

INSTRUCTIONAL PROGRAM COHERENCE AS A POSSIBLE LINK TO INCREASED STUDENT ACHIEVEMENT IN NORTH CAROLINA MIDDLE SCHOOLS

By

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Abstract

This study surveyed teachers and principals across the state of North Carolina to measure perceptions of instructional program coherence in randomly selected middle schools. Respondents completed web-based surveys taken from a prior study in Chicago that discovered a positive relationship between indicators of instructional program coherence and student achievement at the elementary level. Based on findings from the study, it may be possible to hypothesize the same type of relationship between variables in traditional North Carolina middle schools serving students in grades 6-8.

Although the study also explored the possible correlation between perceptions of program coherence and categorization of middle schools based on the ABCs of the North Carolina accountability system, this article will primarily focus on the descriptive data taken from the teacher and principal surveys along with future implications and conclusions based on the findings.

Introduction

As middle schools across the nation continue to search for ways to address the social, emotional, physical, and intellectual needs of young adolescents, the challenge of meeting ever-changing federal, state, and local testing mandates has created the need for instructional program reform across all subject areas and grade levels. The current high stakes testing system can often lead to “quick fix” improvements that, for various reasons, are never fully realized. These reasons may include financial constraints, lack of time and other resources, and the inability or unwillingness of school and district leaders to provide workshops, meetings, conferences, and other professional development programs that are vital for sustained, long-term instructional reform. These seemingly chaotic approaches to

instructional change create a learning environment that is fragmented and scattered, forcing principals to search for additional new programs as a means of attempting to stop the cycle of instructional incoherence and lack of program coordination. Based on the instructional challenges facing schools and prior literature on learning, motivation, organizational productivity, and school effectiveness, the concept of instructional program coherence was introduced in a 2001 study by Newmann, Smith, Allensworth, and Byrk.

Instructional Program Coherence: A Framework for School Improvement

The adoption of too many unrelated and unsustained instructional programs has contributed to many schools failing to meet state and local accountability measures for student achievement over the past decade. In 2001, Newmann et al. released a breakthrough study that, for the first time, provided a conceptual framework designed to address the apparent disconnect between instructional improvement programs and student achievement. This concept, known as *instructional program coherence*, has impacted the way many schools now approach program reform.

Although some studies have indirectly addressed the topics of instructional program coherence (Cohen & Ball, 1996; Smith, Smith, & Bryk, 1998) and organizational factors related to student learning (Bryk, Lee, & Holland, 1993; Coleman, Hoffer, & Kilgore, 1982; Hill & Celio, 1998; Sergiovanni, 1994), the Newmann et al. (2001) study was the first to bring the concepts together for the purpose of creating an operational definition and framework for the development of greater instructional program coherence within a school.

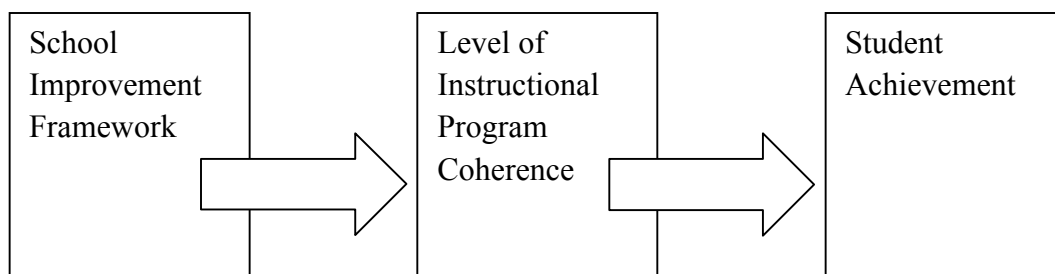
The Newmann et al. (2001) study defined instructional program coherence as a set of interrelated programs for students and staff that are guided by a common framework for curriculum, instruction, assessment, and learning climate and are pursued over a sustained period. The authors also provided a conceptual framework for instructional program coherence. This framework, consisting of three major components, served to guide the web surveys distributed to randomly selected middle school teachers and principals in North Carolina.

1. A common instructional framework guides curriculum, teaching, assessment, and learning climate. The framework combines specific expectations for student learning with detailed strategies and materials to guide teaching and assessment (p. 299). This would mean:
 - a. Curriculum, instructional strategies, and assessments of students are coordinated among teachers within a grade level.
 - b. Curriculum and assessments of students proceed logically from one grade level to the next and offer a progression of increasingly complex subject matter rather than repeating rudimentary material previously taught.

- c. Key student support programs, such as tutoring, remedial instruction, parent education, and opportunities for parent involvement focus consistently on the school's instructional framework.
 2. Staff working conditions support implementation of the framework. (p. 299)
 - a. Administrators and teachers expect one another to implement the framework.
 - b. Criteria for recruiting and hiring teachers emphasize commitment to and competence in executing the framework.
 - c. Teachers are evaluated and held accountable largely on the basis of how effectively they use the common instructional framework.
 - d. Professional development opportunities for staff are focused on the common instructional framework, and professional development on complex topics is pursued over a sustained period.
 3. The school allocates resources such as funding, materials, time, and staff assignments to advance the school's common instructional framework and to avoid diffuse, scattered improvement efforts, with the following results (p. 300):
 - a. Curriculum and student assessments remain stable over time.
 - b. Teachers' professional assignments are stable enough that teachers have sustained opportunities to learn how to teach well in their specific roles.

