

**Madeira City Schools  
Planning Commission  
“Balanced School Year” Study  
April 12, 2007**

**Presented to the Madeira Board of Education  
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# Overview

## Purpose

The “Balanced School Year” Committee was formed at the request of the Madeira Schools Board of Education to study the topic of a balanced school year. Madeira City Schools operate on a “traditional” calendar that is based on the earlier needs of an agrarian society. As this is the first study of its type for the Madeira Schools Planning Commission, the Committee had much latitude in researching, reporting, and making recommendations on the topic of the Balanced School Calendar.

The primary focus of the study was student achievement, attempting to answer the question, “Does the “traditional” approach provide the best learning opportunity for Madeira’s students?” In other words, should the calendar be restructured to meet current needs of the students and the school? The committee felt that a compelling argument for the implementation of a balanced calendar could be made if academic gains could be achieved in the Madeira City School district.

Secondary issues addressed by the Committee were related to finances and facilities, workforce impact, student attendance and discipline, impact on families, and childcare.

Findings of this Committee are to be presented to the Madeira Schools Planning Commission and the Madeira Schools Board of Education.

## Definitions

School calendars are referred to as traditional, year-round (single- and multi-track) balanced, alternative, and modified. Brief definitions are given below to help clarify the terms utilized in the discussion of deviation from the traditional school calendar. Regardless of the type of calendar, all include 180 instructional days.

1. **The traditional calendar** is the most used calendar by school systems in the United States. The traditional calendar is currently used in Madeira City Schools. School starts around Labor Day and ends around Memorial Day – with an exception of a week or two on either end of the school year. There is a winter break of two weeks, a weeklong spring break, and occasional days when schools are closed for a variety of reasons. The summer break is lengthy, typically 75 to 90 days. See Table 1. (Sasser, 2005)
2. **A year-round calendar** may start about the same time as a traditional calendar. Breaks are longer for winter and spring holidays. The summer break is much shorter than that of the traditional calendar. Typically, a year-round calendar will have four sessions separated by a longer break of several weeks when school is closed. Year-round calendars can be either single

track or multi-track. Year-round calendars are implemented most often in districts where overcrowding is an issue. (Sasser, 2005)

- **A single-track year-round calendar** allows all students and school personnel to follow the same instructional and vacation schedule. Single-track does not reduce class size, and it does not allow a school to accommodate more students. See Table 2.
  - **A multi-track year-round calendar** is used primarily to alleviate overcrowding, although it still incorporates the educational concepts of single-track YRE. Students are placed on rotating schedules, giving a certain number of students educational instruction while others are on vacation. For example, implementing a four-track year-round calendar extends the capacity of a school by 33%. A school with the capacity of 750 students can accommodate 1,000 students, since only three tracks of 250 would be in school at the same time. There will always be one track on vacation or intersession every day of the school year. See Table 2.
3. **A balanced school year calendar** is the re-allocation of days across the calendar to shorten the summer break and lengthen the winter and spring breaks and/or provide a fall break. A balanced calendar can also shorten the time school is in session without a break. It is not the same as a year-round calendar. The fall and spring semesters are most often equal in length and the fall semester ends before the winter break. Typically, a balanced calendar has nine weeks of instruction with a two or three week break between sessions. See Table 3. (Sasser, 2005)
  4. **Intersession** is the time between school sessions. An intersession can range from one to many weeks. Time during intersessions can be used for vacation and/or remediation and enrichment activities. Intersessions are a feature of both year-round and balanced calendars. (Sasser, 2005)
  5. **Alternative or modified calendars** are simply variations of any calendar imposed by the body overseeing the development of a school calendar. (Sasser, 2005)

## **Methodology**

The committee conducted the following research:

1. Reviewed the history of the traditional school calendar
2. Researched national, regional, and local trends
3. Reviewed current research on the benefits/impacts of implementing a Balanced School Year
4. Surveyed OH, KY, and neighboring school programs
5. Reviewed current scholarly research on Year-Round School, and Balanced School Year programs
6. Reviewed alternatives to a balanced school year calendar

## **Research Findings**

### ***Background/ History***

While the Planning Commission's investigation into the concept of the Balanced School Year (BSY) is an historic first, the concept of the BSY has been incorporated by various names in schools throughout American educational history. Referred to in the past as Year-Round Education (YRE), schools attempted to address the social and educational needs of a community by extending educational opportunities for students beyond a traditional calendar.

The traditional school calendar is a vestige of an agrarian society. During the latter part of the 18<sup>th</sup> century and the 19<sup>th</sup> century, farm duties, including tilling, cultivation, milking cows, digging wells, and drawing water, were performed by all members of the family, leaving only the winter months for children's education. Rural schools were open from two to six months depending on weather, transportation and farm responsibilities. Although the population of farmers has decreased substantially in the past few decades, the traditional calendar has remained.

The need for Year-Round Education grew out of the social needs in urban areas. By mid-19<sup>th</sup> century, there was a tremendous influx of immigrants from Europe and Ireland. For these immigrants, English was the most important subject in school. Children had to attend school year-round to become bilingual and expedite their entry into the workforce. The other basic need fulfilled by YRE was to have the children's time and whereabouts accounted for, since most families had two working parents with no babysitters, and few daycare centers existed. Hence, in major industrial cities such as New York, Chicago, Buffalo, Cleveland, Detroit and Philadelphia classes were held from 252 days up to 49 weeks of the year.

In the early 20<sup>th</sup> century, education became more rigid and state controlled. The legislatures compromised between the needs of rural and urban communities. The school day became standardized with a legal minimum of 180 days, most often organized into a nine-month school year beginning in September with a three-month summer vacation, beginning in June.

Historic records of the early 1900s indicate that communities instituted year-round education programs for a variety of reasons. In Bluffton, IN (1904), YRE programs were started to improve learning and create additional classroom space; in Newark (1912) YRE programs began for the purpose of teaching English to immigrants and to accelerate education; in Minot (1917), additional time was needed in remediation of the slower learners; in Omaha (1924), continuous vocational teaching occurred year-round; in Nashville (1925), the goal of YRE was to improve the quality of education; in Aliquippa (1925) and Ambridge (1928), the need was to "stretch the building dollar" and create space. Though these early adoptions of YRE did not survive the depression and the national efforts required by World War II, they paved the way for modern year-round programs.

The concept of year-round education was reactivated in 1968-70 and experienced resurgence in 1970-1990 mostly for practical purposes. During the late 1990s, educators used information learned in the differing programs and began looking at YRE for the total value it brought to education.

The originally coined all-year school concept has been in existence for over 100 years. With names from all-year, to twelve months, to extended year, to year-round, to balanced school year, the concept has experienced peaks and valleys in acceptance and results. Educational history will become populated with the reports and reviews of the recent and current attempts to improve our educational system by moving away from the traditional school year to a balanced school year.

### ***Nationwide Trends***

According to the National Association for Year-Round Education (NAYRE), an advocacy group, the number of year-round schools operating in the U. S. has increased from just over 600 in the late 1980's (in 19 states) to 3,045 (in 47 states) during the 2005-2006 school year (Bruillard, 2004, NAYRE, 2007). See Table 4.

### ***Statistics of Tri-State Area***

Below are the 2005-06 statistics of the tri-state area participating in a year-round calendar according to the NAYRE Website:

| State    | # of Districts | # of Schools | Total Enrollment |
|----------|----------------|--------------|------------------|
| Indiana  | 10             | 22           | 10,745           |
| Kentucky | 21             | 103          | 46,856           |
| Ohio     | 7              | 50           | 23,000           |

See Table 5 for additional state statistics.

In order to understand why some of these schools converted from a traditional calendar to a year-round calendar, as well as the obstacles they faced in implementing a new calendar, the Balanced School Year committee surveyed eight Kentucky and Ohio school districts from which half of the surveys were returned. See Appendix I. No conclusions could be drawn from such a small sample. In addition, the answers/results were as varied as the schools themselves. See Table 6 for student, teacher, and school demographics for the State of Ohio YRE participants.

As the year-round trend has caught on, opposition has also grown. Critics say such schedules are expensive, wreak havoc with family lives and rarely produce higher test scores. In many school districts, including Hamilton County and some Ohio districts, year-round/balanced school year proposals have met with fierce opposition. Some school districts have considered and/or tried the system and then scrapped it when parent support faded. See Table 7. According to NAYRE, about 17 percent of schools that go to a year-round calendar abandon it.

## **Local Trends**

In order to assess the current level of interest in a balanced school calendar among similar local, suburban public schools, a brief survey was conducted. The following questions were asked:

1. Have you considered a balanced calendar for your school district?
2. How likely are you to implement a balanced calendar?

### **QUESTION: #1**

| Mariemont | Fairfield | Indian Hill | Lockland | Loveland | Sycamore | Deer Park | Wyoming | Finneytown |
|-----------|-----------|-------------|----------|----------|----------|-----------|---------|------------|
| NO        | NO        | YES         | NO       | NO       | YES      | YES       | NO      | NO         |

### **QUESTION: #2**

| Marie-mont      | Fairfield       | Indian Hill     | Lockland        | Loveland        | Sycamore        | Deer Park                  | Wyoming                    | Finney-town     |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------------|----------------------------|-----------------|
| Not considering | Not considering | Not considering | Not considering | Not considering | Not considering | May consider in 5-10 years | May consider in 5-10 years | Not considering |

The results of this brief, limited survey indicate that, in general, the school boards of suburban schools similar and in close proximity to Madeira are not considering a balanced calendar for their school district in the near future.

## **Where Are Year-round Schools Found?**

“Year-round schools are concentrated in certain segments of public education:

- The elementary school level accounts for the bulk of public schools using this calendar—with the 2,237 elementary schools representing 73 percent of all year-round enrollment (1,553,882 students). (NAYRE, 2007)
- According to National Center for Education Statistics, central city schools are more likely than urban fringe and large town schools or rural schools to operate year-round, (eight percent compared with five percent and four percent, respectively).” (O’Brien, 2005)

## **Advantages & Disadvantages**

In researching both sides of the balanced school year issue, it became evident that for every enthusiastic individual or group advocating for the balanced school year calendar, there exists a passionate opposing individual or group. Likewise, for every claim that adopting a balanced calendar would be of benefit to students, teachers, administrators, families, business, and/or the community as a whole, a concern is voiced to declare that the balanced calendar is not the answer.

When considering this controversial topic, it is clear that the decision by a school or a school district to accept or reject a balanced calendar would have effects as varied as the groups of individuals involved. Further complicating the debate of the balanced school year is the fact that advantages and disadvantages are not always weighted equally; for example, if it is decided that there are five advantages relating to teachers and two disadvantages, it is possible that the two disadvantages may outweigh the five advantages. An important consideration when examining both sides of the balanced school year is defining the goals of the proposed change. What may be an objective for one school or district may not be as important for another. See Table 8 for a breakdown of advantages and disadvantages by topic.

### ***Why Consider a Balanced School Year? (Advantages)***

- There is a reduction of summer learning loss
- Less time is spent reviewing material learned previously by students
- More topics can be covered in greater depth
- Continuity of instruction may lead to a better quality of instruction
- Students who have difficulty staying focused for long periods may have more success with the consistency of shorter terms and more breaks
- Students and teachers may experience less burnout and fatigue
- Attendance rates may improve for students and teachers
- Lower incidence of discipline problems, including vandalism
- Building capacity (multi-track) would be increased
- Class sizes (multi-track) would be reduced
- New construction costs could be eliminated
- Different times of the year would be available for family travel

### ***Impacts of a Balanced School Year (Disadvantages)***

- Change from a traditional calendar to a balanced calendar can be a difficult adjustment for students, parents, and staff
- Conflict may exist when children in the same family attend different school buildings with different breaks
- Intercessions may not be long enough for students to find work and/or they may not be convenient for family travel
- Improved academic achievement has not been proven in all cases
- Opportunities for remediation and enrichment would have to exist during the shorter, more frequent intercessions
- Summer programs, camps, and classes may be negatively affected
- Students who transfer into a district with a balanced school year calendar could be ahead or behind their peers academically
- Buildings could be harder to maintain with shorter breaks to get the work done
- Fewer opportunities for summer professional development and non-educational summer employment would exist for teachers
- Administrator and secretarial staff workload may be increased

## **Key Research Findings**

These research findings are a synthesis of several studies completed and reported from throughout the United States. The conclusions and findings of these studies are neither exhaustive, nor should they be viewed as scientific or conclusive.

### ***Studies Shown to Support Balanced School Year***

#### **Study of Year-Round Education in Select Kentucky School Districts – April 2003** **See Exhibit I.**

This Final Report of the Study of Year-Round Education in select Kentucky School Districts compiles data from each of the participating school districts. This Final Report responds to the question, “Does year-round education make a difference?” It details how year-round education is making a difference in the nine school districts participating in the Study. Details provided in text and table format indicate where the differences are being made.

Improvements are being made in areas that not only affect student development during their K-12 years, but into their future years, such as:

- Student self-esteem
- Student attitude toward mathematics
- Student attitude toward reading
- Student performance on mandated tests: The California Test of Basic Skills and the Commonwealth Accountability Testing System
- Lower student dropout rates

Not only is year-round education contributing to continuing development of student growth, but also year-round education is affecting those essential to supporting student growth. The positive effects are demonstrated through:

- Teacher attitude toward year-round education
- Teacher mental and physical health well being
- Parent attitude toward year-round education
- Administrator attitude toward year-round education.

