

Teachers' Perceptions of Curriculum Mapping as a Tool for Planning and Alignment (2005)

Michael Lucas, Ed.D.



There is intense pressure on today's schools to perform well according to academic measures such as state standardized tests. The cause of the pressure is legislation, requiring locally published school report cards, financial incentives or disincentives for school academic performance, increased competition from charter and private schools, and attempts to reconstitute schools suffering from repeatedly poor performance.

Schools have responded to this pressure. In an effort to bring about improved academic performance, both the curriculum and instructional practices have become the source of close scrutiny. State and district expectations have been translated into standards and benchmarks. The curriculum is "the vehicle through which educators make manifest their goals for student learning" (Danielson, 2002, p. 77). And it is the quality of instruction that "represents the single most important aspect of any school's program for ensuring student success" (Danielson, 2002, p. 106).

Teaching, being an extremely complex act, requires planning and preparation, and "planning for the productive activity of 30 or more individuals (some of them present reluctantly) and successfully executing those plans, all within the context of multiple (and sometimes conflicting) demands from the school, district, community, and state, leave many teachers – particularly novices – buffeted, confused, or discouraged" (Danielson, 1996, p. 4). Teaching has become a responsibility to "teach what matters most to the increasingly diverse students who face us in our classrooms" (Strong, Silver, & Perini, 2001, p. 1). Student and school performance is dependent upon this responsibility. Therefore, the act of planning and organizing the content into a sequence of activities, assignments, and assessments based on standards and benchmarks is critical for student success (Danielson, 2002).

Curriculum mapping has become a method by which many schools and school districts shape their curricula, examining them for gaps and overlaps across and within grade levels and content areas, and aligning them with required standards and assessments. It has evolved from our knowledge of curriculum and assessment. It has gained importance as standards and benchmarks were introduced. The process has moved from its introduction by English (1980), through an elaboration of the mapping process and protocols by Jacobs (1997, 2000, 2003, 2004), and into the advent of mapping using computer and web-based technology. The evolution of this planning methodology has been hastened by state and federal legislation calling for increased school accountability.

If done correctly, the mapping process accomplishes three main goals. The process allows "the standards and benchmarks to be taken off a shelf and put into a teacher's hands. Second, upon completion, mapping guarantees that all standards and benchmarks are taught. Third, teachers can discuss and share units and lessons. This sharing occurs across grade levels, buildings, and disciplines, and can be extremely powerful" (DeClark, 2002, p. 31).

Teachers are "responsible for the pace, scope, and sequence of instruction, their commitment to raising test scores is vital. You can expect their commitment to grow as they discuss instructional strategies, share ideas, and increase students' learning time" (Gray, 1999, p. 48). Curriculum mapping is a tool that allows this to happen.

Curriculum mapping also invests in teachers' skills and expertise as curriculum developers. It is "a powerful way to sharpen teachers' curriculum-design and teaching skills while promoting collaboration across subject

and grade levels” (Mills, 2003, p. 1). It allows teachers to be a part of the analysis and alignment process that is essential for school improvement.

There is a substantial void in existing educational research into curriculum mapping, and this research study, *Teachers’ Perceptions of Curriculum Mapping as a Tool for Planning and Alignment*, attempted to expand the knowledge base in this area. Teachers, being the primary practitioners of curriculum mapping, have a valid insight into the usefulness of this methodology. The purpose of this study was to collect and describe teachers’ perceptions on the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment.

This descriptive study employed two methodologies: administering a survey (quantitative design) and conducting three focus group sessions (qualitative design), to find out about teacher perceptions of the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment.

Three major research questions were addressed in this study:

1. What are teachers’ perceptions of the efficacy of curriculum mapping as a tool for long-range planning?
2. What are teachers’ perceptions of the efficacy of curriculum mapping as a tool for short-range planning?
3. What are teachers’ perceptions of the efficacy of curriculum mapping as a tool for curriculum alignment?

To answer each research question, a survey entitled *Curriculum Mapping as a Planning and Alignment Tool* (CMPAT) was created. The survey stems were adapted from the planning criteria developed by the South Carolina Department of Education and was based upon the *Model Standards for Beginning Teacher Assessment and Support Consortium* and the National Board of Teaching Standards.

Focus group protocols were developed to assist with understanding teacher perceptions of curriculum mapping as a planning and alignment tool. Eight open-ended questions were posed to three groups of teachers in different settings (i.e. an elementary school, a middle school, and a high school).

Descriptive statistical data regarding overall teacher perceptions of curriculum mapping as a planning tool was provided by this study. Demographic data (i.e. level of instruction, teacher education, knowledge of the mapping process, teacher certification, and teacher experience) was also used to uncover any statistical differences in responses made by the various teacher groups involved in the study.