Figure 1 below provides a visual framework for the relationship suggested by the 2001 Chicago study on Instructional Program Coherence (Newmann et al.). The empirical evidence based on the findings connects school improvement efforts that strengthen instructional program coherence to an increase in student achievement. This framework also serves to adduce the hypothesized relationship between instructional coherence and student achievement.

FIGURE 1. An Hypothesized Relationship Between Coherence and Student Achievement



Methods, Instrumentation, and Data Collection

Citing the 2001 Newmann et al. research on 222 elementary schools in Chicago, this quantitative study explored the level of instructional program coherence in selected North Carolina middle schools. The sampling frame consisted of a stratified random sample based on the state categorical scheme used to identify the performance and growth levels of schools under the current ABCs model in North Carolina. A random sample consisting of 50% of the middle schools from each category was selected. The categories were comprised of:

- Honor Schools of Excellence
- Schools of Excellence
- Schools of Distinction
- Schools of Progress
- No Recognition
- Priority Schools
- Low-Performing Schools

Given the fact that middle schools are well represented in some categories and almost non-existent in others, the stratification was consolidated into two distinct groups: *Schools of Growth* and *Schools Not Meeting Growth Standards*. Based on the 2005-2006 ABCs data, there were over 200 middle schools represented in each category. This means the stratified random sample for the study included 100 schools from each of the two groupings.

The surveys used for this study were taken from the Newmann et al. (2001) research on instructional program coherence. The principal survey (see Table 1.1) had a 93% success rate based on the comparison of observations made by authors and site-based lead researchers looking for 13 key indicators of instructional program coherence in Chicago elementary schools. It was sent to school leaders for the purpose of determining the extent, or level, of instructional program coherence in each middle school. The teacher survey (see Table 1.2), with a reliability of 0.82, was administered to measure a sample of teacher perceptions of program coherence within the schools.

Both surveys used in this study were delivered via the Internet. The size of the stratified random sample helped to compensate for the predicted lower response rate with web surveys. Once the principal surveys were completed and submitted to the researcher using the *Qualtrics* software, the teacher surveys were then e-mailed to principals and forwarded as a link to staff members. After data were collected through the *Qualtrics* software system over a period of six weeks, the responses were then synthesized and collapsed based on individual school responses.

Findings

Transferring the response data from *Qualtrics* to *SPSS*, the researcher ran a frequency report on both the teacher and principal surveys. On eight of the nine indicators used to assess program coherence on the teacher survey, over 60% of respondents reacted positively when asked to evaluate the level of instructional program coherence in their schools. This number reached the 70-80% level on four of the indicators. The exception was Question 2, which addressed the issue of instructional program initiatives coming and going in the school. On this particular indicator, 48% of the teachers felt that many special programs were not sustained for any length of time.

The frequency report for the principal survey showed that over 80% of middle school leaders responded in a positive manner to indicators of instructional program coherence. Questions 1 (*linking curriculum to learning goals*), 6 (*professional development*), and 9 (*school improvement planning and assessment*) seemed to elicit the strongest positive responses, as over 75% of principals answered “To a great extent” on these indicators. The questions related to planning, teaching, and assessing within a grade level scored lower than those involving school-wide planning and coordination. Lack of stability was also a factor with principals, as their responses indicated a possible lack of confidence in maintaining programs, initiatives, assessment strategies, teaching assignments, and key program positions for a sustained period of time.

Table 1.1. Frequencies for Principal Responses to Indicators of Instructional Program Coherence
(N=71)

Question	To A Great Extent	Somewhat	Very Little	Not At All
1. Teachers within a grade level purposely link their curriculum to stated learning goals.	85.9	14.1	0.0	0.0
2. Teachers within a grade use common instructional strategies.	47.9	50.7	1.4	0.0
3. Teachers within a grade use common assessment strategies.	38.0	54.9	7.0	0.0

4. Teachers coordinate curriculum and assessments to avoid repetition and to offer students new and more complex aspects of subject matter as they move from grade to grade.	19.7	60.6	18.3	1.4
5. School-sponsored support programs, such as remedial instruction, assemblies, field trips, tutoring, and parent education, are linked to the curriculum, instruction and assessments of the school program.	69.0	28.2	1.4	1.4
6. Professional development for staff supports the implementation of common curriculum, instructional strategies and assessments.	77.5	19.7	1.4	1.4
7. Professional development programs are sustained over time.	38.0	59.2	2.8	0.0
8. The school strategically accepts and refuses programs and initiatives in a manner that supports staff focus, program continuity and ongoing improvement.	50.7	45.1	2.8	1.4
9. School improvement planning and assessment directly address the school's progress in providing a common, coordinated, and sustained school program.	80.3	16.9	2.8	0.0
10. Curriculum remains reasonably stable over time and thus provides teachers sustained opportunities to learn how to use them	56.3	38.0	4.2	1.4