This report answers the question for Kentucky districts who participated, “Does year-round education make a difference?” It provides the Commissioner and others with convincing evidence that year-round education does have an impact.

**Year-Round Learning – A Research Synthesis Relating To Student Achievement**  
**See Exhibit II.**

In summary, one may conclude from this particular review of achievement studies that there is an effective maintenance and improvement of the overall academic performance of students participating in a year-round education program in comparison to those on the traditional calendar.

Six research syntheses and thirty individual studies were reviewed in this research synthesis of year-round education as it relates to student achievement. All have been completed or reported in the 1990's. In the thirty individual studies there were 90 possible categories or areas that compared year-round education with nine-month traditional calendar programs. The categories were given plus, minus, or mixed-result grades. Of the 90, 61 or 67.8% of the categories were rated plus (+), meaning that in those categories year-round education students outperformed their traditional calendar counterparts. Fifteen of the 90 or 16.7% were rated mixed (+/-), meaning that in those categories no differences were found between the two groups. Fourteen of the 90 or 15.5% were rated minus (-), meaning that in those categories traditional calendar students outperformed the year-round students. The studies were conducted in the states of California, Texas, Florida, Virginia, Georgia, North Carolina, New Jersey, Ohio, Utah, and Alabama.

**The Effectiveness of The Balanced Calendar In Maury County, Tennessee**  
**A Dissertation – Graduate School – University of Tennessee – May 2006**  
**See Exhibit III.**

The purpose of this study was to determine if student's standardized test scores and attendance had improved since the implementation of the Balanced Calendar in Maury County, Tennessee. The balanced calendar was in place for a 3-year period, beginning with the school year 2003 - 2004 in grades K – 12.

1. Reading and language TCAP scores had improved under the new calendar system during the 3 – year period.
2. Mathematics standardized TCAP scores had improved under the new calendar system during the 3 – year period.
3. Science standardized TCAP scores had improved under the new calendar system during the 3 – year period.
4. Social studies TCAP scores had improved under the new calendar system during the 3 – year period.
5. There is no difference in student attendance under the new calendar system during the 3 – year period.

## ***The Other Side of The Story: Year-round Calendars – No Benefits***

### **Scheduling: Year Round School - ECS Information Clearinghouse – June 1997** **See Exhibit IV.**

Year-round schooling is an alternative method of providing education, often implemented in schools or school districts that are experiencing rapid increase in student population. In fact, limited space and financial constraints are often the primary motivators for a change to year-round schooling. However, some educators convert to year-round schedules because of a belief that year-round schooling can increase opportunities for, and improve the achievement of, teachers and students. Whatever the reasons for switching to a year-round schedule, it is important that policymakers, administrators, teachers, parents and students understand the concept and effects of year-round schooling, specifically with regards to levels of student achievement.

*The research to date, as a whole, is inconclusive regarding the degree to which year-round schools affect student achievement. Essentially, the results vary from classroom to classroom. In some cases, year-round schools have led to an increase in student achievement. Conversely, levels of student achievement have decreased in other instances.*

Additionally, it is difficult to evaluate the change in the cost of education in a year-round school. For multi-track schools, capital expenditures (i.e., building costs) are reduced under year-round education. Conversely, the impact on operating expenditures (i.e., personnel expenses, electricity costs, etc.) is less certain in both single- and multi-track schools. Even in multi-track schools that do not achieve savings in operating expenditures, though, the magnitude of the capital cost savings far outweighs the modest increases in operating expenses. However, the cost savings in single-track schools are more questionable.

In essence, year-round schooling's connection to increasing student achievement is debatable. However, although year-round school is not "the solution" for all of a school district's problems, it is an idea worthy of consideration for school districts dealing with overcrowding, declining tax revenues and fewer new school buildings.

### **A look at advocacy research and misinformation used by proponents to sell communities on year-round calendar reforms**

**School Calendars and Modern-Day Workforce Realities: Distortions by Fred Hess of American Enterprise Institute. See Exhibit V.**

It appears the YRS /school calendar promoters are taking a new tactic: Selling calendar change as the answer to modern-day workforce realities. They haven't been able to sell it as an effective academic or economic change, so now they are going for the pocketbook issues. School calendar change is false economics.

## **Other Key Findings for Achievement of Academic Gains**

A calendar change is not the only approach Madeira School District can use to achieve higher educational achievement against standards. While researching the topic of a balanced school calendar, the committee discovered several alternatives that public schools are using to promote academics gains. These various “tools” include, but are not limited to:

1. Later Start Time for Teenagers. See Appendix II, III, and IV.
2. Four-Day School Week. See Appendix V.
3. Block Scheduling. See Appendix VI
4. Increasing the Length of the School Day

With respect to the scope of the study, the committee did not research all of these “tools” extensively, but did make note of them for the Madeira Board of Education’s consideration.

## **Conclusions**

In education today, more emphasis is being placed on student achievement. With the implementation of “No Child Left Behind,” and the Adequate Yearly Progress targets, Madeira schools and its students are being held to new standards of accountability. For students to remain competitive locally as well as globally, Madeira needs to challenge its paradigms and think “outside the box” to find new solutions to achieve greater academic gains.

The schedule Madeira City Schools follows is a very important component of student learning, and with so many scheduling options available it is easy to become lost in a maze of research and recommendations without arriving at any real conclusion.

Proponents of the balanced school year concept reason that a shortened summer break will lead to less academic regression in students and higher achievement. Shortening the summer break to six to eight weeks and establishing two-week breaks at the midpoints of the fall and spring semesters is one alternative. Other ideas the committee came across but was unable to expound upon were the option of later start times for teenagers, a four-day week school, block scheduling, and/or lengthening the school day. Unfortunately, there is no easy way of knowing what is best. What works well in one school may not work at all in another. (Cobb, 2003) See Table 6 - Demographics. See Table 9 – Ohio Achievement Test Comparisons. See Table 10 – PI Comparisons.

Before a plan could be proposed, the Madeira City School Board of Education must decide what they would want to accomplish and whether a new calendar could move them further towards their goals. Last but not least, a review of the potential impacts, including how a new schedule would affect Madeira families, and the School District’s budget, coupled with shared decision-making on the part of all education stakeholders, will help Madeira to make the best decision for its students. (Cobb, 2003, Fager, 1997)

## **Recommendations**

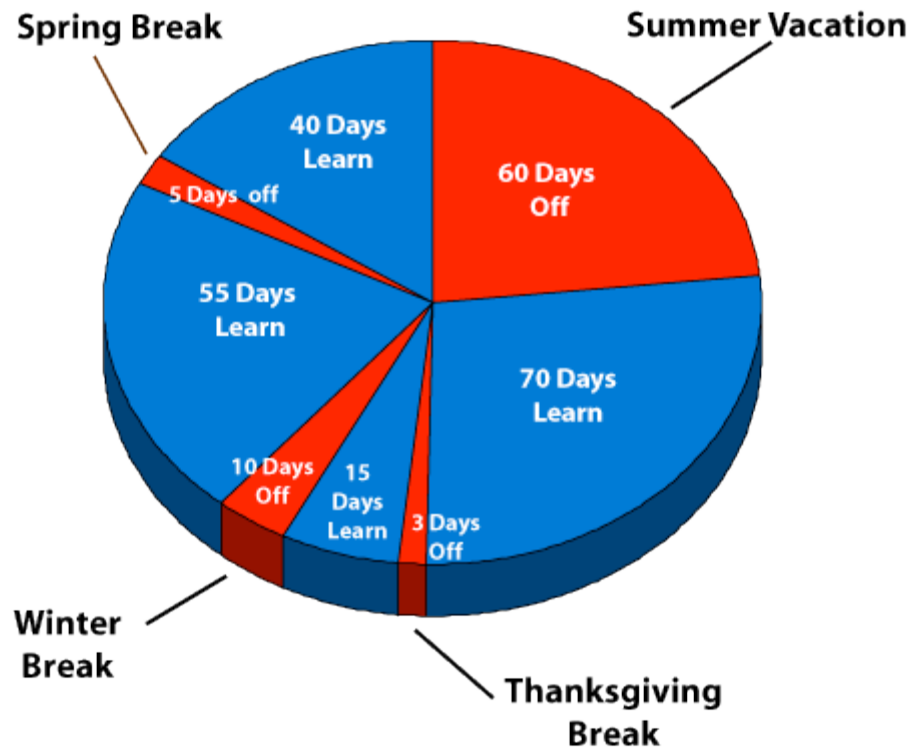
We recommend that, at this time, the Madeira City School Board retain the traditional school calendar based on the lack of conclusive evidence regarding academic gains (with comparable schools) and the lack of cost savings when utilizing a single-track calendar.

### ***Suggestions for Consideration:***

- Madeira Schools Board of Education would need to establish specific goals and criteria before considering a calendar change. See Table 11 as a guide. Activities helpful in defining the goals and criteria are as follows:
  1. Contact Dr. Ann Grooms, President of the Educational Services Institute, Inc. to have any questions answered about balanced school year calendar. [Dr. Grooms' contact information: 3915 Plainville Road, Cincinnati, OH 45227 (513) 271-9933/Fax (513) 271-9934. Email address: [esieducate@aol.com](mailto:esieducate@aol.com)]
  2. Visit schools on a balanced school year to observe classes and speak with principals, teachers, students, and parents.
  3. Evaluate the academic needs of Madeira City Schools by surveying or conducting discussion groups including teachers and parents.
- As an alternative to a calendar change, the Madeira Schools Board of Education could consider adding enrichment programs in language, arts, and music during the summer. For ideas, contact Indian Hill school district about their new summer enrichment programs.
- Madeira's Board of Education could form a committee and/or hire a consultant to coordinate and implement a later start time for Madeira High School considering the following:
  1. Bussing schedules
  2. Athletic/extra-curricular activities
  3. Child-care
  4. Costs
- The Board could evaluate the merits of "time in learning" (i.e. block scheduling, four-day school weeks, increasing length of days.) This topic could, perhaps, be assigned as a future Planning Commission study.

**TABLE 1**  
**TRADITIONAL SCHOOL YEAR CALENDAR**

## **Traditional Calendar**



The traditional calendar features a long summer vacation of 12 weeks followed by a long period of in-session days, with the first break coming at Thanksgiving. The winter holidays are followed by 55 in-session days before a short spring break. Spring break is followed by 40 workdays before the end of the school year.

Weekends are excluded from the chart, with both models detailing a typical year of 258 work days (Monday through Friday). The chart represents a standard school year of 180 days.

Source: NAYRE website, 2007

**TABLE 2**  
**YEAR-ROUND CALENDAR OPTIONS**

The following examples represent only the most common year-round schooling models.

**1. 45-15 Single-Track and Multi-Track Programs.** The 45-15 year-round schooling program consists of four 45-day terms, interspersed with four 15-day vacation periods. With the single-track model all students are on the same cycle. However, with the multi-track program, there can be as many as four different 45-15 day cycles operating in one school at the same time.

### 45-15 Single-Track Program

August 1st

July 30th

|                        |                     |                        |                     |                        |                     |                        |                     |
|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|
| 45 Days of Instruction | 15 Days of Vacation | 45 Days of Instruction | 15 Days of Vacation | 45 Days of Instruction | 15 Days of Vacation | 45 Days of Instruction | 15 Days of Vacation |
|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|

The primary purpose of the 45-15 single-track model is break-up the traditional two-month summer vacation into several smaller units so that more continuous instruction and learning can be provided. See example below in the hyperlink.

[Single Track Calendar](#)

### 45-15 Multi-Track Program (2 Cycles)

August 1st

July 30th

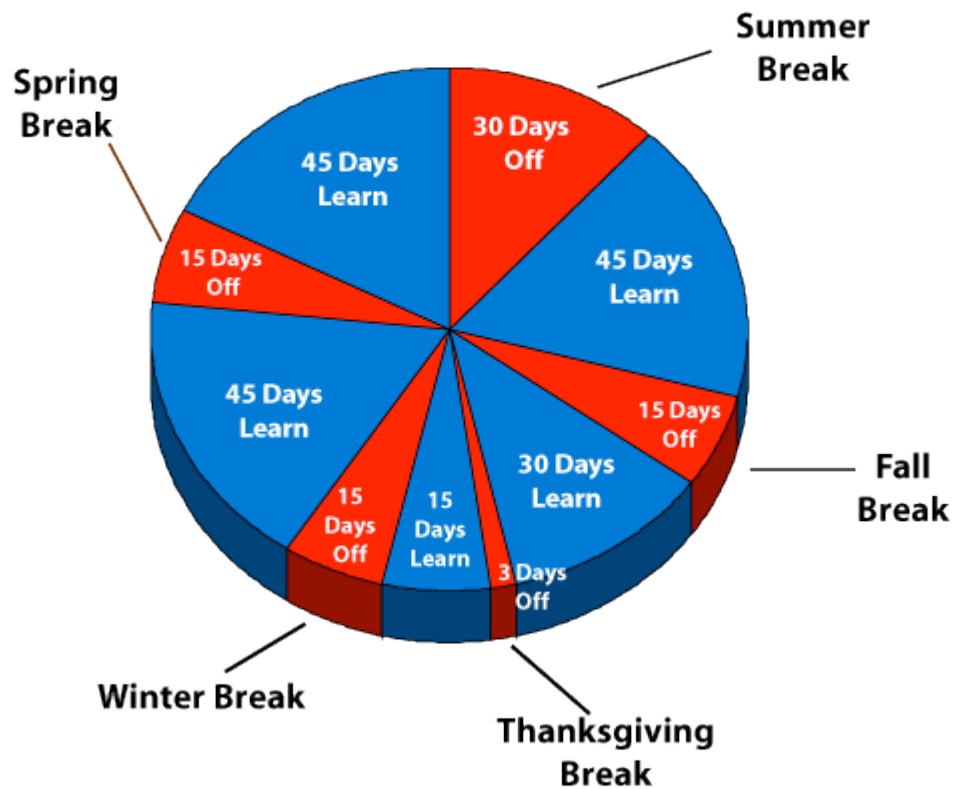
|                        |                        |                        |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 45 Days of Instruction | 15 Days of Vacation    | 45 Days of Instruction | 15 Days of Vacation    | 45 Days of Instruction | 15 Days of Vacation    | 45 Days of Instruction | 15 Days of Vacation    |
| 15 Days of Vacation    | 45 Days of Instruction | 15 Days of Vacation    | 45 Days of Instruction | 15 Days of Vacation    | 45 Days of Instruction | 15 Days of Vacation    | 45 Days of Instruction |

In addition to breaking-up the traditional two-month summer vacation, the 45-15 multi-track model can increase the school's student capacity by as much as 33 per cent, thereby creating the potential for savings in operational and capital expenditures. See example below in the hyperlink.

