



# **SCHOOL DISTRICT PERFORMANCE AUDIT REPORT**

## **K-12 Education: Alternative Models for Organizing Middle Schools and High Schools**

**A Report to the Legislative Post Audit Committee  
By the Legislative Division of Post Audit  
State of Kansas  
February 2007**

# ***Legislative Post Audit Committee***

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## ***Legislative Division of Post Audit***

**THE LEGISLATIVE POST** Audit Committee and its audit agency, the Legislative Division of Post Audit, are the audit arm of Kansas government. The programs and activities of State government now cost about \$11 billion a year. As legislators and administrators try increasingly to allocate tax dollars effectively and make government work more efficiently, they need information to evaluate the work of governmental agencies. The audit work performed by Legislative Post Audit helps provide that information.

We conduct our audit work in accordance with applicable government auditing standards set forth by the U.S. Government Accountability Office. These standards pertain to the auditor's professional qualifications, the quality of the audit work, and the characteristics of professional and meaningful reports. The standards also have been endorsed by the American Institute of Certified Public Accountants and adopted by the Legislative Post Audit Committee.

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February 9, 2007

To: Members, Legislative Post Audit Committee

Representative Peggy Mast, Chair	Senator Nick Jordan, Vice Chair
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This report contains the findings and conclusions from our completed school performance audit, *K-12 Education: Alternative Models for Organizing Middle Schools and High Schools*

We would be happy to discuss the findings presented in this report with any legislative committees, individual legislators, or other State officials.

Barbara J. Hinton  
Legislative Post Auditor

## Get the Big Picture

Read these Sections and Features:

1. **Executive Summary** - an overview of the questions we asked and the answers we found.
2. **Conclusion and Recommendations** - are referenced in the Executive Summary and appear in a box after each question in the report.
3. **Agency Response** - also referenced in the Executive Summary and is the last Appendix.

### *Helpful Tools for Getting to the Detail* 🔍

- In most cases, an “**At a Glance**” description of the agency or department appears within the first few pages of the main report.
- **Side Headings** point out key issues and findings.
- **Charts/Tables** may be found throughout the report, and help provide a picture of what we found.
- **Narrative text boxes** can highlight interesting information, or provide detailed examples of problems we found.
- **Appendices** may include additional supporting documentation, along with the audit **Scope Statement** and **Agency Response(s)**.

# EXECUTIVE SUMMARY

LEGISLATIVE DIVISION OF POST AUDIT

## **What Are the Advantages and Disadvantages of Various Alternative Models for Middle Schools and High Schools Used in Kansas School Districts or in Other States?**

**High schools have been organized in the same way since the early 20th century.** ..... page 2  
*The traditional high school model emerged from an early 20th century debate over what function high schools should perform. Today, most high schools are organized much the same way as their early 20th century counterparts—six periods in a day, 180 days in a school year, and a curriculum that features English, social studies, science, math, and foreign language.*

**We identified five common approaches to school reform developed over the last 25 years.** ..... page 3  
*We found 41 middle and high schools nationwide using alternative models that experts identified as successful. From this research, we identified five major approaches to middle and high school reform.*

**Alternative schedules are used to increase the time students spend in school, or to use the time more efficiently.** ..... page 4  
*Increased instructional time allows students to study more subjects or to study more in-depth. However, the increased time in school may come at the expense of students' other activities.*

- *Block Scheduling: Schools that use a block schedule divide the day into fewer but longer class periods.*
- *Year-Round: Students in year-round schools attend school the same number of days as those in traditionally scheduled schools, but those days are spread throughout the entire calendar year.*
- *Extended Day or Week: The day or week is longer than normal to increase instructional time.*

**Theme-based programs are used to keep students engaged in learning and to connect their education to their plans after high school.** ..... page 6  
*These programs encourage students to think about their plans for after high school. However, if they aren't implemented properly, theme-based programs have the potential to force students to make a career decision too early in life.*

- *College Prep: College prep programs focus on coursework designed to get students ready for college.*
- *Career Pathways: Career pathway schools offer a variety of programs designed to allow students to study subjects that suit their interests or their plans for after high school.*
- *Technical Programs: Technical programs focus on preparing students for technical or vocational careers by offering relevant coursework and hands-on experience.*
- *Magnet Schools: Magnet schools are based on a theme—such as the arts, technology, or leadership studies—and often draw students from throughout a district.*

**Small learning communities** are created to foster the relationship between teachers and students, and among students. A stronger student-teacher relationship may improve students' performance. However, because students may spend multiple years with the same teacher, the effects of one weak teacher can be felt more acutely.

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- *Schools Within a School*: These schools assign students to smaller groups that often are based on a theme. Generally, teachers stay with the same group of students for multiple years.
- *Creating Small Schools*: These schools are created by moving students out of one large building and into several smaller ones
- *Freshman Focus*: These schools focus additional resources on freshman students to provide a solid academic foundation in this crucial year.

**Alternative instructional formats** have been developed to accommodate the different pace and ways in which students learn. Although these formats may work for some students, it's important that teachers don't get "locked-in" to one way of teaching.

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- *Project-Based*: Students complete hands-on projects to create a more relevant learning experience.
- *Virtual Schools*: These schools offer all coursework online so students may access it at anytime.
- *Mall Schools*: These schools are housed in malls and generally target students who need more flexible hours to attend school or who have dropped out of a traditional school.
- *Individualized Learning*: These schools tailor the content and pace of the curriculum to each student. This method can accommodate many different paces and styles of learning.
- *Paideia*: Paideia schools use an instructional format that focuses on individual coaching and discussion, with little time spent on rote learning. All students use the same core curriculum and assessment is both individualized (such as portfolios) and standardized.

**Many comprehensive school reform** models have been developed that change all aspects of the school. Rather than changing individual areas of a school, such as scheduling, curriculum, or school size, these reforms address the school as a whole. Because many of these models have been developed by outside entities, other resources and expertise often are available when using a comprehensive model. However, comprehensive reform can be expensive and time consuming.

