UNIVERSITY OF THE CUMBERLANDS

Program Evaluation

Two Management-Oriented Samples

Kenneth Ray Alford
Ohio County High School
1400 South Main Street
Hartford, KY 42347

kenneth.alford@ohio.kyschools.us

2/12/2010

Executive Summary

This document will analyze two examples of the management-oriented approach to program evaluation. The first example explores the mathematics program in the Ohio County School District. The second example explores the entire school program at Ohio County High School. These program evaluations were both conducted to aid administrators and teachers in improving the curriculum across the entire district (as in the case of the mathematics audit) or at a specific school (as in the case of the scholastic review). To help the reader easily navigate this document, it will be divided into four sections. Sections one and two provide executive summary, literature, analysis, and summary information for each example. The third section contains a comparison of the two methods and explains how both fit the management-oriented model of program evaluation. The final section will summarize the findings.

The management-oriented approach is very systematic in its approach to program evaluation. The systematic approach, which will be evidenced in the following pages, contributes to school accountability. Accountability is a reigning force in the American educational system today. Educational stakeholders are continually looking for ways to improve educational programs. No Child Left Behind and state mandates on schools have grave consequences for schools who fail to meet the established accountability marks.

The ultimate goal for elementary and secondary institutions is to produce a well-educated citizenry capable of performing at high levels no matter what path may lie ahead. Federal and state accountability on schools has created a sense of need for all schools. Schools must be willing to evaluate programs in a structured and systematic way to ensure student achievement is continuous and progressing. The management-oriented models seem to provide the structure and organization for such program evaluations.

Section One

Executive Summary for the Mathematics Audit

Section one will provide a brief overview of the mathematics audit conducted in the Ohio County Schools between October 3 and October 5, 2005. The mathematics audit was conducted by Andersen, Baldwin, McWilliam Associates (ABMA) from Pocatello, Idaho. The ABMA report details how data was collected (through document reviews, personal interviews, teacher and administrator surveys, and focus group discussions among the teachers, administrators, parents and students at all grade levels in Ohio County, Kentucky), provides commendations for the school system, and provides findings to guide future decisions. Generated at the request of district-level administration and intended to provide building-level administrators and site based councils information to improve the mathematics programs within each school, this formative evaluation report details findings and recommendations for the areas of curriculum alignment, instruction strategies, and the administration of mathematics program throughout the district.

The mathematics audit report contains a needs assessment evaluation of the mathematics curriculum and gives stakeholders suggestions for modifying the program to better meet the needs of the students. To my knowledge this was the first and only mathematics audit ever conducted in Ohio County Schools. It should be noted that the stakeholders within the district have incorporated many of the finding and conclusions. The incorporation of the auditors' recommendations has resulted in an increase in student achievement as reflected on state and federal assessments.

Literature Review

The schools that comprise the Ohio County School District are located in a small, rural county approximately one hundred miles southwest of Louisville, KY. The community is agriculture based with a few manufacturing companies. The school system, which serves approximately 3000 students in grades K through 12, has six elementary schools, one middle school, one high school and one alternative learning center which also serves as a Department of Juvenile Justice Day Treatment Center. The high school also allows students to take courses at the on-site advanced technical center, which is affiliated with the state's community and technical college system.

Mathematics instruction occurs at every grade level and was assessed for state and federal accountability purposes at grades 5, 8, and 11 during the 2004-05 school year. Data gathered by Andersen, Baldwin, and McWilliam Associates reflected 2005 state testing data. The data provided showed 55% of the district's fifth graders met the required proficiency level, 35% of the district's eighth graders met the required proficiency level and 36% of the district's eleventh graders met the required proficiency level.

ABMA's audit was divided into three parts: examination of data, on-site visits with the schools, and round-table discussions with teachers and administrators (Andersen, Baldwin, McWilliam Associates, 2005, 5). The conclusions drawn by ABMA were provided so that decision makers could modify curriculum, instruction, and administration practices within the district. For the sake of brevity, this section will focus on only two of the findings and recommendations of the audit team. Table 1 lists these findings and recommendations.