[Multi-Track Calendar](#)

**TABLE 3**  
**BALANCED SCHOOL YEAR CALENDAR**

## Balanced Calendar



The balanced calendar reduces the long summer break and simply apportions those days throughout the school year, producing more frequent breaks and thus limiting long periods of in-session days, as well as longer vacations. Both calendars feature 180 days of instruction, with the modified calendar balancing the frequency of in-session days with days on break. The winter holiday and Thanksgiving break can be the same on both calendars.

Weekends are excluded from the chart, with both models detailing a typical year of 258 work days (Monday through Friday). The chart represents a standard school year of 180 days.

Source: NAYRE website, 2007

**TABLE 4**  
**STATISTICAL SUMMARY OF YRE PROGRAMS 2005-2006**

**U.S. NATIONAL TOTALS**

|                                                |           |
|------------------------------------------------|-----------|
| Total number of states (including D.C.)        | 47        |
| Total number of public school districts        | 434       |
| Total number of public schools                 | 2,850     |
| Total number of charter schools                | 123       |
| Total number of private schools                | 72        |
| Total number of public/charter/private schools | 3,045     |
| Total public/charter/private enrollment        | 2,178,446 |

**U.S. PUBLIC SCHOOLS**

|                                      |           |
|--------------------------------------|-----------|
| Number of states (including D.C.)    | 47        |
| Number of districts                  | 434       |
| Number of elementary schools         | 2,237     |
| Elementary school enrollment         | 1,553,882 |
| Number of middle/junior high schools | 291       |
| Middle/junior high school enrollment | 294,015   |
| Number of high schools               | 243       |
| High school enrollment               | 237,612   |
| Number of special/atypical schools   | 79        |
| Special school enrollment            | 30,855    |
| Total number of public schools       | 2,850     |
| Total enrollment                     | 2,116,364 |

**U.S. PRIVATE SCHOOLS**

|                                 |        |
|---------------------------------|--------|
| Number of states                | 19     |
| Total number of private schools | 72     |
| Total enrollment                | 15,534 |

**Five Largest States (by YRE schools) Total Schools**

|                 |       |
|-----------------|-------|
| California      | 1,447 |
| Arizona         | 198   |
| Hawaii          | 185   |
| Kentucky        | 115   |
| Georgia & Texas | 99    |

**Five Largest States (YRE Districts) Districts**

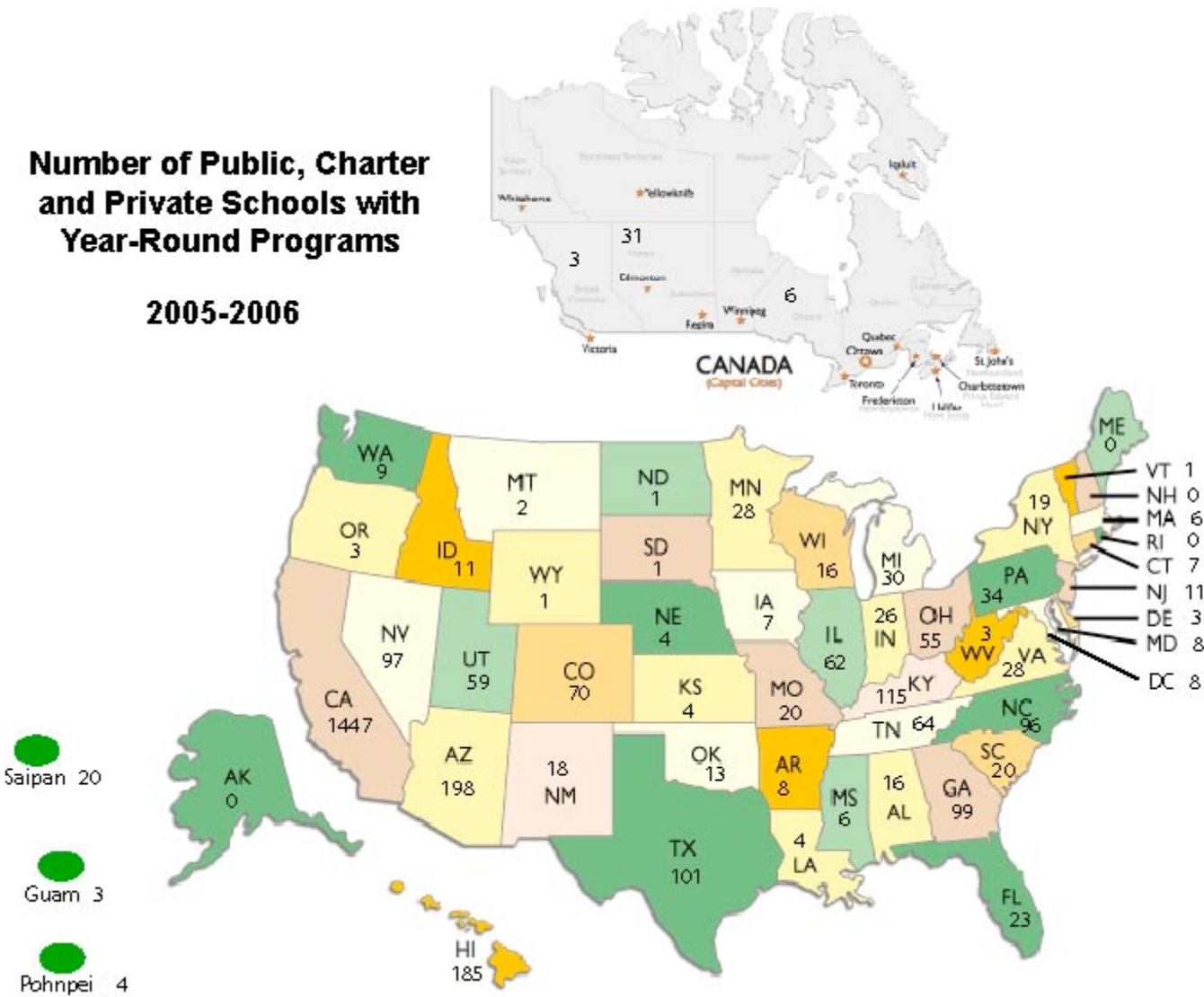
|                |     |
|----------------|-----|
| California     | 172 |
| Arizona        | 46  |
| North Carolina | 34  |
| Texas          | 32  |
| Kentucky       | 29  |

Source: NAYRE Website, 2007

**TABLE 5**  
**BREAKDOWN OF STATES ON A YEAR-ROUND CALENDAR**

**Number of Public, Charter  
and Private Schools with  
Year-Round Programs**

**2005-2006**



Source: NAYRE website, 2007

**TABLE 6**  
**STUDENT/TEACHER DEMOGRAPHICS**  
**OHIO YR E ELEMENTARY PARTICIPANTS**  
 (Note: This chart is not all-inclusive.)

| <b>Ethnicity</b>          | <b>Madeira</b> | <b>Douglass Elementary*</b> | <b>Harold Schnell Elementary</b> | <b>McKinley Elementary</b> | <b>State Average</b> |
|---------------------------|----------------|-----------------------------|----------------------------------|----------------------------|----------------------|
| White, non-Hispanic       | 93%            |                             | 89%                              | 77%                        | 77%                  |
| Asian or Pacific Islander | 3%             |                             | 3%                               | 16%                        | 1%                   |
| Multiracial               | 2%             |                             | 3%                               | 6%                         | 3%                   |
| Black, non-Hispanic       | 1%             | 96%                         | 1%                               |                            | 17%                  |
| Unidentified              |                | 4%                          |                                  |                            |                      |

| <b>Student Subgroups</b>                  | <b>Madeira</b> | <b>Douglass Elementary*</b> | <b>Harold Schnell Elementary</b> | <b>McKinley Elementary</b> | <b>State Average</b> |
|-------------------------------------------|----------------|-----------------------------|----------------------------------|----------------------------|----------------------|
| Economically disadvantaged students       | 4%             | 92%                         | 23%                              | 48%                        | 35%                  |
| Disabled Students                         | 11%            | 34%                         | 13%                              | 15%                        | 14%                  |
| Gifted Students                           | 35%            | 3%                          | 10%                              | 12%                        | 16%                  |
| Limited English proficient (LEP) students | 2%             | N/a                         | N/A                              | N/a                        | 2%                   |

| <b>Attendance</b> | <b>Madeira</b> | <b>Douglass Elementary*</b> | <b>Harold Schnell Elementary</b> | <b>McKinley Elementary</b> | <b>State Average</b> |
|-------------------|----------------|-----------------------------|----------------------------------|----------------------------|----------------------|
| Attendance Rate   | 96%            | 95%                         | 96%                              | 96%                        | 94%                  |
| Mobility Rate     | 4%             | 24%                         | 5%                               | 8%                         | N/a                  |

| <b>Spending Per Pupil</b>    | <b>Madeira</b> | <b>Douglass Elementary*</b> | <b>Harold Schnell Elementary</b> | <b>McKinley Elementary</b> | <b>State Average</b> |
|------------------------------|----------------|-----------------------------|----------------------------------|----------------------------|----------------------|
| Total per pupil expenditures | \$10,172       | \$12,642                    | \$8,534                          | \$7,310                    | \$9,052              |
| Instructional                | 59%            | 66%                         | 62%                              | 70%                        | 56%                  |
| Operations                   | 16%            | 16%                         | 18%                              | 14%                        | 19%                  |
| Support services             | 14%            | 13%                         | 15%                              | 10%                        | 13%                  |
| Administration               | 11%            | 5%                          | 5%                               | 7%                         | 13%                  |

| <b>Student-Teacher Ratio</b> | <b>Madeira</b> | <b>Douglass*</b> | <b>Harold Schnell Elementary</b> | <b>McKinley Elementary</b> | <b>State Average</b> |
|------------------------------|----------------|------------------|----------------------------------|----------------------------|----------------------|
|                              | 15             | 13               | 17                               | 19                         |                      |

\* Note: Douglass Elementary is no longer on a year-round calendar.