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<b>Conclusion</b>	..... page 20
<b>Appendix A: Scope Statement</b>	..... page 22
<b>Appendix B: Agency Response</b>	..... page 23

This audit was conducted by Heidi Zimmerman. Scott Frank was the audit manager. If you need any additional information about the audit's findings, please contact Heidi at the Division's offices. Our address is: Legislative Division of Post Audit, 800 SW Jackson Street, Suite 1200, Topeka, Kansas 66612. You also may call us at (785) 296-3792, or contact us via the Internet at [LPA@lpa.state.ks.us](mailto:LPA@lpa.state.ks.us).

# K-12 Education: Alternative Models for Organizing Middle Schools and High Schools

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Overall, Kansas students perform well on Statewide standardized tests in math and reading, but the performance of high school students traditionally has lagged behind other grade levels. Members of the 2010 Commission were concerned that, because the traditional high school model has not changed much over the last century, modern high schools may not be using a model that is effective for today's students. Commission members were interested in exploring alternative ways of organizing middle and high schools that might be more successful in today's educational environment.

This school district performance audit answers the following question:

**What are the advantages and disadvantages of various alternative models for middle schools and high schools used in Kansas school districts or in other states?**

To answer this question we interviewed Kansas Department of Education officials, superintendents, principals, and other professionals involved in education issues to find out what type of models are used in Kansas. We also conducted a literature review, searched for information made available through charitable foundations, and performed a general Internet search to gather information on what models are being used nationwide.

A copy of the approved scope statement for this audit is included in *Appendix A*.

In conducting this audit, we followed all applicable government auditing standards.

## What Are the Advantages and Disadvantages of Various Alternative Models for Middle Schools and High Schools Used in Kansas

**ANSWER IN BRIEF:** *High schools have been organized in basically the same way for much of the last century. Over the last 25 years, a variety of pressures have prompted many schools to attempt a variety of school reforms. These reforms include offering alternative schedules, organizing schools around a theme, creating small learning communities, establishing alternative instructional formats, and implementing comprehensive school reforms. These and related findings are discussed in the sections that follow.*

### ***High Schools Have Been Organized in the Same Way Since the Early 20th Century***

The traditional high school model emerged from an early 20th century debate over what function high schools should perform. In 1893, the National Education Association (NEA) appointed the Committee of Ten, a group comprised mainly of college presidents charged with establishing curriculum standards for public high school students who intended to go to college. The Committee concluded that all students—regardless of college intentions—should receive a college prep education because it offered the best chance for an equal education for all students.

This view was challenged in 1918 by another NEA appointed group, the Commission on the Reorganization of Secondary Education. This group concluded that, because most students wouldn't go to college, high schools should offer a variety of tracks to accommodate non-college-bound students. Eventually, high schools began to offer both college preparatory and vocational curriculums.

Today, most high schools continue to offer both college prep and vocational courses, and most are organized in much the same way as their early 20th century counterparts. Here are some of the nationwide characteristics of a traditional high school:

- The school day runs from around 8 a.m. to 3 p.m., and is divided into five or six instructional periods (in Kansas, each district sets the daily schedule, but students typically average six hours a day in class).
- The school year consists of approximately 180 days spread across nine months (in Kansas, the law requires 186 days for K-11 students and 181 days for 12th grade students).
- The curriculum typically consists of:
  - ▶ four years of English (same in Kansas),
  - ▶ four years of history or social studies (Kansas students take three years of history or government).



- ▶ three years of science (same in Kansas).
  - ▶ three years of math (Kansas students take four years of math).
  - ▶ two years of foreign language (same in Kansas).
- Most subjects are taught through lectures, note taking, and reading.

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***We Identified Five  
Common Approaches to  
School Reform Developed  
Over the Last 25 Years***

In 1983, the National Commission on Excellence in Education released the report, *A Nation at Risk*. This report discussed some of the problems in American education and highlighted the need for reform in education. Since then, demands from parents, falling test scores, and pressure to meet state standards have prompted many schools to attempt a variety of school reforms.

To identify various approaches to middle school and high school reform, we reviewed information compiled by a number of charitable foundations, as well as research in the academic literature. We also interviewed a number of education experts, including officials from the Department of Education, university researchers, district superintendents, and school principals.

We found 41 middle and high schools nationwide using alternative models that experts had identified as being successful. From this research, we were able to identify five major approaches to middle and high school reform:

- alternative scheduling
- theme-based programs
- small learning communities
- alternative instructional formats
- comprehensive school reform

As part of our research on the five models, we tried to find evidence of effectiveness for each of them. While most models have examples of successful schools, there is little rigorous research available that assesses the effectiveness of each model. Wherever rigorous research on a particular model have been conducted, we've tried to highlight those research findings.

Also, we tried to highlight Kansas schools that use these models whenever possible. For the first four models, the schools we've cited aren't necessarily the only schools in Kansas using these models. They are meant to serve as examples, and may not represent a complete list of all of the schools in Kansas using a particular model. However, for the models listed in the comprehensive school reform section, those schools do represent all of the schools using that model in the State.

Figure 1-1

## Summary of Information on Alternative Scheduling Models

**Purpose:** Schools use an alternative schedule to increase the time students spend in school, or to use the time more efficiently.