Table 1

Selected findings and recommendations

Curriculum
Finding: Elementary school curriculum maps were not aligned. Gaps existed between the various curriculum maps across the district. Many curriculum maps simply followed the table of contents of the textbook used.
Recommendations: All curriculum maps within the district should be aligned to provide teachers with a prioritization of the content. This prioritization should not necessarily reflect a textbook's table of contents.
Curriculum
Finding: Teachers were not using consistent vocabulary. Several teachers used inappropriate vocabulary in class, and students were often confused by the various terminology.
Recommendations: Teachers should work collectively to generate vocabulary that reflects the content. This vocabulary should be clearly defined, and all teachers should incorporate the common terminology.

As aforesaid, Ohio County has six elementary schools spread throughout the county. Placement in a specific school is determined by the home address of the family. If a family moves to a different area of the county, the children may attend a different elementary school. A change in school placement could have meant a student would miss mathematics content because curriculum maps were not consistent among all elementary schools. Individual schools had adopted curriculum maps that were used within their respective buildings, but no consideration had been given to the fact that a child might transfer between one or more schools during the course of a school year. Consistency among the curriculum maps was a key recommendation of ABMA.

Content vocabulary is another important component of mathematics education. Consistent use of mathematics terminology contributes to student achievement. ABMA auditors observed that teachers used inaccurate terminology or modified definitions that failed to encompass the complete definition of the term. A rational number, for example, was defined by one teacher as "any number that can be written as a fraction" (Andersen, Baldwin, McWilliam Associates, 2005). The auditors determined this definition was deviated considerably from the more accurate definition of a rational number (that is, the ratio of two

integers). The auditing team recommended teachers use consistent and accurate terminology so students would not be as confused.

Analysis

Teachers and administrators discussed the findings, and each person worked to ensure the findings and recommendations were implemented. The findings enabled teachers to recognize the need for improvement and gave administrators clear guidelines for providing teachers with professional development opportunities. Administrators allowed teachers release time to work in collaborative groupings that transcended individual school boundaries. These focus groups met to align curriculum, generate vocabulary and discuss calculator usage at all grade levels. Elementary school teachers and principals across the district came together and adopted a single textbook and curriculum map. High school administrators and site based council members worked to rearrange teacher placement within the building so that all high school teachers would be departmentalized.

The revised curriculum maps were implemented at all grade levels at the beginning of the 2006-07 school year. Teachers incorporated key vocabulary and increased instructional time given to open response questions. Elementary school teachers dedicated more instructional time to the teaching of mathematics. Middle school administrators and teachers increased course rigor and utilized calculators at a more appropriate stage in each course. As a result of these modifications to the curriculum and instruction components of the mathematics program, state assessment results from the spring 2007 assessment reflected an increase in the percentage of students achieving the defined level of proficiency. At the elementary school level, 63% of the students achieved proficiency as compared to 45% that had reached this mark two testing cycles earlier. At the middle school level, 63% of the students achieved proficiency as compared to 35% that had reached this mark two testing cycles earlier. At the high school level, 38% of the students achieved proficiency as compared to 36% that had reached this mark two testing cycles earlier. Obviously, the high school increase was minimal; however, the assessment of the high school instruction covers much more material than could have been “caught up” in one school year.

Five years later, teachers and administrators still reflect on the report findings and look for ways to continue to improve instructional practices. The most recent test data (2009) shows a continued increase in student proficiency at all levels; high school data shows a 9% increase over the 2007 mark. The teachers and administrators credit this increase to the continued implementation and refinement of the recommendations given in the mathematics audit. The mathematics audit has become a continuous internal audit conducted among the stakeholders in the Ohio County Schools.

Summary

Ohio County Schools continuously work to improve student achievement and provide new teachers a means to immerse themselves in the progressive school culture that has resulted from the mathematics audit. The teachers that were present during the mathematics audit have championed the mathematics audit and work with new teachers to ensure that the impetus continues. Since teachers and administrators have such strong buy-in with the mathematics audit and its findings, there seems little need to seek outside evaluation of the program at this time.