Source: Ohio Department of Education 2005-2006

**TABLE 7 - Page 1 of 2**  
**LIST OF DISTRICTS IN OHIO**  
**THAT REJECTED SCHOOL CALENDAR CHANGE**  
**(As of August 2001)**

| <b>Ohio</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|
| BOONE COUNTY BOARD OF EDUCATION - The five-member board, responding to parent opposition to year-round school, voted unanimously to stick to a traditional calendar and find means other than a year-round calendar to address overcrowding. -- <b>Cincinnati Enquirer, June 13, 1997</b>                                                                                                                                                                | -- | CAR |
| BRUNSWICK - The school board was asked in early 1995 to consider a YR calendar as part of school improvement reforms, but there were no YR schools as of the 2000-01 school year. -- <b>Brunswick Sun Times, January 26, 1995; NAYRE</b>                                                                                                                                                                                                                 | -- | CAR |
| CANFIELD - A proposal in 1997 to use a year-round calendar to address overcrowding in Canfield schools was rejected as a unviable option by the school superintendent. As of the 2000-01 school year, there were no YR schools in the district. -- <b>The Vindicator, Nov. 30, 1997; NAYRE</b>                                                                                                                                                           | -- | CAR |
| CANTON - No schools were placed on a YR calendar after proposal surfaced in April 1998. The principal at a school that would pilot YR said the decision to do it in the 1999 school year would depended on parental support. -- <b>The Canton Repository, April 1998; NAYRE</b>                                                                                                                                                                          | -- | CAR |
| COVENTRY SCHOOL DISTRICT - The YR calendar was axed a second time in May 1993, the failure of proof of its academic merit cited by school board members. No Coventry schools were YR as of the 2000-01 school year. -- <b>Media Accounts, May 1993; NAYRE</b>                                                                                                                                                                                            | -- | CAR |
| FAIRFIELD CITY SCHOOLS - A year-round calendar was rejected as a remedy for overcrowding by five study groups. -- <b>Media Accounts, November 1993</b>                                                                                                                                                                                                                                                                                                   | -- | CAR |
| FIELD LOCAL, Mogadore - Tried YR in 1978 and dropped it.-- <b>Glines; NAYRE</b>                                                                                                                                                                                                                                                                                                                                                                          | 2  | TAR |
| GAHANNA-JEFFERSON SCHOOL DISTRICT - Said no to YR in March 1996. No schools were YR as of the 2000-01 school year. -- <b>Media Accounts, March 1996; NAYRE</b>                                                                                                                                                                                                                                                                                           | -- | CAR |
| HICKSVILLE - A Hicksville study committee reported in June 1993 it could find no documented benefits of the year-round calendar. No schools were using a YR calendar as of the 2000-01 school year. -- <b>Media Accounts, March 1996; NAYRE</b>                                                                                                                                                                                                          | -- | CAR |
| HIGHLAND SCHOOL DISTRICT - The school board considered YR in 1995. None were YR as of 2000-01. -- <b>Brunswick Sun Times, January 26, 1995</b>                                                                                                                                                                                                                                                                                                           | -- | CAR |
| HILLIARD CITY SCHOOL DISTRICT - A study committee considered YRS in 1997, but no schools were YR as of the 2000-01 school year. -- <b>Hilliard This Week, February 10, 1997; NAYRE</b>                                                                                                                                                                                                                                                                   | -- | CAR |
| HUBER HEIGHTS SCHOOL DISTRICT - A proposal in 1995 by a developer to use a year-round calendar to address growth was considered by the district, but as of 2000-01, no schools were year-round. -- <b>Huber Heights Courier, October 18, 1995; NAYRE</b>                                                                                                                                                                                                 | -- | CAR |
| HUDSON - Year-round school was one of the options considered by four task force groups to address overcrowding and growth problems, but as of the 2000-01 school year no Hudson schools were YR. -- <b>Hudson Hub-Times, January 18, 1995; NAYRE</b>                                                                                                                                                                                                     | -- | CAR |
| LEWIS CENTER - Olentangy schools considered and rejected YR in 1994. -- <b>Columbus Dispatch, June 11, 1994</b>                                                                                                                                                                                                                                                                                                                                          | -- | CAR |
| MIAMISBURG - A year-round school proposal received lukewarm reception from parents at area meetings held in the district during the 1999-2000 school year. After more than two years of discussing the calendar change, no schools were YR as of the 2000-01 school year. A school calendar committee decided in September 1999 that a year-round calendar "would not fit the district's needs." -- <b>The News, Miamisburg, February 9, 2000; NAYRE</b> | -- | CAR |
| MIDDLETOWN SCHOOL DISTRICT - A study committee considered the year-round calendar in 1997, but no schools were using it as of the 2000-01 school year. -- <b>The Middletown Journal, January 20, 1997; NAYRE</b>                                                                                                                                                                                                                                         | -- | CAR |
| OAK HILLS LOCAL SCHOOL DISTRICT - Considered YR in January 1997 to ease overcrowding, but no Hamilton County schools were operating year-round as of the 2000-01 school year. -- <b>The Cincinnati Enquirer, January 8, 1997; NAYRE</b>                                                                                                                                                                                                                  | -- | CAR |
| OLENTANGY LOCAL SCHOOLS, Lewis Center - Considered and rejected a YR calendar in 1994 and in 1996. "Year-round school is letting the facilities dictate the program and not the program dictate the facilities," the school superintendent said. -- <b>Delaware Gazette, June 11, 1994; Columbus Dispatch, June 11, 1994; Powell This Week, Dec. 2, 1996; NAYRE</b>                                                                                      | -- | CAR |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|
| PICKERINGTON SCHOOL DISTRICT - The district considered a year-round calendar in 1979, 1990, 1993 and again in 1997 but no Pickerington schools were year-round as of the 2000-01 school year. - <b>Pickerington This Week, May 5, 1997; NAYRE</b>                                                                                                                                                                                                                                                                                                               | -- | CAR |
| SOUTH-WESTERN CITY SCHOOL DISTRICT - A 36-member study committee considered a year-round calendar in 1997 as a response to overcrowding, but the district still had no year-round schools as of the 2000-01 school year. -- <b>Westside This Week, Columbus, Ohio, May 5, 1997; NAYRE</b>                                                                                                                                                                                                                                                                       | -- | CAR |
| STARK COUNTY - Several parochial schools considered the year-round calendar in 1998, but none were using it as of the 2000-2001 school year. -- <b>The Repository, Canton, March 21 1998; NAYRE</b>                                                                                                                                                                                                                                                                                                                                                             | -- | CAR |
| SUGARCREEK SCHOOL DISTRICT - The board said no to implementing YRS after voluntary enrollment fell far short of the needed numbers. -- <b>The Centerville-Bellbrook Times, March 9, 1996</b>                                                                                                                                                                                                                                                                                                                                                                    | -- | CAR |
| SYCAMORE SCHOOL DISTRICT - Parents in this Cincinnati school district organized soon after the school board proposed a year-round calendar and the proposal was defeated. No schools in the district were using a YR calendar as of the 2000-01 school year -- <b>Media Accounts, May 1993; NAYRE</b>                                                                                                                                                                                                                                                           | -- | CAR |
| TWIN VALLEY SCHOOL DISTRICT, West Alexandria - The district approved a YR calendar in November 1995, but as of the 2000-01 school year there were no YR schools in the district. -- <b>Palladium-Item, Richmond, Indiana, November 6, 1995; NAYRE</b>                                                                                                                                                                                                                                                                                                           | -- | CAR |
| UPPER ARLINGTON SCHOOL DISTRICT - A school committee studied school calendar change for three months in 1996, but no schools were placed on a YR calendar as of the 2000-01 school year. -- <b>Upper Arlington News, January 31, 1996; NAYRE</b>                                                                                                                                                                                                                                                                                                                | -- | CAR |
| WAUSEON SCHOOL DISTRICT - Looked at YR as an answer to overcrowding in Nov. 1995, but none of its schools were YR as of the 2000-01 school year. -- <b>Fulton County Expositor, November 30, 1995; NAYRE</b>                                                                                                                                                                                                                                                                                                                                                    | -- | CAR |
| WEST CARROLLTON - Tried YR in 1973 then dropped it in the middle school and later another. As of 2001, one school remained. -- <b>Glines; NAYRE</b>                                                                                                                                                                                                                                                                                                                                                                                                             | 1  | TAR |
| WESTERVILLE SCHOOLS - Considered year-round school in 1994, then dropped the idea after a study committee found it would not save money and a survey found 60 percent of parents opposed the idea. -- <b>Columbus Dispatch, May 23, 1994</b>                                                                                                                                                                                                                                                                                                                    | -- | CAR |
| WORTHINGTON SCHOOLS - District considered and rejected year-round calendar in 1999. The decision was based on feedback from the community and school board members, where little support was found, said the school superintendent. -- <b>Columbus Dispatch, May 10, 1999; Worthington Schools, Press Release, May 4, 1999</b>                                                                                                                                                                                                                                  | -- | CAR |
| XENIA - A proposal in 1999 to place Central Junior High on a year-round calendar was greeted with fierce opposition by a parent group, which presented research that showed no significant differences in academic achievement between YR students and those on a traditional calendar. As of the 2000-01 school year, Xenia had only 1 elementary on a YR schedule, which began in 1995. --- <b>Xenia Daily Gazette, March 13, 1999; NAYRE</b>                                                                                                                 | 1  | CAR |
| YOUNGSTOWN - Catholic educators chose teacher training over YRS as the means to improve education. Responding to parent objections, the diocese dispensed with plans to convert 48 elementary and five high schools to year-round schools. YRS was recommended by the diocese superintendent and his school improvement committee. There was only 1 YR school (enrollment 52 students) in the Youngstown Diocese and a total of only 4 Catholic YR schools in the entire state as of the 2000-01 school year. -- <b>Tribune Chronicle, July 14, 1997; NAYRE</b> | -- | CAR |
| ZANESVILLE CITY SCHOOLS - The district considered YR school in 1998, but as of 2000-01 no schools were on the calendar. -- <b>The Times Recorder, Zanesville, September 13, 1998; NAYRE</b>                                                                                                                                                                                                                                                                                                                                                                     | -- | CAR |
| Last updated August 7, 2001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -- | --  |

TAR - tried and rejected

CAR - considered and rejected

Source: <http://www.summermatters.com/grassroots.htm>

**Source Glossary:** **NAYRE** - from cross referencing the annual directories of the National Association For Year-Round Education or from other NAYRE reference material; **Glines** - found in accounts by Don Glines; **Hermanson & Gove** - from a book by Hermansen & Gove; **McLain** - from a book and papers by John McLain. (All of the authors are founders of NAYRE).  
(NOTE: We are way behind in our postings due to time demands related to ailing family members.)

**TABLE 8 - Page 1 of 3**  
**KEY FINDINGS RELATING TO BOTH SIDES**  
**OF A BALANCED SCHOOL YEAR DEBATE**

**Advantages Relating to Student Achievement**

|                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------|
| • Teachers may spend less time reviewing material students learned previously; as a result, more topics can be covered in greater depth |
| • Summer learning loss may be reduced                                                                                                   |
| • Students may adjust to returning to school more quickly after having weeks off instead of months                                      |
| • Opportunities for remediation and enrichment may occur in intercessions                                                               |
| • Students who have difficulty staying focused for long periods may have more success with the consistent shorter terms and more breaks |
| • Continuity of instruction may lead to a better quality of instruction                                                                 |
| • American students may become more competitive with students in other industrialized countries                                         |
| • Overcrowding and class sizes may be reduced with staggered instruction and breaks<br>- (multi-track)                                  |

**Disadvantages Relating to Student Achievement**

|                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Less time exists for summer school                                                                                                                                              |
| • Students who transfer into a district with a balanced school year calendar from a district with a traditional school calendar could be ahead or behind their peers academically |

---

**Advantages Relating to Student Life**

|                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------|
| • Attitude may improve as students return from breaks refreshed and motivated                                             |
| • Discipline problems may be reduced                                                                                      |
| • Attendance may improve                                                                                                  |
| • End-of-summer boredom may be eliminated                                                                                 |
| • Shorter breaks from school may encourage students to stay involved in athletics and/or other extracurricular activities |

**Disadvantages Relating to Student Life**

|                                                                                                              |
|--------------------------------------------------------------------------------------------------------------|
| • Less time may exist for high school students to make the most of summer and/or holiday work experiences    |
| • Students may miss part of the high paying summer tourist season when in school                             |
| • School sports teams may have difficulty scheduling games against schools who follow a traditional calendar |

**TABLE 8 - Page 2 of 3**

**Advantages Relating to Families**

|                                                                                               |
|-----------------------------------------------------------------------------------------------|
| • Families may take vacations at times of the year that are less expensive or more convenient |
| • Childcare expenses could be more evenly distributed over the entire year                    |
| • Medical appointments could be made during the longer breaks                                 |

**Disadvantages Relating to Families**

|                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------|
| • Conflicts may exist when children in the same family attend different school buildings whose breaks are not the same    |
| • Conflicts may exist when children in the same family attend schools with different calendars (balanced and traditional) |
| • Childcare may be an issue with working parents                                                                          |
| • Families may still take vacations during good weather when school is in session, reducing attendance                    |
| • Adjusting to the change from a traditional calendar to a balanced calendar may be difficult                             |
| • Families may withdraw from a school system if they are not in agreement with the calendar                               |

---

**Advantages Relating to Staffing**

|                                                                                                         |
|---------------------------------------------------------------------------------------------------------|
| • Teachers may be more efficient and more productive as they plan curriculum for shorter blocks of time |
| • Teachers may experience less burnout and fatigue                                                      |
| • Increase in morale for teachers may lead to lower staff absences                                      |
| • Teachers may have the opportunity to work year-round if a multi-track system was implemented          |

**Disadvantages Relating to Staffing**

|                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------|
| • Fewer opportunities for summer professional development may exist for teachers                                                       |
| • Calendar may conflict with non-educational summer employment                                                                         |
| • Documentation of increased administrator workload                                                                                    |
| • Shorter breaks between school years may not be long enough for administrators and secretaries to plan and organize for the next year |
| • Coordination of district specialist services (i.e., speech therapists, psychologist, etc.) may be complex                            |
| • Staff members may have difficulty coordinating childcare arrangements and breaks with their own children in traditional schools      |
| • Home-school communication would need to be more frequent                                                                             |

**TABLE 8 - Page 3 of 3**

**Advantages Relating to Facilities**

|                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------|
| • A savings in heating costs may be possible if schools were closed for a longer period of time during the winter |
| • The need for new construction due to overcrowding may be eliminated (multi-track)                               |
| • Lower incidence of vandalism                                                                                    |

**Disadvantages Relating to Facilities**

|                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------|
| • Air conditioning would be running for a longer period of time with school in session during summer months                                   |
| • Building cleaning and repair may become more difficult with shorter time frames                                                             |
| • Increased costs for repairs and maintenance may occur resulting from the need to pay overtime costs and fix repairs in a tighter time frame |