Alternative Scheduling Models	Description	Stated Advantages	Stated Disadvantages
<b>Block Scheduling</b>	Schools that use a block schedule divide the day into fewer but longer class periods. For example, students might take only four courses per semester, or may alternate which classes they take each day.	<ul style="list-style-type: none"> <li>• Lessons can be extended and maintained with greater continuity.</li> <li>• A less-fragmented schedule allows students to focus on fewer courses at one time.</li> <li>• Teachers benefit from additional planning time.</li> </ul>	<ul style="list-style-type: none"> <li>• Class sizes have the potential to increase because fewer classes are offered at any one time.</li> <li>• It may be difficult to handle transfer students who come from schools that use a traditional schedule because they may not be able to accumulate enough credits.</li> <li>• Students who take Advanced Placement courses may finish the course in the winter, but may not be able to take the final test until the spring.</li> <li>• There could be a gap of time between two sequential courses because not all courses may be offered every semester.</li> </ul>
<b>Year-Round</b>	Students in year-round schools attend school the same number of days as those in traditionally scheduled schools (186 in Kansas), but those days are spread throughout the entire calendar year.	<ul style="list-style-type: none"> <li>• Increased motivation among teachers and students after returning refreshed from more frequent breaks.</li> <li>• Increased availability of extra-curricular activities during breaks.</li> <li>• For schools with overcrowding issues, putting students on multiple year-round tracks can reduce class sizes and ease overcrowding.</li> </ul>	<ul style="list-style-type: none"> <li>• May create scheduling conflicts between family vacations or other activities.</li> <li>• Having several short breaks can create problems finding day care.</li> <li>• Unless all schools in a district go to a year-round schedule, siblings can be on different schedules.</li> <li>• Greater expense of operating schools year-round.</li> </ul>
<b>Extended Day or Week</b>	In extended day or week schools, the day or week is longer than normal. For example, students might attend classes from 8 to 5 (instead of 8 to 3), or they might attend classes on Saturday.	<ul style="list-style-type: none"> <li>• More time for in-depth study.</li> <li>• Additional subjects can be covered.</li> <li>• Longer days allow for greater interaction between teachers and students, which may strengthen their relationship.</li> </ul>	<ul style="list-style-type: none"> <li>• Staff can become overworked.</li> <li>• Greater expense.</li> <li>• More time in school comes at the expense of students' other activities.</li> </ul>

(a) The research evidence regarding effectiveness has been summarized into the following categories:

**Strong** if there were at least 10 rigorous studies and at least five of them showed strong positive results.

**Moderate** if there were at least two rigorous studies and at least one of them showed strong positive results.

**Limited** if there was at least one rigorous study that showed positive (though not necessarily strong) results.

**Inconclusive** if there was at least one rigorous study but none that showed positive results.

**Negative** if the research showed a negative relationship.

Source: LPA literature review and interviews with Department of Education officials, principals, and superintendents.

**Alternative Scheduling:** We identified 14 schools that have adopted alternative schedules to increase the time students spend in school, or to use that time more effectively. Alternative schedules are used to organize the school day, week, or year differently than is typical in traditional schools. Approaches like

Stated Challenges	Summary of Research on Effectiveness (a)	Examples in Kansas
<ul style="list-style-type: none"> <li>• Alternative schedules break with longstanding tradition.</li> <li>• It may be difficult getting support from teachers, parents, and students to make a significant change.</li> </ul>	<p><b>Negative ( - )</b>            Seven rigorous studies examined the effect of block schedules on student performance. Three studies found that block schedules <u>negatively</u> affected performance, while the others found no significant difference in performance.</p>	<p>According to Department of Education officials, 41% of high schools in Kansas use some form of block scheduling.</p>
	<p><b>Limited (🍏):</b>            A study that looked at 58 school districts using year-round schedules found that students in 62% of the districts performed better than students on traditional schedules, but the effects were very small.</p>	<p>No public middle or high schools in Kansas use this model.</p>
	<p><i>no rigorous research</i></p>	<p>No public middle or high schools in Kansas use this model.</p>

extended days or weeks are used to increase the total time students spend in school, block or year-round schedules are used to organize instruction time more effectively. The various types of alternative scheduling models are summarized in *Figure 1-1*.

Figure 1-2

**Summary of Information on Theme-Based Program Models**

**Purpose:** Schools implement theme-based programs to keep students engaged in learning and to connect their education to their after-high school plans.

Theme-Based Program Models	Description	Stated Advantages	Stated Disadvantages
<b>College Prep</b>	College prep programs offer coursework designed to better prepare students for college.		
<b>Career Pathways</b>	Career pathway schools offer a variety of programs designed to allow students to study coursework that suits their interests or their plans for after high school. Examples of such programs include international studies, engineering, or computer science.	<ul style="list-style-type: none"> <li>• Coursework is relevant to students' plans or interests.</li> </ul>	<ul style="list-style-type: none"> <li>• Offering a wide range of programs can be expensive, particularly if many of the programs are highly technical in nature.</li> </ul>
<b>Technical Programs</b>	Technical programs focus on preparing students for technical or vocational careers by offering relevant coursework and hands-on experience. Often, these programs allow students to work toward technical certificates that greater prepare them for the workforce.	<ul style="list-style-type: none"> <li>• Encourages students to think about their plans for after high school.</li> <li>• The variety of programs allows for parent and student choice.</li> </ul>	<ul style="list-style-type: none"> <li>• Because these schools offer several tracks, parents and others may fear that some students will be forced into "dumbed-down" programs that don't offer the same quality of education.</li> </ul>
<b>Magnet Schools</b>	Magnet schools are based on a theme—such as the arts, technology, or leadership studies. These schools often have an application process and draw students from throughout a district.		<ul style="list-style-type: none"> <li>• If not implemented properly, theme-based programs may force students to pick a career path too early in life.</li> </ul>

(a) The research evidence regarding effectiveness has been summarized into the following categories:  
**Strong** if there were at least 10 rigorous studies and at least five of them showed strong positive results.  
**Moderate** if there were at least two rigorous studies and at least one of them showed strong positive results.  
**Limited** if there was at least one rigorous study that showed positive (though not necessarily strong) results.  
**Inconclusive** if there was at least one rigorous study but none that showed positive results.  
**Negative** if the research showed a negative relationship.