The dependent variables were as follows: Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts. Teacher perceptions were measured for the dependent variables based on responses on the Likert scale instrument. The scores on each of these dependent variables was continuous (a high score meaning more, a low score meaning less). This plan assumed that a high score indicated more Long Range Planning Efforts, a low score meant less Long Range Planning Efforts, a high score indicated more Short Range Planning Efforts, a low score meant less Short Range Planning Efforts, etc.

Certain assumptions were inherent to this study. It was assumed that teachers responded honestly to the anonymous survey. Further, it was assumed that focus group participants were honest in sharing their opinions of curriculum mapping as a tool for planning and curriculum alignment.

Means (*M*) were determined using the following scale was used for each variable (Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts): 1=strongly disagree, 2=disagree, etc., 5=strongly agree. Each survey item was then averaged.

The teachers involved in this study felt that curriculum mapping was a useful tool for planning and alignment efforts. On the whole, they believed that mapping was a better tool for aligning curriculum ($M=3.8419$) followed by long-range planning ($M=3.6561$). Short range planning had the lowest mean ($M=3.4966$) of the three dependent variables; however, it appears that teachers still felt it was an effective tool for short range planning.

Examining the focus group data, all groups indicated that curriculum mapping was an appropriate tool for planning and alignment. The focus groups found it especially helpful for first-year teachers or those recently assigned a new preparation. Comments indicated it was especially helpful with the pacing of instruction and identifying essential curriculum; such comments reinforced research by Kitsantas and Baylor (2001) which shows that experienced teachers believe in the value of instructional planning tools being taught to novice teachers.

The survey and focus group data reinforced the idea that mapping can be an effective tool for planning and aligning curriculum. However, the null hypotheses looked at differences in the various groups of teachers. It was interesting that the survey data indicated that middle school teachers see more value in mapping. The overall means for middle school teachers (alignment efforts, 3.9817, long term planning, 3.8910; and short term, 3.7415) differed statistically from both elementary and high school teachers. However, one must note that they followed the same trend as the larger teacher population (i.e. higher for alignment, followed by long-term planning, and then short term planning)

The focus group data did not reveal a great deal regarding the statistical differences between the levels, but several comments indicated that middle school teachers saw a greater impact of a spiraling curriculum than did elementary and high school teachers. Many of the focus group comments at the elementary level indicated that repetitions still existed with the curriculum at that level. High school teachers did mention some benefit, especially in the math curriculum; however, these teachers seemed to see curriculum somewhat divided by content area rather than the natural building of content upon content.

As might have been predicted, there was a statistical difference in the means between those who had knowledge of mapping and those who had little or no experience with it. Specifically in long range planning, there were statistical differences between those with very little experience ($M=3.4133$) and those who were knowledgeable or experienced with mapping ($M=3.8030$). With alignment efforts, the same pattern was repeated regarding statistical significance: very little experience ($M=3.5901$) as opposed to those experienced or knowledgeable ($M=3.9979$); some experience ($M=3.7131$) as opposed to those experienced or knowledgeable ($M=3.9979$). Also, with short range planning there were statistical differences in the groups: no experience ($M=3.9286$) versus classroom teachers having some experience ($M=3.3552$); some experience ($M=3.3552$) and those who were experienced with mapping ($M=3.5901$).

What is interesting with the data is that means in long range planning and alignment tended to be very similar for those with no experience and those with experience in mapping. This shows through in the focus group sessions, too. Although there were no participants in the focus groups that professed to have no experience with mapping, those present in the sessions tended to point out its helpfulness for those who were new to the curriculum mapping process (e.g. those new to the profession, those new to the district).

With regard to differences based on teaching experience, there was limited statistical significance. There were statistical differences in long range planning for those with 6-10 years experience ($M=3.5129$) and those with 21 or more years experience ($M=3.7476$). It is interesting that there is a significant difference between those in mid-career and those with the most experience. The focus group sessions did not share any light as to why such a difference may exist.

The means did show however that with regard to teacher experience more experienced teachers seemed to support mapping as a more effective tool in planning and alignment (i.e. the mean scores were higher in this category than in any other comparison group).

The remaining two hypotheses were not supported by the data. There was no statistically significant difference between teacher views on alignment and planning based on NBPTS certification. NBPTS teachers had lower mean scores for curriculum mapping as a planning alignment tool than those who did not hold such certification. It must be noted that the NBPTS sample was small (66) compared to the larger classroom teaching population (459). Focus group data did not provide any relevant information regarding this teacher category. Again, the number of NBPTS teachers was small in the focus group session (4 NBPTS teachers versus 13 regular teachers).