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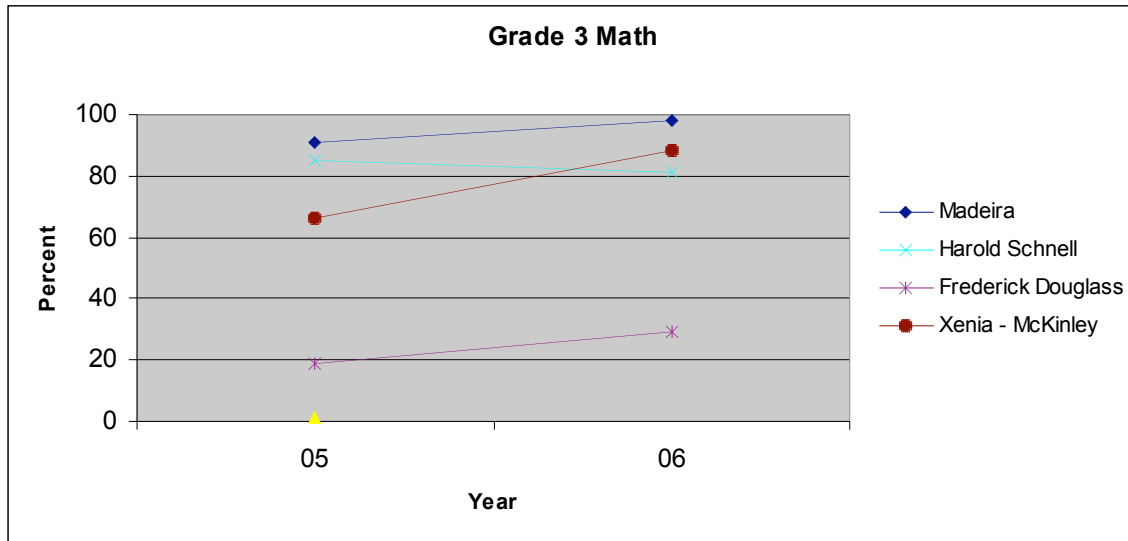
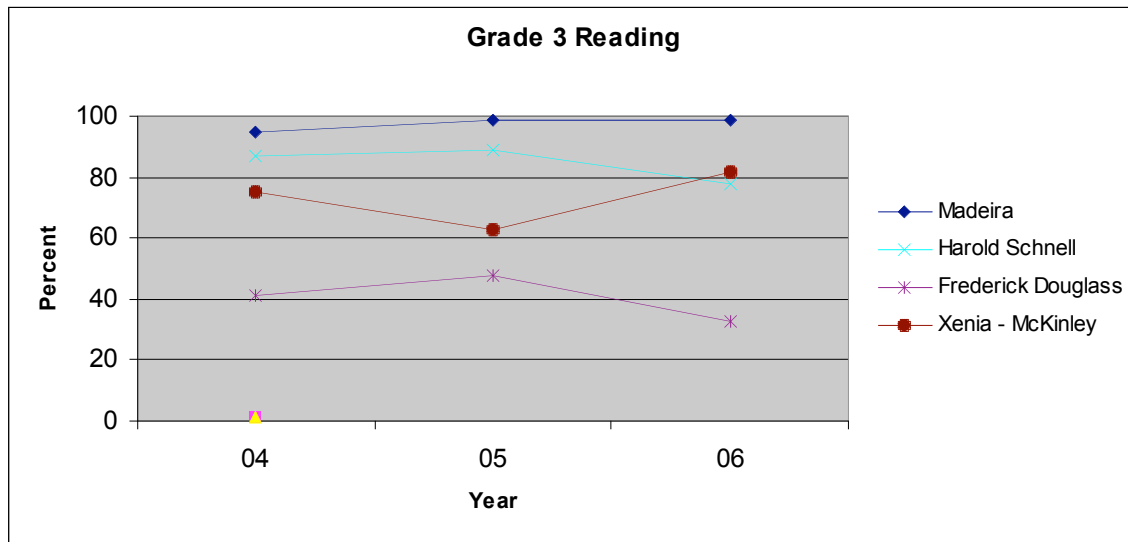
**Advantages Relating to Business and Community**

|                                                            |
|------------------------------------------------------------|
| • Student employment may be facilitated in some work sites |
|------------------------------------------------------------|

**Disadvantages Relating to Business and Community**

|                                                                                                    |
|----------------------------------------------------------------------------------------------------|
| • Possible loss of high school workforce during tourist season                                     |
| • Reduced tourist activity and income when families have a more limited length of time to vacation |
| • Summer programs, camps, and classes may be negatively affected                                   |

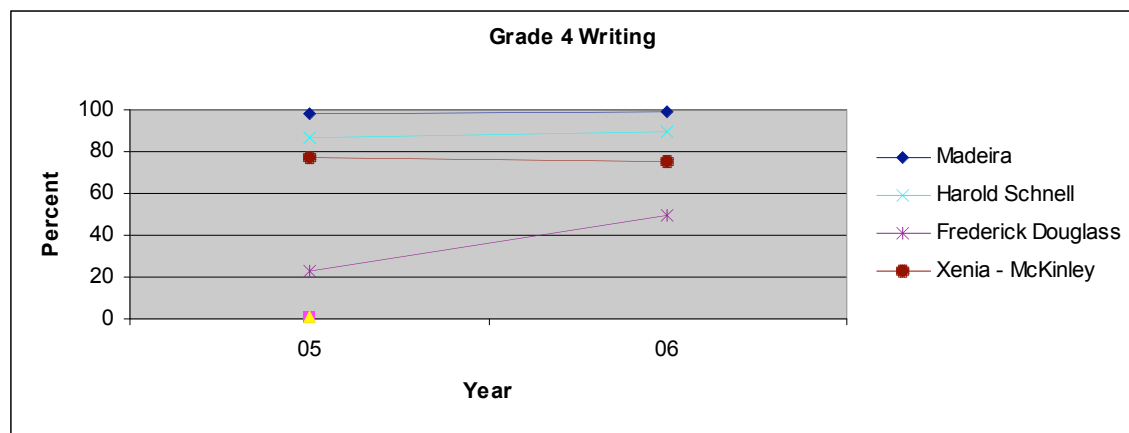
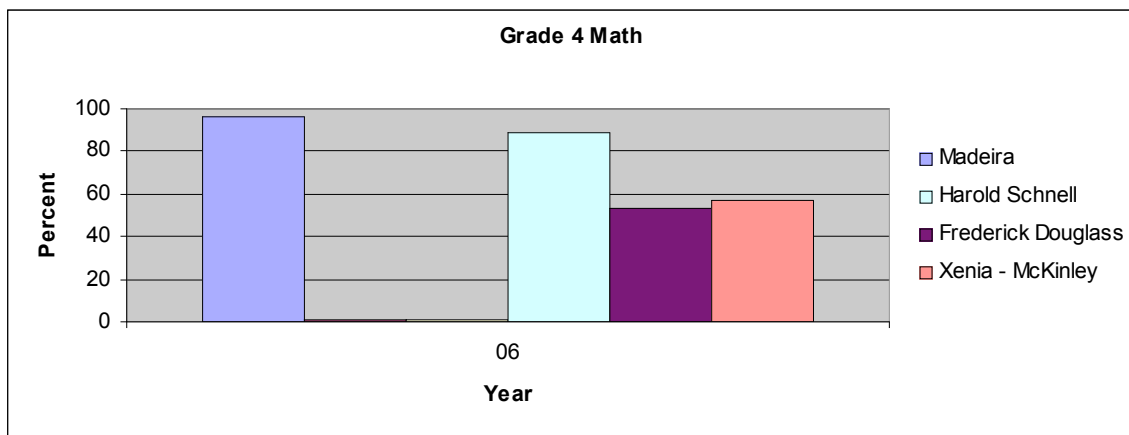
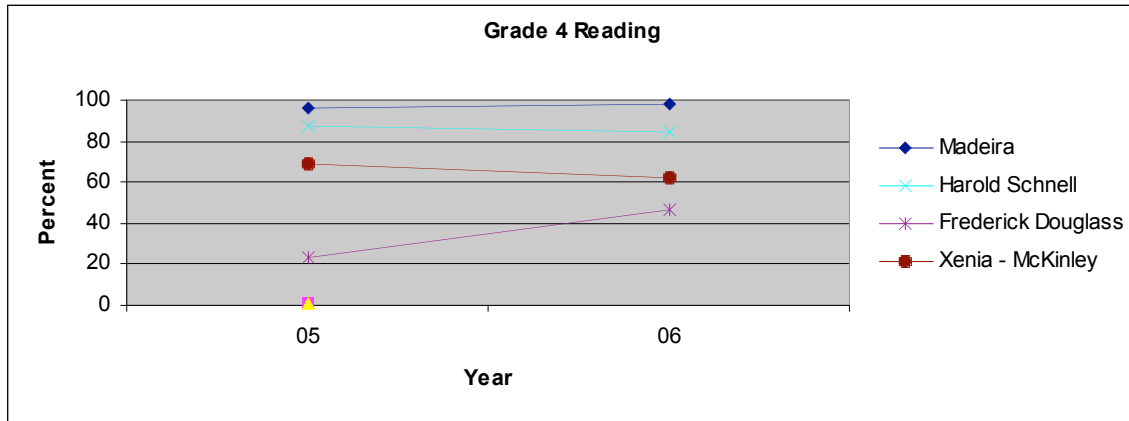
**TABLE 9**  
**OHIO ACHIEVEMENT TEST COMPARISONS**  
**YRE ELEMENTARY PARTICIPANTS\***  
**GRADE 3**



\* Madeira Elementary does not participate in a year-round calendar

Source: OH Dept. of Education, 2005-2006

**TABLE 9**  
**OHIO ACHIEVEMENT TEST COMPARISONS**  
**YRE ELEMENTARY PARTICIPANTS\***  
**GRADE 4**

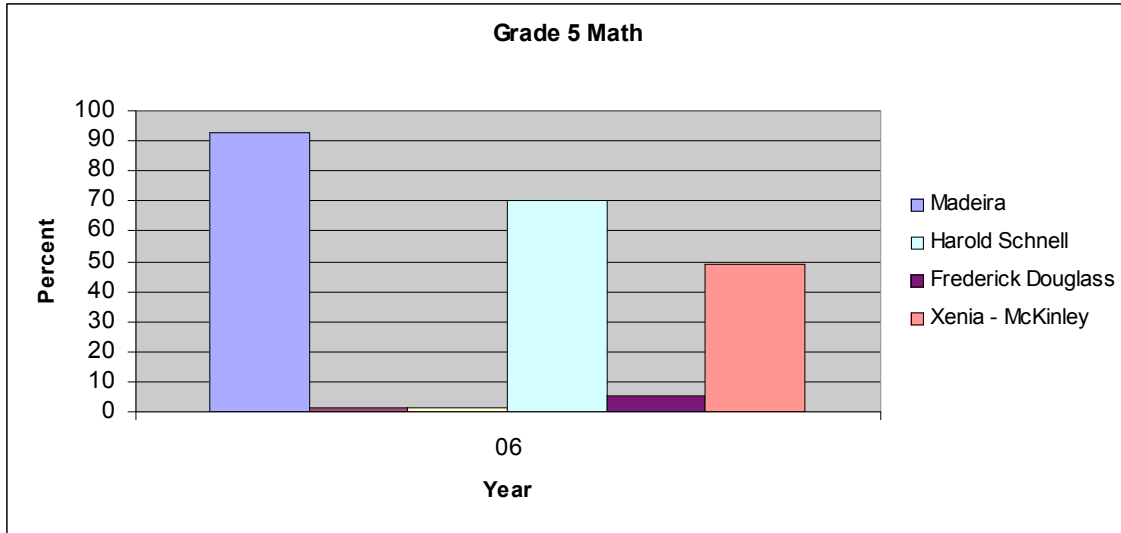
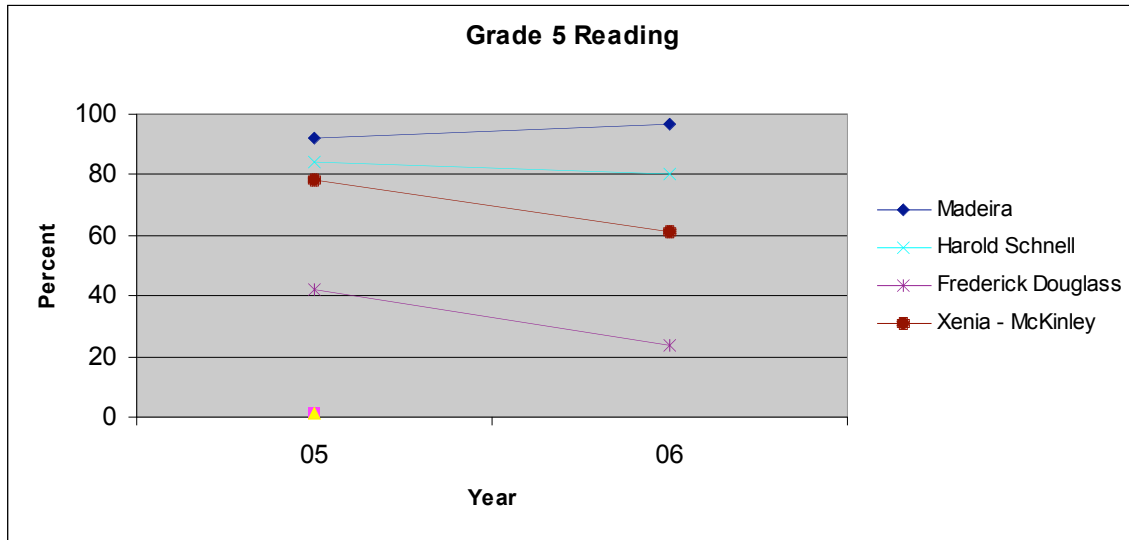


