- There was a statistically significant relationship ($p = .048$) between the number of college courses taken and respondents attributing their ability as a teacher to the influence of their college classes; that is, respondents reporting more college geography courses gave greater weight to the influence of college classes (Table 7).
- College coursework showed association with intensity of standards-based teaching at a statistically significant level in two of the five themes (Table 7). These data and their statistical relationships contrasted with descriptive responses of survey respondents stating their reliance on non-formal sources.
- Workshop participation was not statistically significant with intensity of standards-based teaching for any of the five themes in common across the three grades. There were, however, a relatively low number of people who had participated in workshops. Thirteen people reported no workshop experience, and for the twenty-two people that did have workshop experience, they reported that workshops had little to no influence on their teaching ability (Table 3).
- The influence of travel and reading on teaching showed no statistically significant association with any of the five common themes.
- The influence of TV and the Internet showed an association with two of the themes (Table 8).

Phase Two: Qualitative Results from Focus Groups

Teachers in focus groups were interested in opportunities to garner new resources. One teacher reminisced about past occasions designed to aid teachers' subject content background. S/he mentioned "round table dinner discussions" that the local school district used to hold, such as a guest college professor talking on a particular content topic. When asked about current needs, most focus group participants responded that they desired more professional development. When asked about scheduling and time commitment, there was some hesitancy. One person asked for more professional development, perhaps, "even remote" help being made available through social media. Workshops on technology for geography were specifically mentioned. One survey respondent said, "I would like to teach an entire course in geography based on the five themes either in middle school or at the high school level. I would be more than willing to take additional course work to be [sic] further my qualifications."

In addition to expressing interest in continued professional development, focus group participants were distressed by students' lack of specific content knowledge and skills. Specific teachers' frustrations included items such as student lack of understanding of location, scale, and hierarchy, and reported the following:

- "[M]ore than 70% of my students cannot locate a place on a map using latitude and longitude. Students do not clearly understand the differences in cities, counties, countries and continents." (survey comment of grade 8 teacher)
- One focus group participant recited instances where students could not compare the features on different maps if the maps were at different scales.
- Another focus group participant had to explain to students repeatedly when to select a physical or a political map to look for particular features.

The uneven "intensity scores" among the various Maryland standards and the frustration by some teachers with the basic knowledge of their incoming students suggested that these strands are related. Perhaps, unstructured preparation leads to uneven teaching and undependable retention by students. Perhaps, the geography being taught in the classrooms is not a systematic building of skills and knowledge in a disciplined manner. Students may not be seeing the range of topics, as well as, ways that a geographic perspective

contribute to the discussion of an issue, or the way that factual knowledge may be gained through working with issues rather than relying on memorization, or perhaps even seeing the future career possibilities for a person with geographic skill in approaching a problem. It would seem that Maryland middle school social studies teachers might benefit from enhanced, structured study of the discipline of geography, and how to bring a geographic perspective into their classes.

Discussion

Professional Development Formats

The need for additional formal coursework in geography for pre-service social studies teachers is well-recognized as being the *bête noir*, the “black beast,” of education, that is, geography is the subject matter studied least by most future teachers (Bednarz et al., 2005; Boehm, Brierley, & Sharma, 1994; Gersmehl, 2008). The problem with “taming the beast” through additional college coursework is that most pre-service programs have little programmatic opportunity for students to enroll in additional geography coursework within a degree based on a specific number of credit hours within a specific number of requirements (Marasco, personal communication, September 16, 2011).

As opposed to a possible future optimal scenario of additional pre-service coursework, other researchers focus on the existing situation and look to professional development offerings. Such programs have various forms including professional conferences, formal institutes, mentoring, and teacher learning communities. These formats have differing objectives, strengths, and drawbacks.

Conference sessions of workshops and paper presentations do provide important and useful lesson content and techniques; however, they do not typically provide for classroom practice or feedback which could be particularly helpful regarding a participant’s classroom delivery (Feiman-Nemser, 2001). Workshops typically are a half-day or a day with similar attributes.

Institutes may last one or two weeks, often with some follow-up with participants. The Alliance Network Summer Geography Institutes, funded by National Geographic Society’s Education Foundation and the various state geographic alliances, have proven effective in training teachers (Englert & Barley, 2003; van Hover, 2008). For instance, a study by Gandy and Kruger (2004) revealed a positive relationship between Alliance training and the level

of standards-based geography classroom teaching. Although not in the discipline of geography, Taylor-Thoma's (2009) research showed that the students of Maryland teachers attending the Governor's Academy in high school civics scored notably better on tests than students of teachers who did not participate in this intensive, two-week professional development program. Nonetheless, institutes, such as the Governor's Academy and Alliance summer programs, are expensive and reach a relatively limited number of teachers.