There were also no significant differences in relation to the teachers' educational levels. It is interesting to note that teachers with the least education tended to see greater value in curriculum mapping, with both long and short range planning. As for the area of alignment, there were very little differences in the means. Again, alignment had the highest means when compared to the other two dependent variables. Focus group data did not give any indication in relation to these patterns.

This study, dealing with the curriculum mapping process in a suburban school district, has corroborated what has been stated in the literature: curriculum mapping is an efficient and effective tool for instruction planning and curriculum alignment between the taught and written curriculum. Teachers, being the primary practitioners of mapping, have provided evidence that mapping is a useful tool for them as they plan for instruction.

Classroom teachers also see mapping as particularly effective towards curriculum alignment and long range planning, and to a lesser degree, supportive for short range planning.

The school district under review engaged in a systematic process to train teachers in the use of mapping for alignment and planning (Truesdale, Thompson, Lucas, 2004). This was carried out to enhance instructional effectiveness. It is believed that such results can be generalized towards the larger teaching population that has been trained in curriculum mapping.

There are numerous implications from this research study. Teachers indicate that planning and alignment of standards and benchmarks are a worthy practice given the current climate for school accountability. Teachers see planning efforts as an important pedagogical practice as preparations are made for instruction. Further, they think training in planning methodologies for new educators is a worthy endeavor for staff development. The research study has also given credence to the idea that teachers are important partners in the processes of refining and developing curriculum.

There are implications of this study for administrators. Administrators, especially the school principal, hold responsibility and the ultimate accountability for a school's performance on accountability measures. Administrators may analyze and disaggregate school performance data to find strands of strengths and/or weaknesses. However, this information is meaningless unless there is an alignment of the standards and benchmarks that are tested with those that are taught in the classroom. Planning tools such as a curriculum map help to foster a sense of responsibility and accountability between the taught and tested curriculum. Planning tools like maps help administrators understand what is actually happening within the classroom.

The goal of any profession is to enhance its performance. Being an educator is one of the more complicated of the professions. In addition to establishing high expectations for student performance, it requires careful long and short term planning for instruction. As Strong (2002) points out, more effective teachers have consistency and organization in teaching and learning, spend appropriate amounts of time establishing priorities for instruction, and allocate suitable amounts of time for the teaching/learning process. Effective school districts likewise must provide consistency and organization of resources, help teachers in establishing appropriate

priorities for instruction, and discourage distractions and inappropriate use of time. This is of critical importance in the current climate for accountability. Curriculum mapping is an effective tool in helping to accomplish this task.

REFERENCES

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Danielson, C. (2002). *Enhancing student achievement: A framework for school improvement*. Alexandria, VA: Association for Supervision and Curriculum Development.

DeClark, T. (2002). Curriculum mapping: A how-to guide. *The Science Teacher*, April, 29-31.

English, F. W. (1980). Curriculum mapping. *Educational Leadership*, 37(7), 558-559.

Gray, D. L. (1999, January). Improving your school's test scores. *Principal*, 47-48.

Jacobs, H. H. (1997). *Mapping the big picture: integrating curriculum and assessment K-12*. Alexandria, Virginia: Association for Supervision and Curriculum Development.

Jacobs, H. H. (2000). Upgrading the K-12 journey through curriculum mapping: A technology tool for classroom teachers, media specialists, and administrators. *Knowledge Quest*, 29(2), 27-29.

Jacobs, H. H. (2003). Connecting curriculum mapping and technology. *Curriculum Technology Quarterly*, 12(3), 1-8.

Jacobs, H. H. (Ed.). (2004). *Getting results with curriculum mapping*. Alexandria, VA: Association for Supervision and Curriculum Development.

Kitsantas, A., & Baylor, A. (2001). The impact of instructional planning self-reflective tool on preservice teacher performance, disposition, and self-efficacy beliefs regarding systematic instruction. *Educational Technology Research and Development*, 49(4), 97-106.

Mills, M. S. (2003). Curriculum mapping as professional development. *Curriculum Technology Quarterly*, 12(3), 1-4. Retrieved March 10, 2003, from Association for Supervision and Curriculum Development Web Site: <http://www.ascd.org/publications/ctq/2003spring/mills.html>.

Strong, R. W., Silver, H. F., & Perini, M. J. (2001). *Teaching what matters most: Standards and strategies for raising student achievement*. Alexandria, VA: Association for Supervision and Curriculum Development.

Truesdale, V., Thompson, C., & Lucas, R. M. (2004). Use of curriculum mapping to build a learning community. In H.H. Jacobs (Ed.), *Getting results with curriculum mapping* (pp. 10-24). Alexandria, VA: Association for Supervision and Curriculum Development.