\* Madeira Elementary does not participate in a year-round calendar

Source: OH Dept. of Education, 2005-2006

**TABLE 9  
OHIO ACHIEVEMENT TEST COMPARISONS  
YRE ELEMENTARY PARTICIPANTS\***

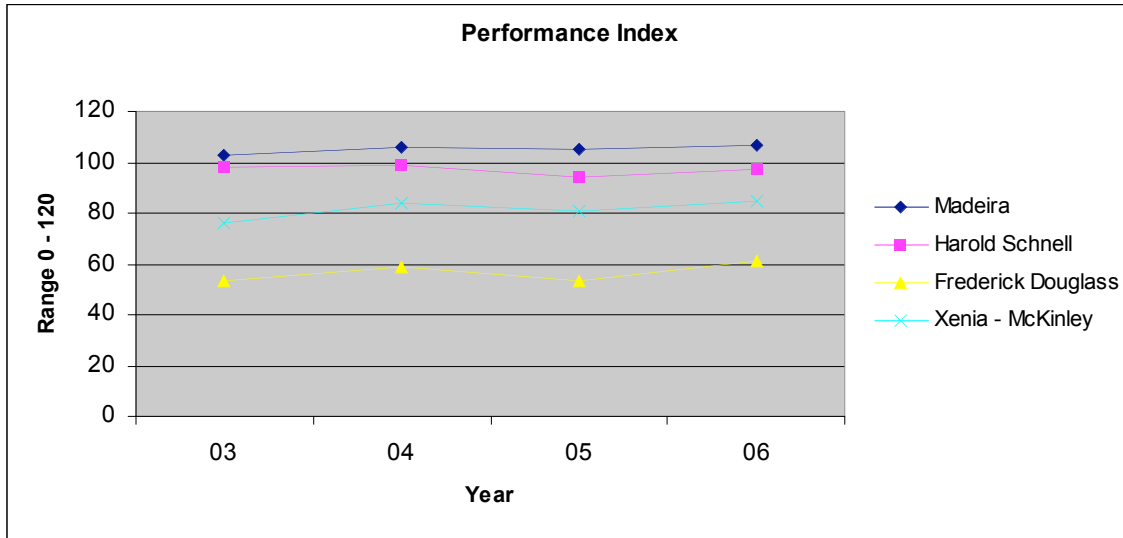
**GRADE 5**



\* Madeira Elementary does not participate in a year-round calendar

Source: OH Dept. of Education, 2005-2006

**TABLE 10**  
**PERFORMANCE INDEX COMPARISONS**  
**YRE ELEMENTARY PARTICIPANTS\***



\* Madeira Elementary does not participate in a year-round calendar

**About the Performance Index**

- Ohio uses the Performance Index (PI) to provide an overall indication of how well students perform on its standardized tests each year.
- The PI scores are based upon how well each student does on all tested subjects in grades 3 through 8 and 10. Schools and districts earn anywhere from 1.2 points for each student scoring at the advanced level to zero points for each untested student.
- The Performance Index ranges between 0 and 120, with 100 as the statewide goal for all students.

Source: OH Dept. of Education, 2005-2006

**TABLE 11 Page 1 of 2**  
**QUESTIONS TO CONSIDER**  
**WHY A BALANCED CALENDAR?**  
**WOULD IT BE GOOD FOR MADEIRA?**

Establish goals and objectives then consider the following questions!

|                      |                                                                                                                                                                                                                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Academics            | Will year-round schools improve achievement?                                                                                                                                                                                                                                                          |
| Test Scores          | Is there solid evidence that year-round education significantly increases SAT and other standardized test scores?                                                                                                                                                                                     |
| Curriculum           | Will the curriculum need modification due to shorter instructional periods and, if so, what will be the costs of restructuring it?                                                                                                                                                                    |
| Training             | How will professional development be addressed?                                                                                                                                                                                                                                                       |
| Needs Met            | Does year-round education adequately meet the educational needs of all students: gifted, average, disadvantaged, special needs, etc.?                                                                                                                                                                 |
| Absenteeism          | Do year-round schools experience a higher absentee rate than traditional schools, rates that can impact learning as well as state funding to schools that is based on average daily attendance?                                                                                                       |
| Activities           | - What problems will a year-round calendar present for extra-curricular activities--sports, clubs, school plays, chorus and band programs, etc.?                                                                                                                                                      |
| Valid Research       | Do studies that claim academic improvement and cost savings from calendar reforms use valid data comparisons or are they advocacy research (finding what you are looking for)?                                                                                                                        |
| Education Inequities | How will schools prevent inequities that are characteristic of a multi-track year-round calendar? Will classes and electives be offered on all tracks without resorting to a "rainbow" class that compromises education quality and consistency?                                                      |
| Morale               | Will school morale and school spirit be affected by the switch to a year-round calendar or a longer school year?                                                                                                                                                                                      |
| Evaluations          | How will the school district evaluate academic and cost benefits of the school calendar reform, and will the methodology (control groups, standardized test data, similar socio-economic groups) stand up to public scrutiny? Will evaluations be done in-house or by an independent, outside source? |
| Pilot Study          | Will pilot programs be long enough to collect sufficient data on the effectiveness of year-round schools before adding more schools?                                                                                                                                                                  |
| Extra Costs          | What are the additional costs incurred (extra staff, extended contracts, busing, air-conditioning, building modifications, maintenance, utilities, etc.) in implementing and using a year-round calendar or longer school year?                                                                       |
| Administration       | Will year-round schools incur additional administrative expenses, taking money away from the classroom?                                                                                                                                                                                               |
| Compensation         | Will teachers work additional days without compensation? Will teachers be compensated for lost summer income?                                                                                                                                                                                         |
| Legislation          | Has any state or federal legislation been passed giving incentive money to schools studying, piloting or implementing year-round schools. If so, what types of incentive monies are available, and do they really offset the extra cost of school calendar change?                                    |
| Incentive monies     | Will government incentive money go to the school district to use at its discretion, or will the monies go specifically to the school/schools implementing year-round school or other calendar changes?                                                                                                |

**TABLE 11- Page 2 of 2**  
**WHY A BALANCED CALENDAR?**  
**WOULD IT BE GOOD FOR MADEIRA?**

|                    |                                                                                                                                                                                                                                                                                                                           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cost Shifting      | Will traditional schools be short-changed due to the extra operational expenses incurred at year-round schools?                                                                                                                                                                                                           |
| Maintenance Issues | When will deep-cleaning and major maintenance of schools be done?                                                                                                                                                                                                                                                         |
| Facilities         | Are school facilities fully equipped with air-conditioning (school, gym, cafeteria)? If not, how will schools deal with classroom heat during the sweltering summer months?                                                                                                                                               |
| Propaganda         | Have parents and teachers been given complete and accurate information to make an educated decision on whether or not they want year-round education?                                                                                                                                                                     |
| Consultants        | Will presentations include a balanced panel of speakers for and against calendar reforms?                                                                                                                                                                                                                                 |
| Surveys            | Will surveys to measure support for calendar change by teachers and parents ask questions that accurately reflect sentiments or will they be manipulative?                                                                                                                                                                |
| Family Values      | When the multi-track year-round calendar is used, could children in the same family possibly end up being assigned to different school calendars and/or tracks, which would wreck havoc on family life?                                                                                                                   |
| Child Care         | Will the year-round calendar or other calendar reforms with frequent short breaks throughout the school year create child care complications for families?                                                                                                                                                                |
| Summer Fun         | Will year-round school interfere with traditional family summer activities (vacation Bible school, family vacations, summer sports programs, summer jobs for college-bound students, visits to relatives, swimming lessons, summer camps, recreation programs)?                                                           |
| Enrollment         | What percentage of the nation's public schools use the year-round calendar or and extended school year? What percentage of the nation's private schools use the year-round calendar or extended school year? What is the rate of growth of year-round schools over the past three years? Is there a slowdown? If so, why? |
| Business Impact    | How will year-round schools affect community businesses, especially those that rely on summer-related revenues?                                                                                                                                                                                                           |

## APPENDIX I SURVEY RESULTS OF BALANCED SCHOOL YEAR

### Contact Information for Year-Round Education

| School District                               | Contact Person                                           | Survey Returned | Contact Information                                                                                                                                                                               |
|-----------------------------------------------|----------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Xenia, OH                                     | Dr. Randy Overbeck                                       | Yes             | <a href="mailto:Xen_roverbec@mveca.org">Xen_roverbec@mveca.org</a>                                                                                                                                |
| Dayton City, OH                               | Jill Moberley                                            | No              | "Changed back in '05/06 to traditional calendar so all schools were uniform" Jill Moberley, Director of Public Relations Dept. <a href="mailto:jmoberle@dps.k12.oh.us">jmoberle@dps.k12.oh.us</a> |
| Cincinnati, OH (Fredrick Douglass Elementary) | Scott Hornblower (previous principal)<br>Betty Rodrigues | Yes             | <a href="mailto:hornbls@cps-k12.org">hornbls@cps-k12.org</a>                                                                                                                                      |
| North Carrollton, OH (Harold Schnell)         | Dr. Barbara Gardecki                                     | No              | Unable to reach for phone interview within timeframe. Phone #937-859-5121 x6601                                                                                                                   |
| Toledo, OH                                    |                                                          | No              | ? Unable to confirm if any schools were on year-round education. Noted a few schools were on lengthened days.                                                                                     |
| Emminence, KY                                 | Steve Frommeyer                                          | Yes             | <a href="mailto:Steve.frommeyer@eminence.kyschools.us">Steve.frommeyer@eminence.kyschools.us</a>                                                                                                  |
| Bardstown, KY                                 | J. W. Mattingly                                          | Yes             | <a href="mailto:jmatting@btwon.k12.ky.us">jmatting@btwon.k12.ky.us</a>                                                                                                                            |
| Jefferson, KY                                 |                                                          | No              |                                                                                                                                                                                                   |
|                                               |                                                          |                 |                                                                                                                                                                                                   |

## XENIA'S SURVEY ANSWERS

1. When did you "convert" to a balanced school year? Year –1995, 2001, 2003  
Or How long have you been on the schedule of a balanced school year?  
Length More than 10 years
2. Were you present during this timeframe? Yes or No?-Both  
If not, is there a contact person that I can speak with?  
The principal who started this trend is Marsha Bayless, McKinley School  
(937/372-1251) McKinley Elementary: 404 enrollment
3. Why did you convert to a balanced school year? In all cases this has been driven by parent request. This alternate schedule is much more complimentary of families' schedules. Also the fall and spring breaks have enabled us to provide midyear intervention.
4. Have you noticed a difference in test scores and/or academic performance?  
Do you have data? Yes, although the data has not been consistent.
5. What obstacles do you feel you faced implementing a balanced school year?
  - ❑ How did you modify your curriculum to adjust for shorter instructional periods? Was there a cost associated with this? The school year is still divided in four 9-week quarter as with a traditional calendar.
  - ❑ How did you address professional development? The dual calendars do place greater demands on providing district PD. For example, we do not hold elementary or middle school PD during the three-week break in October. Usually we use these days to work with the high school staff, who are on a traditional schedule.
  - ❑ Does year-round education adequately meet the educational needs of all students: gifted, average, disadvantaged, special needs, etc.? The only area that is a problem is the gifted program. Since this is a district wide program, it is structured on the traditional calendar. All other services are provided by staff on that schedule.
  - ❑ How has your absentee rates changed? If at all? Attendance rates for both students and staff are generally better in year round buildings.
  - ❑ How have you addressed the changes necessary for students to participate in extra-curricular activities? (i.e. sports, after school clubs, chorus, band, plays) We do not have an alternative calendar at the high school where the most clubs and activities exist. In the situations at the middle schools (such as football) this has not been an issue.

- Have you noticed a difference in school morale/ spirit? These schools have a better morale and the elementary schools have stronger parent organizations. These buildings (elementary) have become the most popular buildings and are the largest of the district seven buildings.
  
- How did the school district evaluate academic and cost benefits of the school calendar reform? The change was not done to save money, but rather to better serve parents. We are constantly reviewing our academic performance of these building to detetmine impact.
  - Did the methodology (control groups, standardized test data, similar socio-economic groups) stand up to public scrutiny?
  - Were the evaluations done in-house or by an independent, outside source?
  
- What additional costs were incurred (extra staff, extended contracts, busing, air-conditioning, building modifications, maintenance, utilities, etc.) in implementing and using a year-round calendar or longer school year? There are a few additional costs, mainly some costs for air-conditioning (some of these expenses are offset by heat savings in October and March), transportation and some minor personnel costs.
  
- Did your administrative costs increase? No, the administrators' calendar was simply adjusted.
  
- When do you deep-clean and complete other major maintenance necessary in the schools? This still done during the summer, during the 5-6 weeks these schools are not in session.
  
- Are you aware of any families that have moved their families out of the district because of the calendar change? We have had families move away from the buildings and moved into these buildings because of the schedule. More parents are coming in and this is growing each year.
  
- Did you survey families prior to changing your calendar? Yes in all three cases
  
- Do you offer any specific programs during intercessions? We have offered both enrichment and remedial programs during the fall and spring breaks.
  