As with any education program, there is always room for growth. The mathematics department at the high school is working to ensure special populations are meeting annual yearly progress as measured by No Child Left Behind. This was not an issue specifically addressed in the findings of the audit team, but the high school's implementation of the recommendations has aided the school in being more cognizant of the needs of the individual student. This increased awareness has led the school to seek programs to address specific learning outcomes. For example, the high school mathematics department has worked closely with the school council to secure funds for Carnegie Cognitive Tutor. Carnegie, a mathematics tutorial software, is designed to help strengthen student understanding of algebraic and geometric concepts. The high school council has also worked to secure Zoom Algebra, a calculator-based application, which helps lower-achieving students experience greater success with basic algebraic skills.

Section Two

Executive Summary

This section will analyze the Ohio County High School Scholastic Review conducted in 2002. Distinguished educators from the Kentucky Department of Education, led by Pearl Jean Hughes, visited Ohio County High School during the period of January 28 through February 1, 2002, to conduct the scholastic review. The team reviewed school portfolio and profile documents, conducted classroom observations, and interviewed teachers, students, parents, and administrators in both formal and informal settings. Ms. Hughes and her team used the Standards and Indicators for School Improvement as their primary tool of assessment, but also incorporated results from the pre-administered Effective Schools Survey as appropriate.

The findings and recommendations of the scholastic review report were organized under three major headings: Academic Performance, Learning Environment and Efficiency. Each of these major headings had three standards that were assessed by the evaluation team. The intent of this review/evaluation was to guide the administrative staff, school council and faculty toward making OCHS a higher-achieving school.

Many of the findings and recommendations of this report reference the instructional leadership of the school principal. It should be noted that the school principal retired at the end of the 2001-02 school year, prior to the release of the scholastic review report. The findings and recommendations of this report have been implemented by the current administrative staff and school council. In terms of student achievement and school accountability, several of the recommendations of the review team have led to program improvement, and all core content areas have had increases in student achievement as gauged by state assessment tools.

Literature Review

Ohio County High School serves approximately 1150 students in grades 9 through 12. The school employs approximately 75 certified staff members having various levels of experience. At the time of the scholastic review, the administrative staff included Principal Hayward Dean Minton and Assistant Principals Critt Hunter, Angela Alexander, and Greg Decker.

As aforementioned, the review team used the Standards and Indicators for School Improvement (SISI) as the basis for the observations and interviews they conducted. These indicators "define the elements of whole school improvement that schools can put into effect at the elementary, middle and high school levels in order to produce desired learning results" (Kentucky Department of Education, 2009). SISI provides nine standards organized under three major categories. Academic Performance, the first category, incorporates a review of curriculum documents and information obtained through interviews with teachers, students, parents, and administrators. Academic Performance seeks to address "curriculum, classroom evaluation/assessment and instruction" (KDE Office of Leadership and School Improvement, 2002). Learning Environment, the second category, incorporates a review of school council policies and practices, information obtained through interviews with teachers, students, parents and administrators and seeks to address "school culture; student, family, and community support; and professional growth, development and evaluation" (KDE Office of Leadership and School Improvement, 2002). Efficiency, the final category, incorporates a review of council policies and by-laws, curriculum documents, and information obtained through interviews with teachers, parents, and administrators; this category seeks to help the school "address leadership, school structure and resources, and comprehensive and effective planning" (KDE Office of Leadership and School Improvement, 2002).

Each of the nine standards is subdivided into specific indicators that have been shown to contribute to school success. Based on best practices, these indicators are rated by the observation team on a one to four performance scale. According to the Kentucky Department of Education's SISI School

Level Performance Indicators (2008), an Evaluation Category 1 rating reflects "little or no development and implementation," an Evaluation Category 2 rating reflects "limited development or partial implementation," an Evaluation Category 3 rating reflects "fully functioning and operational level of development and implementation," and an Evaluation Category 4 rating reflects "exemplary level of development and implementation" (Kentucky Department of Education, 2008). Table 2 provides a summary of the ratings for each of the nine standards of education as observed during this visit to OCHS.