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11. Assessments remain reasonably stable over time and thus provide teachers sustained opportunities to learn how to use them well.	29.6	56.3	12.7	1.4
12. Teaching assignments remain stable enough over time that teachers have sustained opportunities to learn how to teach a particular group of students.	47.9	46.5	5.6	0.0
13. Key program leaders and positions remain stable over time so initiatives can be supported and developed.	40.8	46.5	11.3	1.4

Table 1.2. Frequencies for Teacher Responses to Indicators of Instructional Program
Coherence

Question (To what extent do you agree or disagree with each of the following statements?)	Strongly Disagree	Disagree	Agree	Strongly Agree	Total (N)
1. You can see real continuity from one program to another in this school.	3.4	27.0	59.9	9.7	744 (100%)
2. Many special programs come and go in this school.	4.0	48.0	38.3	9.7	742 (100%)
3. Once we start a new program, we follow up to make sure that it's working.	4.2	26.6	59.6	9.7	754 (100%)

4. We have so many different programs in this school that I can't keep track of them all.	9.8	52.6	30.6	7.0	754 (100%)
5. Curriculum, instruction, and learning materials are well coordinated across the different grade levels.	5.3	21.4	59.4	13.4	750 (100%)
6. There is consistency in curriculum, instruction, and learning materials among teachers in the same grade level at this school.	3.5	15.9	60.6	20.1	754 (100%)
7. Most changes introduced at this school have little relation to teachers' and students' real needs and interests.	18.4	57.5	18.4	5.7	754 (100%)
8. Most changes introduced at this school help promote the school's goals for learning.	2.0	12.6	61.8	23.6	754 (100%)

Question	Worse	No Change	Better	Total (N)
9. To what extent have coordination and focus of the school's instructional program changed in the past two years at your school?	12.8	22.3	64.9	754 (100%)

Implications for Teachers and Principals

The overwhelmingly positive response on the part of principals to indicators of instructional program coherence demonstrates that middle school leaders are working to develop a school wide common instructional framework. This provides reason for optimism, particularly when you take into account the findings from the Newmann et al. (2001) study on elementary schools. In the Chicago study, researchers found that principals representing a wide array of leadership styles, from autocratic to democratic, exhibited a willingness to advance a common instructional framework for teaching and learning.

There is no question that stronger program coherence is rooted in a principal's commitment to adopt a school wide instructional program framework (Newman et al., 2001). Previous research conducted by the Center for Collaborative Education (1998) on effective middle grades leadership indicates that it is essential for principals to participate with teachers in targeted professional development as well as any other informational meetings related to the school's areas of instructional focus. The data from this research suggest that principals are able to at least recognize the presence of indicators related to program coherence in their schools.

Middle grades instructors, like principals, responded in a positive manner (over 70% as reported in Table 1.2) to indicators of instructional program coherence. Given the limitations of self-report data, it was not necessarily surprising to observe such a high rate of positive responses from principals. It was, however, somewhat unexpected for teachers to respond with such high marks, particularly from those representing "non growth" schools where any type of instructional coherence is often thought to be nonexistent. Though some teachers may have responded more favorably due to the wording of the survey questions, data collected from surveys nonetheless support significant levels of instructional program coherence as perceived by randomly selected middle school teachers in North Carolina.

Conclusions

Rather than continue their current practice of rewarding middle schools based on test scores alone, states should break down the barriers to coherence and provide school leaders with opportunities to develop programs for students and staff that promote a common instructional framework unique to each school's needs (Newman et al., 2001). This study provides evidence pointing to the existence of moderate to high levels of instructional program coherence in North Carolina middle schools. The significant number of positive responses by middle grades principals and teachers to indicators of instructional program coherence offers much promise for additional research exploring the possible benefits of working together to create a common instructional framework that guides teaching and learning throughout the school. Listed below are concluding recommendations as to what researchers and practitioners in the field can now do with the concept of instructional program coherence:

1. Conduct additional studies similar to this in order to parse out the variables (within and outside the school) related to program coherence and student achievement for the purpose of determining if there are differences, as well as possible significant relationships, by grade levels;
2. Analyze multiple forms of achievement measures (norm- and criterion-referenced) to further explore the possible influence of program coherence on student growth and achievement at all levels;

3. Identify any obstacles that may prevent schools from achieving high levels of program coherence; this could include a more operational definition of instructional program coherence that would serve to allow principals and teachers to further deconstruct the term as it applies to their own school setting;
4. Determine the types of key supports for school improvement (particularly at the middle school level where this can be more complex) that are most closely linked to program coherence;
5. Further investigate whether instructional program coherence can be developed and strengthened in a political system that promotes a narrow and often inflexible standards-based curriculum.

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