- Did modifying your calendar increase or decrease your school districts costs? There has been a very modest increase in cost that has been the result of having both a year-round and a traditional program. While these cost vary from year to year, these have been between \$25,000 to \$75,000 (out of \$40,000,000 budget).

## FREDRICK DOUGLASS' SURVEY

School: \_Frederick Douglass - CPS\_\_\_\_\_

Contact: \_Scott Hornblower\_\_\_\_\_

1. When did you "convert" to a balanced school year? Year \_\_\_\_\_  
Or How long have you been on the schedule of a balanced school year?  
Length \_2 years\_\_\_\_\_
2. Were you present during this timeframe? Yes or No? **YES**  
If not, is there a contact person that I can speak with?
3. Why did you convert to a balanced school year? **It was a merger of the existing Year –round school (Crest Hills) and Douglass because we did the same comprehensive reform model**
4. Have you noticed a difference in test scores and/or academic performance?  
Do you have data? \_\_\_\_\_ **Our school did better the second year. We had some adjustments in the 1<sup>st</sup> year that impacted our scores... most stayed the same or within several points of the previous year.**
5. What obstacles do you feel you faced implementing a balanced school year?
  - ☐ How did you modify your curriculum to adjust for shorter instructional periods? **We did not need to modify the curriculum.**
  - ☐ Was there a cost associated with this? **Personnel costs because of the additional contract days**
  - ☐ How did you address professional development? **We did not do any PD during off time. We focused on after-school opportunities, differentiated, customized PD and using staff meetings as well.**
  - ☐ Does year-round education adequately meet the educational needs of all students: gifted, average, disadvantaged, special needs, etc.?  
**It was a wonderful experience for our kids. They were in school longer, less regression and multiple opportunities for enrichment.**

- How has your absentee rates changed? If at all?  
**Attendance was in the 90-94% range. Didn't change. However, we allowed those students who didn't want to attend a year round program to transfer to two other neighborhood schools.**
- How have you addressed the changes necessary for students to participate in extra-curricular activities? (i.e. sports, after school clubs, chorus, band, plays) **It was a non-issue for us.**
- Have you noticed a difference in school morale/ spirit?  
**No. Our kids were always refreshed by their time off. They came back ready to learn.**
- How did the school district evaluate academic and cost benefits of the school calendar reform,
  - Were the evaluations done in-house or by an independent, outside source? **In-House**
- What additional costs were incurred (extra staff, extended contracts, busing, air-conditioning, building modifications, maintenance, utilities, etc.) in implementing and using a year-round calendar or longer school year? **Extended contracts, bus transportation and maintenance**
- Did your administrative costs increase?  
**Yes, I went from a 234 day contract to a 261 day contract**
- When do you deep-clean and complete other major maintenance necessary in the schools?  
**During times off for the kids.**
- Are you aware of any families that have moved their families out of the district because of the calendar change?  
**Several families did choose another neighborhood school because of family child care issues.**
- Did you survey families prior to changing your calendar?  
**Yes. We also held a couple of community forums**
- Do you offer any specific programs during intercessions?  
**We did not, but most do.**
- Did modifying your calendar increase or decrease your school districts costs? %\_\_\_\_\_
 

**Again, mostly personnel increase due to extended contracts.**

  - Why did the school stop the year-round program?

**The district had a need to merge our school and another neighborhood school in preparation for moving into a newly constructed building.**

## EMINENCE'S SURVEY ANSWERS

School: EMINENCE H.S.  
Contact: STEVE FROMMEYER

1. When did you "convert" to a balanced school year? Year \_\_\_\_\_  
Or How long have you been on the schedule of a balanced school year?  
Length Approximately 8 years
2. Were you present during this timeframe? Yes or No?  
If not, is there a contact person that I can speak with?
3. Why did you convert to a balanced school year? to improve Academic performance
4. Have you noticed a difference in test scores and/or academic performance? YES  
Do you have data? YES
5. What obstacles do you feel you faced implementing a balanced school year?
  - ☐ How did you modify your curriculum to adjust for shorter instructional periods? Not a problem. The grading periods are all of equal length.
  - ☐ Was there a cost associated with this? minimal
  - ☐ How did you address professional development? Integrated PD with existing school improvement initiatives.
  - ☐ Does year-round education adequately meet the educational needs of all students: gifted, average, disadvantaged, special needs, etc.? Definitely.
  - ☐ How has your absentee rates changed? If at all? Not much different - maybe slightly better.
  - ☐ How have you addressed the changes necessary for students to participate in extra-curricular activities? (i.e. sports, after school clubs, chorus, band, plays) minimal adjustments - KIDS DID NOT MIND AT ALL.
  - ☐ Have you noticed a difference in school morale/ spirit? Less burnout!

- ☐ How did the school district evaluate academic and cost benefits of the school calendar reform, *internal + external audits*
  - ☐ Were the evaluations done in-house or by an independent, outside source? *Both*
- ☐ What additional costs were incurred (extra staff, extended contracts, busing, air-conditioning, building modifications, maintenance, utilities, etc.) in implementing and using a year-round calendar or longer school year? *As already in place - no other major costs.*
- ☐ Did your administrative costs increase? *not to my knowledge.*
- ☐ When do you deep-clean and complete other major maintenance necessary in the schools? *Summer*
- ☐ Are you aware of any families that have moved their families out of the district because of the calendar change? *Not specifically, but many have moved in broader part*
- ☐ Did you survey families prior to changing your calendar? *Yes* *Because I love the*
- ☐ Do you offer any specific programs during intercessions? *REMEDiation + Community calendar center activities*
- ☐ Did modifying your calendar increase or decrease your school districts costs? % *Remained the same*

## BARDSTOWN'S SURVEY ANSWERS

School: Bardstown City Schools

Contact: J.W. Mattingly

1. When did you "convert" to a balanced school year? Year 1995-1996  
Or How long have you been on the schedule of a balanced school year?  
Length 11 years
2. Were you present during this timeframe? Yes, I chaired the study committee?  
If not, is there a contact person that I can speak with?
3. Why did you convert to a balanced school year? There was no particular deficit in test scores or finance that drew us to look at YRE. After studying the concept, we felt that it was a better calendar on which to operate schools. We were very excited about the "timing" of the intersessions for students having difficulties resulting from learning gaps and burnout. We think it provides a better school climate for students and teachers – refreshing everyone with more frequent and shorter breaks than the traditional 12 week summer break.
4. Have you noticed a difference in test scores and/or academic performance? Do you have data? Again, we did not go into YRE solely for the potential increase in scores. However, our scores have continued to go up each year. We have a high stakes accountability state assessment in Kentucky. I know it make your job easier if I would say our increase in test scores was the result of the change to the YRE calendar. However, I can not say that. I would hope our school councils, school administrators, and of course, district administrators/supervisors like me, have learned to align instruction better to assessment and to be better test takers.
5. What obstacles do you feel you faced implementing a balanced school year?
  - How did you modify your curriculum to adjust for shorter instructional periods? Our schools were already on a 4 quarter instructional mode prior to our calendar modification. The adjustment was not troubling. Teachers were used to culminating the quarter with quarterly exams. These exams have changed over time because teachers spend less time reviewing and cover more content than they did previously – so test content progression has changed some. Intersessions have been integrated into extended time for students. Students work on learning gaps during the intersessions, take an intersession exit exam that will positively impact grades of F, D, or C.

- Was there a cost associated with this? We went into YRE with the intent to not expend any new funds. We receive Extended Learning Services from the state. Most school districts used these funds for traditional summer school. We expended these funds across our 4 intersessions. We found that the funds impact so many more students than in the old summer school model (fail and repeat). Students would receive an "Incomplete" grade and be invited to intersessions based on scores on state assessment, a grade of F, D or C.
- How did you address professional development? Professional development really was not that different after we went into YRE. WE had more PD opportunities because of the 4 breaks vs 1 long break. PD was still driven by our state accountability assessment – content, open response questions, on-demand writing, and writing portfolios.
- Does year-round education adequately meet the educational needs of all students: gifted, average, disadvantaged, special needs, etc.? We offer intersessions for remediation of learning gaps and enrichment. Any student can attend either resource. Most students and family choose the break. WE probably average 10-15% of our students attending remediation and/or enrichment each intersession.
- How has your absentee rates changed? If at all? Being a small district, some years your attendance is better or less than the previous year. We were around 94.5 – 95.5% attendance before YRE and have gone up and downs across the 11 years. However, after the year, we have been up .2 -.5% from 1995-1996. This means extra funding to us.
- How have you addressed the changes necessary for students to participate in extra-curricular activities? (i.e. sports, after school clubs, chorus, band, plays) All though the perception is that YRE will hamper some of these extra-curricular activities, we have found that the calendar has enhanced opportunities for these activities. In our community, Bible camps now occur around the school year – an more frequently than before. Little league sports were always after 5:00 p.m. her and mostly on Saturday and Sunday. Change is always your biggest change.
- Have you noticed a difference in school morale/ spirit? Our teacher and students will tell you that morale and motivation are better. However, in our case, we have only a few students who have experienced any calendar other than YRE – 11<sup>th</sup> year.

- How did the school district evaluate academic and cost benefits of the school calendar reform,
  - Were the evaluations done in-house or by an independent, outside source? Our school board gave us two directives in researching/planning for YRE. All schools would be on the same calendar and with limited additional costs. The first year or so, we had no increased cost. Later, because of the interest in enrichment, we hired a part –time enrichment coordinator to plan and recruit for enrichment. In most case, we chose to increase our costs and enhance opportunities for students and teachers.
  
- What additional costs were incurred (extra staff, extended contracts, busing, air-conditioning, building modifications, maintenance, utilities, etc.) in implementing and using a year-round calendar or longer school year? All of our schools were already air conditioned. Our buildings were used pretty much year –round before. I guess you would say we had already absorbed some of the costs with which other districts might be faced.
  
- Did your administrative costs increase? After the second year, we give more extended days to our assistant principals to cover intersessions. Before, the principals and assistant principals cover the intersessions with their extended days.
  
- When do you deep-clean and complete other major maintenance necessary in the schools? Initially, custodial and maintenance staff saw the breakup of the long summer break for ‘spring’ cleaning as a barrier. Soon, they learned with better planning, they could accomplish the same results across the frequent breaks. Our teachers and principals all say the buildings are cleaner year –round than we did the spring cleaning once a year.
  
- Are you aware of any families that have moved their families out of the district because of the calendar change? We had two families who came to every public study meeting we had. They said the same things for 6 months. One family took their 3 kids to a private school, the other family took their kids to county schools. After one year, all 5 kids were back in our system. We have experienced ever since. We probably gained more students as a result of the calendar until our county neighbor district followed a year later to adopt the YRE calendar.

- Did you survey families prior to changing your calendar? Crucial question! Do not survey public about a concept of which nothing. We surveyed only those who attended our informational public meetings. We wanted to define and describe the YRE concept before we surveyed them. The YRE name itself is a barrier because of mis-information. 36 public meetings and radio call-in show.
  
- Do you offer any specific programs during intercessions? Yes, many programs have been offered across the intersessions as opportunity knocks. Our high school could not fit a psychology course into its schedule and offered it across 3 intersessions for credit. You are limited only by your own creativity.
  
- Did modifying your calendar increase or decrease your school districts costs? %\_\_\_\_ Difficult to determine. I look at our increases in total expenditures over the year following and determined % increases. I compared these increases to a base 5% cost of living increase across the same years. Our increases (although not all attributable to YRE) were still less than a 5% cost of living increase.

We have had many districts send a team here for interviews. We would be glad to set up interviews with principals, teachers, students (we don't call the calendar a YRE calendar – we call it our Bardstown calendar. Most of our students have known no other calendar.

Feel free to seek more information from us. Good Luck.

## APPENDIX II

### ACCOMMODATING TEENAGER'S SLEEP CYCLE

Written by Mitza Costantini

During the past decade, extensive medical and educational research has been focused on the sleep needs of teenagers and its relationship with school performance, health issues, and general quality of life. All research read for the purpose of this work shares one common school of thought: teenagers, due to *biologically developmental* reasons, need early morning sleep. Many school districts across the nation are changing their school starting times to accommodate the physiological needs of our growing young adults.

In Vol. 115 No. 6, The American Academy of Pediatrics shared multiple research studies that indicate significant sleep pattern changes during puberty. *"The circadian and sleep homeostatic systems act to coordinate most physiologic and behavioral systems of the body and brain."* The circadian is commonly known as our internal biological clock. Its main job is to regulate the time for sleeping and waking up. The circadian rhythm system also influences *neurobehavioral functioning capabilities, alertness or fatigue levels*. Medical research shows that teenage circadian rhythms change dramatically, due to hormonal development and also melatonin secretion, which is responsible for making us sleepy. In adolescents, melatonin kicks in around 10:45 p.m.

Mary A. Carskadon, Ph.D. from Contemporary Perspectives on Adolescent Sleep, says, "One of the most prominent sleep pattern alterations identified during adolescent development is the tendency for the timing of sleep to delay." A starting school time of between 7:00 and 8:00 a.m. interferes with the circadian cycle of sleep. In other words, teenagers are not fully alert, and they are often sleepy during the first period in school. This causes a sleep deprivation. Adolescent bodies try to catch up on sleep during weekends when they have the time to do so, which causes a further problem of irregular sleep and wake patterns (*Christine Acebo, Ph.D., Contemporary Perspectives on Adolescent Sleep, [www.websciences.org](http://www.websciences.org)*). Her studies show a correlation between irregular sleep patterns and academic difficulties, depressed mood, behavior problems, and attendance problems.