Table 2

Summary of Standards and Evaluation Categories for 2002 Scholastic Review of Ohio County High School

Standard (Category)	**Evaluation Category (EC)**
Curriculum (Academic Performance)	EC 1 – 1 indicator (14%) EC 2 – 6 indicators (86%)
Classroom Evaluation/Assessment (Academic Performance)	EC 2 – 8 indicators (100%)
Instruction (Academic Performance)	EC 1 – 1 indicator (13%) EC 2 – 7 indicators (87%)
School Culture (Learning Environment)	EC 1 – 1 indicator (9%) EC 2 – 9 indicators (82%) EC 3 – 1 indicator (9%)
Student, Family and Community Support (Learning Environment)	EC 2 – 4 indicators (80%) EC 3 – 1 indicator (20%)
Professional Growth, Development, and Evaluation (Learning Environment)	EC 1 – 8 indicators (67%) EC 2 – 3 indicators (25%) EC 3 – 1 indicator (8%)
Leadership (Efficiency)	EC 1 – 6 indicators (55%) EC 2 – 4 indicators (36%) EC 3 – 1 indicator (9%)
School Organization and Fiscal Resources (Efficiency)	EC 1 – 2 indicators (20%) EC 2 – 7 indicators (70%) EC 3 – 1 indicator (10%)
Comprehensive and Effective Planning (Efficiency)	EC 1 – 2 indicators (13%) EC 2 – 13 indicators (81%) EC 3 – 1 indicator (6%)

For purposes of brevity, this document will include a review of only one indicator from each of the three major categories. Information about the selected indicators that will be reviewed is presented in Table 3 (adapted from 2002 Scholastic Review).

Table 3

Selected indicators (adapted from 2002 Scholastic Review)

Instruction indicator 3.1e **Indicator:** There is evidence that teachers incorporate the use of technology in their classrooms. **Findings:** Teachers have access to technology in the classroom, but their use of technology is limited to "college prep, career and technical classes." **Recommendations:** OCHS Council should develop a policy for the implementation of technology in all classes; administrators should monitor teacher use of technology as part of the evaluation process.
Professional Growth, Development and Evaluation 6.2f **Indicator:** Leadership uses the evaluation process to provide teachers with the follow-up and support to change behavior and instructional practice. **Findings:** Administrators "do not use the evaluation process to provide support or follow-up for professional development." **Recommendations:** School leaders should engage in professional development activities that "help build leadership capacity within the school to sustain long-range, continuous organizational improvement."
Efficiency 7.1c **Indicator:** There is evidence that all administrators have a growth plan focused on the development of effective leadership skills. **Findings:** Administrator growth plans "are not focused on leadership skills." **Recommendations:** School principal should work "with the superintendent to develop goals and should enroll in the regional Kentucky Leadership Academy to develop and enhance instructional leadership skills."

Analysis

By the time the official report from the Office of Leadership and School Improvement had been received, H. Dean Minton and Critt Hunter had retired. John A. Stofer, the newly appointed school principal, and his administrative staff worked diligently to address the numerous lower ratings received on the report. Many of the teachers in the building had been expecting a negative report, but were encouraged by the rapid changes Mr. Stofer brought.

The administrative staff of the school charted a new direction for the school. Shortly after the report was issued, the OCHS school council adopted the current mission statement for the school. That mission is “Stick to the focus of proficiency in teaching and learning.” The change in leadership seemed to bring a stronger sense of pride to the school and reinvigorated the entire faculty. Mr. Stofer, who had no previous administrative experience, has worked to build a collegial relationship with all faculty, and he has worked to ensure student success is the entire school’s number one priority.

Changes initiated included the adoption of council policies to address technology inclusion in all areas of the curriculum, the adoption of professional development activities that build leadership skills for all administrators and faculty, and the appropriate use of the evaluation tool to gauge teacher effectiveness. The council policy on technology implementation has evolved into a School Improvement Plan component. This component details how all teachers should incorporate technology into the classroom and describes how specific departments use technology to promote instruction. The school district conducted renovations at the high school during 2008, and during that renovation ACTIV board technologies and projectors were installed in all classrooms. Computer lab space has more than doubled in the past two years so that teachers have more access to technology for their students. These improvements have encouraged teachers to embrace the technology that is available to improve student achievement.

Administrators can easily evaluate teacher technology via the teacher’s formal and informal observations. The scholastic review has aided administrators in becoming more cognizant of the faculty’s professional development needs with regard to technology. At least six hours of professional development opportunities are planned each year to help teachers address growth areas in technology.