Source: LPA literature review and interviews with Department of Education officials, principals, and superintendents.

**Theme-Based Programs:** We found 28 schools that have implemented theme-based programs to keep students engaged in learning and to connect their education to their after high school plans. These schools offer one or more programs centered on a theme, such as technology, fine arts, or communications. The programs are designed to keep students engaged in their coursework by tailoring it to their interests, and to connect students' high school experience to their plans for after high school. The various types of theme-based program models are summarized in *Figure 1-2*.

Stated Challenges	Summary of Research on Effectiveness (a)	Examples in Kansas
<ul style="list-style-type: none"> <li>• The programs should reflect what students need.</li> <li>• The programs should fit the school's long-range plans.</li> <li>• In order for programs to operate properly, adequate planning time must be allowed.</li> </ul>	no rigorous research	Wichita North High School has an Advancement Via Individual Determination (AVID) program.  See bottom of page for more information.
	no rigorous research	Shawnee Mission and Olathe High Schools  See bottom of page for more information.
	no rigorous research	Cornerstone Charter High School (Galena)  See bottom of page for more information.
	<b>Inconclusive (●):</b> One study looked at the effects of magnet schools on math and reading and found some positive effects. However, the large variation in results made it difficult to draw any conclusions.	Wichita School District  See bottom of page for more information.

**Kansas Experience - College Prep  
Wichita School District**

Wichita North High School has implemented a college preparatory program called Advancement Via Individual Determination (AVID). This program targets students who have demonstrated academic potential but who traditionally would not have thought of college a possibility. Students in the program complete a rigorous curriculum that includes honors and Advanced Placement courses. They also receive intensive support through advisors and extra tutoring.

**Kansas Experience - Magnet Schools  
Wichita School District**

Wichita established its first secondary-level magnet school in 1990. The district now has six secondary-level magnet schools—five middle schools and one high school. Some of the magnet schools require students to go through a random selection process for admission, while others are neighborhood schools that accept students from outside the attendance boundary. The middle schools offer themes such as technology, arts, language, and leadership. The high school offers three programs—law, science, and visual arts.

**Kansas Experience - Technical Programs  
Galena School District**

Cornerstone High School is an alternative high school that serves four school districts in Cherokee County. The school targets students who are behind in credit hours and won't be able to graduate with their class. Cornerstone operates both a trophy-making business and a construction-trades program. The trophy-making business allows students to gain experience in running a business. Through the construction trades program, students do construction and carpentry work in the community. By partnering with a local construction firm, they can also earn a construction trade certificate to help them get a job in the future.

**Kansas Experience - Career Pathways  
Olathe School District**

The Olathe school district has implemented the 21st Century Schools program, a type of career-pathways program, in each of its four high schools. Olathe high schools offer a total of 17 programs, including programs in leadership studies, biotechnology, electronic communications, and international studies. Students select the program they are interested in, and may transfer to a different school to participate in the program of their choice. Many of the programs allow the students to receive an endorsement in their particular area. The endorsement is noted on the student's transcript and can be shown to prospective colleges or employers.

Figure 1-3

## Summary of Information on Small Learning Community Models

**Purpose:** Schools use small learning communities to foster the relationship between teachers and students, and among students.

Small Learning Community Models	Description	Stated Advantages	Stated Disadvantages
<b>School Within a School</b>	These schools assign students to smaller groups, often based on a theme. Generally, teachers stay with the same group of students for multiple years.	<ul style="list-style-type: none"> <li>• Stronger student-teacher relationships which may improve academic performance.</li> <li>• Students often have stronger feelings of connectedness to the school.</li> </ul>	<ul style="list-style-type: none"> <li>• With schools within a school, the effects of one weak teacher can be felt more acutely because that teacher may stay with students for multiple years.</li> <li>• Schools within a school can limit co-curricular activities if the scheduling is too rigid. For example, students with interests outside their community may find it difficult to participate in those classes.</li> <li>• Small schools may have difficulty offering a wide range of courses.</li> </ul>
<b>Creating Small Schools</b>	These schools are created by moving students out of one large building and into several smaller ones. Generally, a high school is considered small if it has 500 or fewer students.		
<b>Freshman Focus</b>	These schools focus additional resources on freshman students to provide a solid academic foundation in this crucial year. Often they have their own community, classes that address issues such as study habits and organization, and sometimes their own wing or floor of the school.		

(a) The research evidence regarding effectiveness has been summarized into the following categories:

Strong if there were at least 10 rigorous studies and at least five of them showed strong positive results.

Moderate if there were at least two rigorous studies and at least one of them showed strong positive results.

Limited if there was at least one rigorous study that showed positive (though not necessarily strong) results.

Inconclusive if there was at least one rigorous study but none that showed positive results.

Negative if the research showed a negative relationship.

Source: LPA literature review and interviews with Department of Education officials, principals, and superintendents.

**Small Learning Communities:** We found 17 schools that have created small learning communities to foster the relationship between teachers and students, and among students. These schools divide the student body into smaller groups, sometimes based on a theme or career interest. Often, students will remain together with the same teachers for multiple years, which encourages better relationships. These small groups also simulate the small-school environment, which fosters collegiality among students. The various types of small learning community models are summarized in *Figure 1-3*.

Stated Challenges	Summary of Research on Effectiveness (a)	Examples in Kansas
<ul style="list-style-type: none"> <li>• Resisting the idea that "small" is enough. Breaking larger schools into smaller ones may not produce academic improvement by itself.</li> </ul>	<i>no rigorous research</i>	<p>As part of the First Things First model, Kansas City middle and high schools have created schools within a school.</p> <p>See page 13 for more information.</p>
	<p><b>Strong (★★★★):</b>            Of 31 studies examining school size and student achievement, half found achievement in small schools to be superior to that of large schools. None of the studies found large schools <u>superior</u> to small schools.</p>	<p>No large public middle or high schools in Kansas have used this model, although many small schools exist because of their rural location.</p>
	<i>no rigorous research</i>	<p>Wichita West and Junction City</p>

Figure 1-4

## Summary of Information on Alternative Instructional Format Models

**Purpose:** Schools use alternative instructional formats to accommodate the different pace and ways in which students learn.