Mentoring is encouraged, typically as a method of on-the-job support for early career teachers (Feiman-Nemser, 2001). It is not uncommon for first year teachers to have an experienced colleague as a mentor to help them navigate their new school environment and classroom challenges, both subject matter and classroom management issues.

Bednarz et al. (2005) proposed a "geography mentor model" as a form of professional development directed primarily for teachers in their second through fifth years of teaching geography (p. 109). As possible mentors, the authors suggested the use of teacher consultants who had attended Alliance Network institutes for training in geography content and teaching techniques. Particular traits of ideal mentors included knowledge of the discipline and pedagogic content knowledge as well as personal traits of nurturing, listening skills, and encouraging inquiry into the teaching practices of the novice teacher (Bednarz et al., 2005; Feiman-Nemser, 2001).

Another form of professional development is a "teacher learning community." A learning community, or a study community, involves a group of participants, rather than a single, one-on-one, mentoring association. An effective learning community entails regular meetings of teachers from a common discipline or a common environment for focusing on professional issues shared in the workplace (Fulton & Britton, 2011; van Hover, 2008). Research into professional learning communities of math teachers showed better learning by the students of teachers who participated in such learning communities (Fulton & Britton, 2011). In addition to K-12 teachers, the community may include university professors and members of other discipline-related professional organizations (Feiman-Nemser, 2001). Feiman-Nemser (2001) further states:

In place of superficial, episodic sessions, teachers need sustained and substantive learning opportunities. Instead of discrete, external events provided for teachers, professional development should be built into the ongoing work of teaching and relate to teachers' questions and concerns. Although teachers need access to knowledgeable sources outside their immediate circle, professional

development should also tap local expertise and the collective wisdom that thoughtful teachers can generate by working together. (p.142)

Possible Solution: A Geography Study Community

The various strands of research literature, as well as findings from this research study, come together in the proposal of a geography study community to enhance teacher preparation for better student learning. The analysis of the disparity between the intended and the taught curricula in Maryland middle school social studies indicates a need for professional development for teachers as most are not likely to seek additional geography courses of a formal, academic nature, and instead, seem to rely mostly on non-formal sources, such as TV and the Internet, for their classroom preparation and delivery. Few of the participants had attended geography institutes, but studies have shown that such extended institutes are effective. A basic document in K-12 geography education, *Geography for Life* (GESP, 1994), was virtually unknown to survey respondents as well as to focus group participants although it is often used in college education social studies methods courses and can be a rich resource.

Classroom teachers worry about detailed content knowledge their students possess, while academic educators say the best way to instill the detailed skills is in the context of big picture problem solving (Slavin, 2006). University professors of geography education as well as applied geographers speak in terms of broad themes of geography, applying a geographic perspective to issues and problems of our times. This provides benefits to K-12 students of a solid grounding in the discipline of geography with attendant spatial thinking skills (Brophy & Alleman, 2008; Wilbanks, 1994). While recognizing the need for detailed content knowledge, academic geographers feel the best approach to addressing this shortcoming is not through repeated drill, but through lessons about issues and broad themes of geography which deliver the detail through collateral study. According to Gersmehl (2008), "students who do well-designed multi-stranded lessons ... usually learn place-names while they are learning concepts, practicing skills, and enhancing their ability to focus on important local or global issues" (p.174).

It is a dual perspective; professional geographers urge a focus on big issues as perhaps the best approach for K-12 teaching of the particular skills and knowledge, while the classroom teachers talk about their students'

detailed content knowledge. The goal is better student understanding via teachers linking detailed content to the broad themes of geography. One primary ingredient of the proposed geography learning community would be to maintain a focus on the broad themes of geography and how a spatial perspective can inform the study of places and problems at scales from local to global. Teachers in a learning community could share ideas and resources, and these exchanges could be more widespread than, say, a department meeting within a given school. A learning community could be expanded from a face-to-face setting to an e-community. It could include classroom teachers of varying length of service, since the number of years teaching showed no relevance with an individual's predisposed intensity for standards-based teaching.

Conclusion

In summary, the focus of the geography study community discussion would be based in the broad themes of geography, as suggested in the research literature. It would help fill the gap of limited geography college coursework of most new teachers. It would help teachers link the detailed content for students within a context thereby enhancing students' retention as well as students' appreciation of the life skills buttressed by a geographic perspective. A community would provide some formal, sustained structure of substantive geography study as a professional development format to enhance student learning. It seems such a community would be responsive to the needs described in the research literature as well as in this research study.

Endnotes

1. The research referenced in this paper is taken from the dissertation by Catherine W. Cooper entitled, "The Incorporation of Standards-Based Geography into the Classroom in Maryland Middle School Grades." The Ph.D. degree in Geography – Geographic Education was awarded August 2011 by Texas State University-San Marcos.

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