In addition to the technology professional development offered annually, administrators conduct a needs assessment to determine what other professional development opportunities should be offered to the faculty. Administrators also participate in professional development opportunities. As evidenced by

the findings and recommendations aforementioned, the administrative staff was deemed ineffective in its use of the Ohio County School District's evaluation process to appropriately identify teachers needing assistance. As a means of correcting this negative rating, administrators have attended numerous leadership workshops to learn how to closely follow the established evaluation plan. Administrators have increased the number of formal and informal visits to classrooms and have been retrained in the evaluation of teachers. New teachers are monitored on a more frequent basis; new teachers are also assigned resource teachers (or mentors) to increase their awareness of student achievement needs. These procedures have allowed administrators to have a better understanding of the professional needs of the entire faculty.

Summary

The program evaluation conducted by the Kentucky Department of Education's Office of Leadership and Improvement is most closely aligned with the management-oriented approach. Specifically, this evaluation appears to be closely aligned with Daniel Stufflebeam's Context, Input, Process, Product (CIPP) Evaluation Model (Stufflebeam, 2002). Stufflebeam's model is useful in answering the question, "Is this program succeeding?"

The model's first component, context, seeks to find the needs of the organization. In the case of OCHS, the needs are clearly aligned with the indicators/standards of highly effective schools. The model's second component, input, seeks to have the evaluator review current documents and gain input from all stakeholders. The scholastic review clearly describes how information from stakeholders was gathered by the evaluation team and how this information was processed through a triangulation process. The triangulation process helps ensure one evaluator does not allow his/her opinion/bias to enter the situation; it seeks to find out if information gathered from one source can be corroborated with information others are receiving.

The process evaluation component of Stufflebeam's model allows the evaluator to observe, document, and monitor the program firsthand. One-on-one interviews, classroom observations and round-table discussions with other evaluators help create valuable information and anecdotal evidence that can be used to create the report.

The scholastic review conducted at Ohio County High School yielded numerous areas for improvement. Most, if not all, of these areas have been addressed by the current administrative staff. As alluded to in the Executive Summary, scholastic reviews are conducted to help the school improve practices which, in turn, help boost student achievement. Student achievement has risen at OCHS each of the past nine school years. Ohio County High School has transitioned into a data-driven school that is more technologically equipped and prepared to meet the needs of the students it serves.

Section 3

Comparison of the two examples

The evaluations presented in sections two and three contain characteristics consistent with management-oriented program evaluation. This approach is rooted in a systematic approach and contains strict guidelines for the evaluator(s) to follow. Goals of the management-oriented approach include meeting the "information needs" of stakeholders (Crawford, 2006; Hogan, 2007). By meeting the informational needs of the stakeholders, the management-oriented approach allows decision makers to have a comprehensive view of the program. A comprehensive program evaluation helps identify and strengthen the program.

As discussed in section two, Daniel Stufflebeam authored a checklist for the management-oriented approach. His framework is based on the need of the organization to answer questions about the program's success. Stufflebeam states that program evaluation should follow the organized path of determining the context of the evaluation, gathering information for informed decision making, processing gathered information, and producing the final report of findings.

Marvin Alkin authored a framework similar to Stufflebeam's. Alkin's UCLA model details five areas a program evaluator should consider. These areas are systems assessment, program planning, program implementation, program improvement, and program certification (Key, 2002). Alkin's UCLA model is more of a monitoring protocol for continued evaluation, but can be used for an initial program evaluation.

In the case of the mathematics audit, district-level administrators sought to determine if the mathematics program was adequate in meeting the needs of the students in the Ohio County School District. External auditors provided the district administration the outside view that internal evaluators often cannot provide. The evaluation team conducted a thorough evaluation of the district's mathematics program through its document review and interview sessions with stakeholders. This procedure is consistent with the protocol outlined in Stufflebeam's CIPP and Alkin's UCLA models.

The scholastic review contained information about the high school's complete educational program. Scholastic reviews are usually conducted by educational leaders from outside the school district. These reviews are not typically solicited. External evaluators provide unbiased findings and best-practice recommendations to help school decision makers improve the overall school program.