Alternative Instructional Format Models	Description	Stated Advantages	Stated Disadvantages
<b>Project-Based</b>	Students complete hands-on projects to create a more relevant learning experience. In addition to more traditional hands-on subjects such as science or vocational education, this format can also be used in other subjects such as math, English, or history.		
<b>Virtual Schools</b>	These schools offer all coursework online so students may access it at anytime. Some offer the same curriculum that the "bricks-and-mortar" schools use.	<ul style="list-style-type: none"> <li>• Project-based schools can offer hands-on experience and a connection to real-world applications.</li> </ul>	<ul style="list-style-type: none"> <li>• Teachers can get "locked-in" to using one format to teach all material rather than using a variety of methods.</li> </ul>
<b>Mall Schools</b>	These schools are housed in malls and generally target students who need more flexible hours to attend school or who have dropped out of a traditional school. Much of the coursework is computerized and self-paced.	<ul style="list-style-type: none"> <li>• Offers flexibility for students who may need to attend classes outside the traditional hours.</li> <li>• Coursework and instruction can be tailored to a student's particular learning pace or style.</li> </ul>	<ul style="list-style-type: none"> <li>• For virtual schools, lack of interaction with teachers and other students.</li> </ul>
<b>Individualized Learning</b>	These schools tailor the content and pace of the curriculum to each student. This method can accommodate many different paces and styles of learning.		
<b>Paideia</b>	Paideia schools use an instructional format that focuses on individual coaching and discussion, with little time spent on rote learning. All students use the same core curriculum and assessment is both individualized (such as portfolios) and standardized.		

(a) The research evidence regarding effectiveness has been summarized into the following categories:  
Strong if there were at least 10 rigorous studies and at least five of them showed strong positive results.  
Moderate if there were at least two rigorous studies and at least one of them showed strong positive results.  
Limited if there was at least one rigorous study that showed positive (though not necessarily strong) results.  
Inconclusive if there was at least one rigorous study but none that showed positive results.  
Negative if the research showed a negative relationship.

Source: LPA literature review and interviews with Department of Education officials, principals, and superintendents.

**Alternative Instructional Formats:** We identified 10 schools that have developed alternative instructional formats in order to accommodate the different pace and ways in which students learn. These formats differ from the traditional group-paced, lecture format by tailoring coursework to the student's interests, availability, and abilities. These formats can accommodate a variety of learning styles, and often can assist students who need to attend school outside the traditional hours. The various types of alternative instructional formats are summarized in *Figure 1-4*.



Stated Challenges	Summary of Research on Effectiveness (a)	Examples in Kansas
<ul style="list-style-type: none"> <li>• It may be difficult to provide enough assistance to students who are working away from the school.</li> <li>• Making materials accessible and interesting enough to keep students motivated.</li> <li>• Some of these models require teachers to significantly alter their teaching methods. Often, this will require additional training.</li> </ul>	<i>no rigorous research</i>	Harmon High School, Kansas City
	<p><b>Inconclusive (Ⓜ):</b>            One study in Florida compared the performance of virtual school students and traditional school students in an algebra course, and found the virtual school students performed better than the traditional students. However, the authors cited several limitations that make it difficult to draw conclusions.</p>	Basehor-Linwood School District  See bottom of page for more information.
	<i>no rigorous research</i>	The Simon Youth Foundation operates mall schools in Towne East and Towne West Malls in Wichita.
	<i>no rigorous research</i>	Hope Street Charter Academy, Topeka  See bottom of page for more information.
	<i>no rigorous research</i>	No public middle or high schools in Kansas use this model.

**Kansas Experience – Individualized Learning  
Topeka School District**

Hope Street Charter Academy in Topeka is a charter high school that targets students who need a more flexible learning environment. At Hope Street, students' schedules are tailored to their availability, ability level, and interests. Coursework can be accessed through a traditional classroom setting, a CD-ROM, or online. Teachers use team teaching to help students relate multiple subjects to each other. Hope Street has made adequate yearly progress under No Child Left Behind in both math and reading for each of the last two years.

**Kansas Experience – Virtual Schools  
Basehor-Linwood District**

Basehor-Linwood Virtual School (BLVS) offers a fully accredited online K-12 curriculum. The school serves a wide range of students throughout the State, including home-schooled students, those who have dropped-out of traditional schools, and adults seeking a high school diploma. Students have access to certified support staff who can assist with instructional methods and assessments. The coursework is self-paced, but students must work consistently toward completing their course requirements. To earn high school credit, students must complete all coursework requirements and take their final exams at a proctored location.

**Comprehensive School Reform: Many models of comprehensive school reform have been developed that change all aspects of a school.** Rather than changing individual areas of a school, such as scheduling, curriculum, or school size, these reforms address many areas, including instructional format, staff development, and the structure of the day. Several advantages and disadvantages to comprehensive school reform have been identified in the research literature. These are summarized in *Figure 1-5*.

<b>Figure 1-5 Summary of Advantages and Disadvantages of Comprehensive School Reform</b>	
<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>• Comprehensive reform models often come with a clear plan for changing the school's standards and culture.</li> <li>• Because these models have been developed by external entities, they provide schools with access to additional resources and expertise.</li> <li>• It introduces quality-control mechanisms, like frequent monitoring of progress, that are often lacking in other types of reform.</li> </ul>	<ul style="list-style-type: none"> <li>• Reforming all aspects of a school is very difficult</li> <li>• It can take several years from the planning stages to full implementation.</li> <li>• It can be very expensive.</li> <li>• There's a lack of reliable evidence about the effectiveness of some reform models.</li> </ul>

In addition, because the changes involved in comprehensive school reform are so extensive, many challenges exist. Some of these challenges are:

- convincing parents, students, and teachers that the reform will work
- continuing with the reform despite obstacles
- providing adequate training to teachers and staff

In October 2006, the Comprehensive School Reform Quality Center released a report evaluating the research on comprehensive school reform models. This list is not a comprehensive list, but highlights some of the more common models. *Figure 1-6* starting on page 14 summarizes that information.