The Ohio County High School principal and SBDM council utilized the data provided by both reports as a means to improve instructional decision making. Alkin's UCLA model calls for a continued review of the evaluation document to ensure the goals and objectives of the program are continuing to be met. The council refers to these documents frequently as it reviews accountability components and plans for departmental needs. Specific data from the mathematics audit and generalizations from the scholastic audit have benefited the council in determining a direction for the mathematics program to pursue. The pursuit of this refined vision has led to increased student accountability as evidenced earlier.

In addition to council action, teachers have more closely monitored teaching practices. Teachers have actively sought activities, projects, and technology resources that link to the findings of both reports.

For example, a high school mathematics teacher adapted a video project he found on the Internet. This project had students explore the relationship between area and volume of an object if the object were scaled to a different size. The students identified an ordinary object and created a scale model by shrinking or enlarging to reflect a new object. Next, the students created a video about their object and explained the mathematics behind the enlargement and reduction. One group took a Golden Grahams cereal box and increased it to a 4.2 times larger box. The movie they created was based on a cave man that ravaged a town in search of food. The new Golden Grahams (toasted bread) satiated his hunger. The teacher's increased awareness of the need to implement technology and increase student vocabulary may not have occurred had the scholastic review and mathematics audit not noted a deficiency in these areas.

Section Four

Summary

Effective programs are critical to school success. Without program evaluations being used as a monitoring tool, programs can quickly become ineffective. Schools must continually maintain a healthy balance between reflection and vision to move the school forward. Schools in Ohio County are striving to make maintain a healthy balance. This fact is evident in the examples provided in this document. Both the scholastic review and mathematics audit have contributed to the sustainability and subsequent growth of the program areas that were evaluated.

The management-oriented approach, as presented by Stufflebeam and Alkin, has been used extensively in the Ohio County Schools in the past eight years. The Stufflebeam and Alkin models are very complementary of the leadership style of the current administration. Ohio County School District administrators have considerable data about specific programs, but often have limited knowledge of the specific content areas. The Stufflebeam CIPP and Alkin UCLA models allow administrators to ask the questions, but also provides them the flexibility to secure support from independent experts in the field to answer the questions.

Evidence provided in sections two and three of this document contributes to the viability of successful school programs. Without a concerted effort to follow through with the recommendations of the experts in the field, program failure would be inevitable. School program evaluations are a necessity and the Ohio County School District has proven that necessity and follow-through leads to student achievement.

References

Andersen, Baldwin, McWilliam Associates. (2005). *Mathematics Audit.* Pocatello, ID: Andersen, Baldwin, McWilliam Associates.

Crawford, D. C. (2006, June 12). *Program Evaluation as a Site-Based Managment Assessment Tool*. Retrieved February 11, 2010, from Ohio State University: http://www.ag.ohio-state.edu/~brick/sitebase.htm

Hogan, R. L. (2007). The Historical Development of Program Evaluation: Exploring the Past and Present. *Online Journal of Workforce Education and Development* , 2-13.

KDE Office of Leadership and School Improvement. (2002). *Scholastic Review Summary Report.* Frankfort, KY: Kentucky Deparment of Education.

Kentucky Department of Education. (2008, Fall). School Level Performance Descriptors for Kentucky's Standards and Indicators for School Improvement. Frankfort, KY.

Kentucky Department of Education. (2009, September 16). *Standards and Indicators for School Improvement*. Retrieved January 27, 2010, from Kentucky Department of Education: http://www.education.ky.gov/KDE/Administrative+Resources/School+Improvement/Standards+and+Indicators+for+School+Improvement/

Key, J. P. (2002). *Managment-Oriented*. Retrieved February 11, 2010, from Oklahoma State University: http://www.okstate.edu/ag/agedcm4h/academic/aged6220/6220class/6220class/manageme.htm

Owen, J. M. (2007). *Program Evaluation: Form and Approaches.* New York: The Guilford Press.

Stangl, D. (1996, May 20). *PPS 231*. Retrieved January 21, 2010, from Duke University: http://www.stat.duke.edu/~dalene/pps231/

Stufflebeam, D. L. (2002, June). *CIPP EVALUATION MODEL CHECKLIST.* Retrieved January 28, 2010, from Western Michigan University Evaluation Center: http://www.wmich.edu/evalctr/checklists/cippchecklist.pdf