**Kansas Experience – Edison Schools  
Wichita School District**

In 1994, Wichita Public Schools hired Edison Schools to manage three elementary schools and one middle school in the district. Edison claimed it could operate more cost-effective schools in which students performed better. When Edison took over the four schools, the district paired each Edison school with a similar school that was run by the district so it could compare their performance over time.

After several years, the district determined the Edison schools were less effective than their district-run counterparts. According to district officials, Edison schools had higher teacher turnover, more discipline problems, and higher costs. In 2002, the Wichita school board voted to revoke Edison's contract.

**The Kansas City (Missouri) School District  
Is Considering Eliminating Middle Schools**

Like many districts across the country, the Kansas City, Missouri, school district is debating the best way to organize its schools. Recently, the district proposed eliminating most middle schools in favor of moving those students into K-8 elementary schools—an approach that has been adopted by school districts in Philadelphia, Cincinnati, and Cleveland. District officials think isolating middle school students in separate schools contributes to behavior problems, and moving these students into elementary schools will reduce disciplinary problems and improve student achievement.

**Kansas Experience with Comprehensive School Reform – First Things First  
Kansas City School District**

In 1996, after years of low test scores and high dropout rates, the Kansas City school district adopted a comprehensive school reform model called First Things First. The model was implemented in one high school and its feeder pattern in 1998, and was implemented district-wide by 2000. As implemented in Kansas City, the First Things First model includes the following components:

- creating small learning communities, and at the high school level centering them around a career-based theme
- implementing a family-advocate system that connects a teacher to every student's family
- increasing staff development by letting students out of school early one day a week to allow for teacher collaboration and support

In 2004, Youth Development Strategies, a non-profit research organization, conducted a study on the effectiveness of First Things First in Kansas City. The researchers found many improvements in the district's schools, including improved student performance on the Statewide reading and math assessments, better attendance and graduation rates, and lower dropout rates.

Figure 1-6

## Summary of Information on Comprehensive School Reform Models

Comprehensive School Reform Models (Year Founded)	Target School Type	Mission
<b>Purpose:</b> Schools use comprehensive school reform to change all aspects of the school.		
<b>HIGH SCHOOL MODELS</b>		
<b>High Schools That Work</b> (1987)	All types of schools	High Schools That Work tries to prepare students for post-secondary education or career options by improving the rigor of college prep courses, integrating career and academic courses, and strengthening the connection between academic and vocational courses.
<b>Talent Development Schools</b> (1994)	Schools with serious attendance, discipline, and academic problems	The Talent Development High School (TDHS) model is designed to transform high schools into respectful and motivating learning communities that challenge all students to reach their full potential.
<b>MIDDLE SCHOOL MODELS</b>		
<b>Making Middle Grades Work</b> (1999)	All types of schools	Making Middle Grades Work is geared toward preparing middle school students for college prep coursework in high school.
<b>Middle Start</b> (1994)	Schools with a high-poverty student population	Middle Start is designed to ensure that all students have access to the appropriate support, services, and opportunities to learn.
<b>Success for All-Middle Grades</b> (2001)	Schools with a high-poverty student population	Success for All tries to improve literacy skills and provide a challenging curricula to prepare students for high school.
<b>Turning Points</b> (1998)	Urban schools	Turning Points tries to create high-performing schools using teacher collaboration and data-based inquiry.

Key Strategies	Research Evidence (a)	Districts in Kansas That Use This Model
<ul style="list-style-type: none"> <li>Requires students to complete an academic concentration in either a technical or academic field.</li> <li>Encourages more students to take high-level math and science courses.</li> <li>Provides access to technical studies in high-demand fields.</li> </ul>	<i>no rigorous research</i>	<p>Great Bend Garden City Wichita West</p>
<ul style="list-style-type: none"> <li>Creates small learning communities.</li> <li>Creates interdisciplinary teacher teams.</li> <li>Provides extra help for students.</li> <li>Tries to involve parents.</li> </ul>	<p><b>Moderate (🍏🍏🍏):</b> There were four rigorous studies. Two studies examined the effects on TDHS on students in urban high schools and found positive effects in math, and one found positive effects in reading. For the other two studies, the effects could not be determined.</p>	<p>none</p>
<ul style="list-style-type: none"> <li>Establishes a rigorous core curriculum.</li> <li>Hires highly qualified teachers.</li> <li>Uses parent and community support.</li> </ul>	<i>no rigorous research</i>	<p>none</p>
<ul style="list-style-type: none"> <li>Creates small learning communities.</li> <li>Implements a rigorous curriculum.</li> </ul>	<p><b>Limited (🍏):</b> There were two rigorous studies. One study examined students in schools that served predominantly low socioeconomic populations, and found positive effects in reading. The other looked at middle school students in a large school and suggested positive results.</p>	<p>none</p>
<ul style="list-style-type: none"> <li>Implements a rigorous curriculum that's relevant to young adolescents.</li> <li>Creates small learning communities.</li> </ul>	<p><b>Moderate (🍏🍏🍏):</b> There were two rigorous studies. Both looked at students in low socioeconomic areas—one predominantly white and the other predominantly minority—and found positive effects on reading.</p>	<p>Great Bend</p>
<ul style="list-style-type: none"> <li>Creates small learning communities.</li> <li>Uses data-driven decision making.</li> <li>Tries to increase teacher collaboration.</li> </ul>	<i>no rigorous research</i>	<p>none</p>

**Figure 1-6**  
**Summary of Information on**  
**Comprehensive School Reform Models (Continued)**

Comprehensive School Reform Models (Year Founded)	Target School Type	Mission
<b>K-12 MODELS</b>		
<b>ATLAS Learning Communities</b> (1993)	All types of schools	ATLAS is designed to enable every student to fully realize his or her potential by building academically rigorous and caring schools.
<b>Coalition of Essential Schools</b> (1984)	All types of schools	Essential schools work to create academic success for every student by sharing decision-making with those affected by the decisions and deliberately confronting all forms of inequity.
<b>Modern Red SchoolHouse</b> (1996)	All types of schools	Modern Red SchoolHouse is designed to help schools achieve school-wide academic progress that aligns with state and local standards.
<b>Onward to Excellence II</b> (1981)	All types of schools	Onward to Excellence II aims to help school communities work together to improve student-achievement goals.
<b>Expeditionary Learning</b> (1993)	Schools in disadvantaged areas	Expeditionary Learning schools try to create and sustain good and improving schools in areas where good and improving schools are not the norm.
<b>Accelerated Schools</b> (1986)	Schools with a high-poverty student population	Accelerated Schools is designed to enrich the lives of students by offering an accelerated curriculum usually reserved only for gifted students.
<b>First Things First</b> (1996)	Schools with a high-poverty student population	First Things First (FTF) is designed to strengthen the connections between students and adults within the school in order to improve student performance.

PERFORMANCE AUDIT REPORT		
Key Strategies	Research Evidence (a)	Districts in Kansas That Use This Model
<ul style="list-style-type: none"> <li>• Uses a variety of assessment techniques, such as, tests, portfolios, and presentations.</li> <li>• Tries to involve family and community members.</li> <li>• Uses a project-based curriculum.</li> </ul>	<i>no rigorous research</i>	none
<ul style="list-style-type: none"> <li>• Creates small learning communities.</li> <li>• Implements interdisciplinary studies that try to relate individual subjects to each other.</li> <li>• Uses performance-based assessments.</li> <li>• Uses community-based learning.</li> </ul>	<i>no rigorous research</i>	none
<ul style="list-style-type: none"> <li>• Provides customized professional development based on what works in highly effective schools.</li> </ul>	<i>no rigorous research</i>	none
<ul style="list-style-type: none"> <li>• Helps schools choose and implement new practices rather than mandating specific changes.</li> </ul>	<i>no rigorous research</i>	Fort Scott Wabaunsee Horton Oskaloosa Mound City Jayhawk-Linn Eskridge
<ul style="list-style-type: none"> <li>• Uses a project-based curriculum.</li> <li>• Bases assessments on presentations of student work.</li> <li>• Uses field studies for “hands-on” learning.</li> </ul>	<p><b>Limited (🍏🍏):</b> There were two rigorous studies. Both studies examined middle school students and found results that suggested positive effects on student achievement.</p>	none
<ul style="list-style-type: none"> <li>• Creates an accelerated learning environment.</li> <li>• Implements a rigorous curriculum.</li> <li>• Uses inquiry-based instruction which allows student questions to guide learning.</li> </ul>	<i>no rigorous research</i>	none
<ul style="list-style-type: none"> <li>• Creates small learning communities.</li> <li>• Makes sure each student is supported by an adult within the school who is responsible for connecting with the student’s family.</li> </ul>	<p><b>Moderate (🍏🍏🍏):</b> There were two rigorous studies. Both studies examined the effects of FTF on middle and high school students in schools that served predominantly low socioeconomic populations. Both studies found positive effects in math and one found positive effects in reading.</p>	Kansas City  For more information see profile box on page 13.

Figure 1-6

## Summary of Information on Comprehensive School Reform Models (Continued)

Comprehensive School Reform Models (Year Founded)	Target School Type	Mission
<b>K-12 MODELS</b>		
<b>Knowledge is Power Program (KIPP)</b> (1994)	Schools with a high-poverty student population	KIPP tries to provide underserved communities with free open enrollment schools that will prepare students to succeed in high-level academics.
<b>More Effective Schools</b> (1982)	Schools with a high-poverty student population	More Effective Schools tries to make certain that all students—regardless of family background—meet or exceed local and state standards
<b>Project GRAD</b> (1993)	Schools with a high-poverty student population	Project GRAD tries to make sure 80% of students graduate rate from high school and 50% enter and graduate from college.
<b>America's Choice</b> (1998)	Urban schools	America's Choice tries to ensure that all students are successful on local and state assessments and are prepared to do college-level work without remediation.
<b>Edison Schools</b> (1992)	Urban schools	Edison is designed to raise student achievement and educational outcomes through research-based school design and curricula.



Key Strategies	Research Evidence (a)	Districts in Kansas That Use This Model
<ul style="list-style-type: none"> <li>• Expects students and families to maintain a strong commitment to the school.</li> <li>• Requires students to attend an extended day, week, and year.</li> <li>• Uses regular assessments to chart student progress.</li> </ul>	<p><b>Limited (🍏🍏):</b> There was one rigorous study. The study examined middle school students in a school that served a low socioeconomic population and found positive effects for sixth graders in math, reading, and language arts.</p>	none
<ul style="list-style-type: none"> <li>• Aids schools in aligning school culture and professional development with research-based practices.</li> </ul>	<p><b>Limited (🍏🍏):</b> There were two rigorous studies. One study examined a middle school in a low socioeconomic area and found results that suggested positive effects for math, reading, and language arts. The other looked at students in a suburban high school and found results that suggested positive effects in math, science, social studies, and foreign languages.</p>	none
<ul style="list-style-type: none"> <li>• Implements high academic standards.</li> <li>• Promotes community involvement.</li> <li>• Provides long-term technical assistance to schools using the program</li> </ul>	<p><b>Limited (🍏🍏):</b> There were two rigorous studies. One study looked at middle and high school students school serving a low socioeconomic population and found results that suggested positive effects on reading and math. The other study also looked at students in a low socioeconomic area and found no differences between Project GRAD students and a comparison group.</p>	none
<ul style="list-style-type: none"> <li>• Uses frequent and ongoing assessment to help teachers chart progress.</li> <li>• Creates professional learning communities</li> </ul>	<p><b>Moderate (🍏🍏🍏):</b> There were six rigorous studies. Three studies looked at the effects of America's Choice on middle school students and two found positive effects in reading, one found positive effects in math, and another found positive effects in writing. Three other studies found no difference between students in America's Choice schools and comparison schools.</p>	Great Bend
<ul style="list-style-type: none"> <li>• Implements a longer school day and year.</li> <li>• Uses a classical liberal arts curriculum.</li> <li>• Creates small learning communities.</li> </ul>	<p><b>Inconclusive (🍏):</b> One study of 23 Edison schools found extensive variation in student achievement among schools.</p>	None currently, but Wichita had Edison schools in the past. See page 13 for more information.

Figure 1-6

**Summary of Information on Comprehensive School Reform Models (Continued)**

Comprehensive School Reform Models (Year Founded)	Target School Type	Mission
<b>K-12 MODELS</b>		
<b>School Development Program</b> (1968)	Urban schools	The School Development Program (SDP) is designed to mobilize schools and communities to support students' healthy physical, psychological, and cognitive development.
<p>(a) The research evidence regarding effectiveness has been summarized into the following categories:  <u>Strong</u> if there were at least 10 rigorous studies and at least five of them showed strong positive results.  <u>Moderate</u> if there were at least two rigorous studies and at least one of them showed strong positive results.  <u>Limited</u> if there was at least one rigorous study that showed positive (though not necessarily strong) results.  <u>Inconclusive</u> if there was at least one rigorous study but none that showed positive results.  <u>Negative</u> if the research showed a negative relationship.</p>		
<p>Source: LPA literature review and interviews with Department of Education officials, principals, and superintendents.</p>		

**CONCLUSION**

Concerns regarding the performance of high school students—and the fact that the basic structure of public high schools hasn't changed much over the last century—have prompted the development of a number of models for high school reform. Some models address individual aspects of a school (such as the length of the school day, the size of the school, and the focus of the curriculum), while other models are more comprehensive and try to address all aspects of a school. While supporters of each reform model can point to individual examples of schools that have been successful, only a handful of the models have been rigorously evaluated and shown to be effective in improving student performance. These are the models policymakers should look at when considering school reform.

Key Strategies	Research Evidence (a)	Districts in Kansas That Use This Model
<ul style="list-style-type: none"> <li>• Tries to involve parents and the community.</li> <li>• Provides a framework for school operation.</li> <li>• Uses curriculum and activities to promote students' healthy development</li> </ul>	<p><b>Moderate (★★★):</b>  There were three rigorous studies. One study looked at students in schools that served low socioeconomic populations and found positive effects in reading and math. Another study looked at a school that served a middle-class population and found no differences between the SDP school and the comparison school. Results from the third study could not be determined.</p>	<p>no middle or high schools</p>

## **APPENDIX A**

### **Scope Statement**

This appendix contains the scope statement approved by the 2010 Commission for this audit on May 19, 2006.

#### **K-12 Education: Alternative Models for Organizing Middle Schools and High Schools**

Overall, Kansas students perform well on Statewide standardized tests of math and reading, but, the performance of high school students has traditionally lagged behind other grade levels. In 2004-05, only 51% of all 10th graders scored “proficient” on the State math assessments, compared with more than 85% of all 4th graders and 69% of all 7th graders. About 64% of the State’s 11th graders were proficient in reading, compared with 78% of all 5th graders and 77% of all 8th graders.

Members of the 2010 Commission were concerned that the organization of high schools hasn’t changed much over the years, and the current model being used may not be the most effective. Therefore, members were interested in having us explore alternative ways of organizing education at the middle and high school levels.

This school district performance audit would answer the following question:

- 1. What are the advantages and disadvantages or various “alternative” models for middle schools and high schools that are used in Kansas school districts or in other states?** To answer this question, we’d contact officials from school districts in Kansas that have alternative, magnet, or other non-traditional schools to find out how they are organized. We’d review the education literature and contact officials from other states and from various charitable foundations to identify alternative models that are being used throughout the country. For each model we identify, we’d describe the characteristics of the model (e.g., school/class size, students targeted, specialized teaching techniques), where it is being used, its advantages and disadvantages, and any readily available data on student performance.

Estimated completion time: 6-8 weeks

## **APPENDIX B**

### **Agency Response**

On February 1, 2007, we provided copies of the draft audit report to the Department of Education. Its response is included as this Appendix.



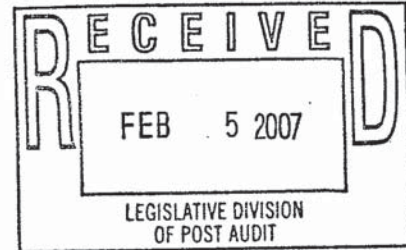
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February 2, 2007

Mrs. Barbara J. Hinton  
Legislative Post Auditor  
Legislative Division of Post Audit  
800 S. W. Jackson Street, Suite 1200  
Topeka, Kansas 66612-2212



Dear Mrs. Hinton:

Thank you for the opportunity to report on the status of recommendations concerning your performance audit, *Alternative Models for Organizing Middle Schools and High Schools*. Your auditors appear to have conducted a very thorough review of the advantages and disadvantages of various alternative models for middle and high schools used in Kansas school districts and other states.

Please feel free to contact this office if we can assist you further.

Sincerely,

Dale M. Dennis, Interim  
Commissioner of Education

DMD:tjm