In an April 2006 article of Consumer Reports entitled "Why Teens Fall Asleep in Class," the National Sleep Foundation studied 1,600 high school students and reported that one out of four teenagers falls asleep in class. Furthermore, these teens were reported to be cranky, depressed, and too tired to work out.

Judith Owens, Professor of Pediatrics at Brown Medical School, discusses the fact that sleep deficits weaken learning, creative ability, task efficiency, and motivation. Medically, she cites that due to sleep deprivation, *"physiological changes in metabolism leading to obesity have been noted."*

Other research from the University of Minnesota reports that the average teenager gets 6.5 hours of sleep nightly, but requires 9.5 hours. According to Kyla Walstrom, Director for Applied Research and Educational Improvement at the University of Minnesota, kids sitting in class before 8:00 a.m. are still in *"sleep mode."* The bigger concern is that in an effort to stay awake, adolescents turn to caffeinated drinks, which, in turn, promote interrupted sleep and wake cycles and the possibility of developing serious sleep disorders in the future. Walstrom tracked the efforts of more than fifty school districts that have delayed school starting times by approximately sixty to ninety minutes. Some of her findings included decreases in dropout rate and depression and increases in attendance and readiness to learn. Some of the districts that have changed their starting times include Jessamine County in Central Kentucky, West Des Moines School District in Iowa, and Mahtomedi School in Minnesota.

Of course, the school districts that have adopted later start times have had obstacles to overcome. Madeira City Schools would have challenges to face as well, including transportation, athletic schedules, and childcare. However, based on all the medical research noted above, it can be concluded that children between the ages of 13 – 19 years would benefit from a later start time.

## APPENDIX III

### MINNESOTA STUDY ON EARLY SCHOOL START TIMES

#### THE OUTCOMES OF EARLY SCHOOL START TIMES

A study of 17 school districts in the Minneapolis area looked at the effect of school start time on a wide set of variables, including student sleep patterns, academic achievement, student attendance, student behavior, instructional practices, after-school activities, athletics, and transportation. Findings from the study showed that schools with later start times benefited in the following ways:

- Students reported fewer depressive symptoms
- Absenteeism was reduced
- Students reported less difficulty staying awake in class and while taking tests, studying or doing homework, and working on a computer
- Fewer students reported that they fell asleep in class, arrived late to school because they overslept, and felt tired during the day
- Students reported getting significantly more sleep
- Students reported getting higher grades
- Start time did not appear to restrict participation in organized sports or other cocurricular activities
- 57% of teachers reported that a greater number of students were more alert during the first two periods of the day
- 51% of teachers reported that they saw fewer students sleeping at their desks
- The vast majority of staff members reported no negative effect from a later dismissal time
- Students reported going to bed no later as a result of the later start time and got about one additional hour of sleep each night
- In one school district, teachers reported that more students came in early to get extra help
- Teachers reported benefits for themselves, which included being able to prepare for class before school and being more alert and engaged for faculty meetings that were held before school rather than after school
- Teachers were evenly divided on whether they liked or disliked the change in start time, and only 3.5% wanted to return to the previous 7:15 a.m. start time
- 93% of parents indicated that they were pleased with the later start time for their high school-age children.

Source: Wahlstrom, K., Wrobel, G., & Kubow, P. (1998). *Minneapolis Public Schools start time study: Executive summary*. Minneapolis, MN: Center for Applied Research and Educational Improvement. Retrieved September 20, 2004, from <http://education.umn.edu/carei/reports/sst-1998es.pdf>

PL JANUARY 2005

Hyperlink below:

[School Start Time Study](#)

Source: The Center for Applied Research & Educational Improvement University of Minnesota

**APPENDIX IV**  
**SURVEY OF LOCAL AREA SCHOOLS**  
**REGARDING START TIMES FOR HIGH SCHOOL**

QUESTION: What time does your high school start each day?

| Marie-mont     | Fairfield       | Indian Hill     | Lockland        | Loveland        | Sycamore        | Deer Park       | Wyoming          | Finneytown     |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|----------------|
| 7:40AM-2:54 PM | 6:45 AM-1:55 PM | 7:30 AM-2:30 PM | 7:45 AM-3:05 PM | 7:25 AM-2:20 PM | 7:20 AM-2:20 PM | 7:55 AM-3:10 PM | No data provided | 8:10AM-3:04 PM |

QUESTION: Are you considering a later start time?

| Mariermont | Fairfield              | Indian Hill | Lockland | Loveland | Sycamore                    | Deer Park | Wyoming                   | Finneytown |
|------------|------------------------|-------------|----------|----------|-----------------------------|-----------|---------------------------|------------|
| No         | No (financial reasons) | No          | No       | No       | No (after-school conflicts) | No        | No (sports league issues) | No         |

Source: Survey of Local Schools by Laura Rolfes, March 2007

## **APPENDIX V**

### **FOUR-DAY SCHOOL WEEK EXPLANATION**

#### **What's It All About?**

The motivating force behind a school changing to a four-day week is quite different than that which causes a school to adopt a block schedule. Faced with dwindling financial resources and declining enrollments, many small school districts have adopted a four-day school schedule (Grau & Shaughnessy, 1987; Koki, 1992; School Fits, 1983; Richberg & Sjorgren, 1983; Blankenship, 1984). By extending the time spent in school for four days, (by approximately 25 percent or 75 minutes per day) they are able to close the school on the fifth. Instead of cutting art, music, or other activities that often fall prey to budgetary shortfalls, the four-day week gives schools the opportunity to preserve these classes and still save money. Generally schools that use a four-day week are small, rural schools. In the Northwest, Oregon is the only state with schools using a four-day schedule. More than a dozen districts there currently observe a four-day week. Other states, including Washington, Idaho, and Montana do not have legislation that permits four-day week schedules.

Most often, schools that switch to a four-day week take either Friday or Monday off. Those choosing to close on Friday say that it is best because such a large portion of the student population misses school due to athletic events and other activities on this day. Those choosing to close school on Monday do so because gymnasiums often have to be lit and heated for Friday athletic events and activities, whereas few such activities occur on Mondays (Blankenship, 1984). Regardless of which day schools close, the decision to switch to a four-day week should be "based on clearly defined purposes and a recognition of both costs and benefits" (Richberg & Sjorgren, 1983).

#### **What Are The Benefits of a Four-Day Week?**

Though financially motivated, most schools that adopt a four-day week have serendipitously discovered numerous benefits they didn't quite expect. Following is a list of the advantages of the four-day week that many schools have encountered for students, teachers, and the school in general.

##### **Students and Teachers:**

- Student dropout rates decline (Litke, 1994; Grau & Shaughnessy, 1987).
- Student disciplinary referrals decrease (Koki, 1992).
- Student achievement is generally not affected either positively or negatively (Nelson, 1983; Daly & Richburg, 1984).
- Student and teacher attendance improves (Blankenship, 1984; Litke, 1994; Koki, 1992; Grau & Shaughnessy, 1987; Sagness & Salzman, 1993; Featherstone, 1991).
- Students and teachers benefit from less interrupted class time as a result of longer class periods and fewer transitions at all grade levels. This increases the efficiency of instruction (Blankenship, 1984; Koki, 1992; Grau & Shaughnessy, 1987; Culbertson, 1982).
- Students and teachers share more positive attitudes about school. Consequently, there is a marked improvement in school morale (Blankenship, 1984; Litke, 1994; Grau & Shaughnessy, 1987).
- School faculty has more time for quality staff development (often the day off is used for this purpose) (Blankenship, 1984; Litke, 1994).

- There is more time for participation in extracurricular activities and for personal business, such as doctor appointments (Litke, 1994; Koki, 1992; Grau & Shaughnessy, 1987; Culbertson, 1982).

#### The School in General:

- Has significant savings on utility bills, substitute teacher pay, school buses, and building wear and tear (Blankenship, 1984; Richberg & Sjogren, 1983; Koki, 1992; Grau & Shaughnessy, 1987; Culbertson, 1982; Sagness & Salzman, 1993; Featherstone, 1991).
- Can make up school days missed due to inclement weather on what would have been the fifth school day instead of at the end of the school year (Blankenship, 1984; Litke, 1994).
- Experiences fewer distractions; learning is less broken up by athletic events or other school activities (Blankenship, 1984; Sagness & Salzman, 1993; Featherstone, 1991).

#### What Are the Concerns?

Weighing both the advantages and the possible disadvantages of any new scheduling format is critical to making an informed decision. Some of the concerns associated with the four-day week that are important to note include:

- Child care issues: While some parents like the four-day week because they prefer having to find good child care one day a week less, others dislike it for the very same reason and prefer to arrange for child care in smaller increments of time. Some schools have alleviated this concern by using high school students as baby-sitters for those in need (Blankenship, 1984).
- Primary-aged students: There is often concern as to how young students will respond to such a long school day. As a result, many schools structure the day so the afternoon is composed of less academic work than the morning, thus allowing students to have some "down time" (Blankenship, 1984).
- At-risk students: Some teachers feel that at-risk and special-needs students may have retention difficulties with an extra day off each week (Blankenship, 1984; Culbertson, 1982).
- School reform movement: Some educators are concerned that the four-day week may appear to be inconsistent with the new emphasis for more time in school (Blankenship, 1984).
- The four-day week will take more of a local community commitment than other schedule options as it can affect daily community routines as well as the children's'.

#### Implementation Ideas

When contemplating the decision to move to a four-day week, keep in mind that it is a multistep process. Some suggested steps for implementation are:

1. Become as familiar with the concepts and implications of a four-day week as possible. Read research and case studies. Talk to other administrators and teachers using this schedule.
2. Survey the staff; they must be involved in the decision making process. If they aren't in favor of a four-day schedule, it will be difficult to proceed (Litke, 1994).
3. Get the endorsement of the students, parents, and community in addition to approval from teachers and administration, since this change will affect all of them as well (Litke, 1994).

4. Design the schedule to accommodate the needs of teachers and students. Make sure all changes stay within accreditation guidelines and teachers' contract requirements.
5. Some restructuring and repacing of the curriculum will be necessary. Involve school staff; this will give them ownership of the process and also help them to feel more ready for the change. Provide ample time for staff development (Richberg & Sjogren, 1983; Featherstone, 1991).
6. Once the schedule is in place, monitor its effects frequently. Keep communication open between administrators, teachers, students, and parents.
7. Allow a sufficient trial period before making any final recommendations on the schedule (Blankenship, 1984).
8. If possible, use the day off as an opportunity to provide students in need with enrichment activities or additional instruction (Koki, 1992). “

Source: Hinz, Lisa, (1993) *Non-Traditional Alternatives to School Organization*, [Positive Directions for Schools and Communities](#), Produced by Communication and Educational Technology Services, University of Minnesota Extension.

## APPENDIX VI

### BLOCK SCHEDULING OVERVIEW

As education officials and policymakers seek ways to increase “time on task” for public school students, one of the strategies they have considered is the use of block schedules—schedules that offer classes in longer “blocks” of time (usually 90-minutes or more) with subjects offered on alternating days or alternating semesters or trimesters (a school year divided into three semesters). This is not a new concept—during the 1960s and 1970s, as many as 15 percent of junior and senior high schools experimented with some form of “flexible modular scheduling,” yet this strategy was eventually abandoned by most (O’Neil, 1995).

Block scheduling has definitely caught on in certain states. For example, in 1992–1993, only 2 percent of North Carolina used a 4 x 4 block schedule, yet by 1996–1997, 65 percent of the state’s high schools did (North Carolina Department of Public Instruction, 1997). Similarly, only five Virginia high schools used some form of block schedules in 1991–1992, but by 1995–1996, almost half (133 or 46 percent) of the state’s 290 high schools did (O’Neil, 1995).

#### Types of block schedules

The Northeast and Islands Regional Educational Laboratory (1998) describe some of the more popular block schedules, along with their advantages and disadvantages:

**The trimester plan:** The school year is organized into three sessions (trimesters), with students attending two core classes per trimester. These core classes can be coupled with up to three other yearlong elective classes. Students complete the core classes in 60 days and then move on to another two core classes.

##### Trimester plan advantages:

- Students concentrate on only two core courses per trimester.
- Students and teachers prepare for fewer courses each trimester.
- Teachers work with fewer students during each trimester.

##### Trimester plan disadvantages:

- Students may not retain knowledge of fall courses when taking state and other standardized tests in the spring.

**The 4x4 block:** The school day is divided into four blocks, with classes lasting anywhere from 85 to 100 minutes with additional time for lunch and transitions. Students complete in one semester what would have taken them a full year in traditional schedules.

##### 4x4 block advantages:

- Students and teachers receive increased instructional time.
- Students concentrate on only four courses per semester.
- Teachers work with fewer students during the semester because they typically teach fewer classes during the semester.
- Students and teachers prepare for fewer courses each semester.

##### 4x4 block disadvantages:

- Students may not retain knowledge of fall courses when taking state and other standardized tests in the spring.

**The alternating plan** (also known as the 8-block plan or the A/B plan): Using this format, students attend eight blocks of classes (again, typically 90 minutes long) over two days.

**Alternating plan advantages:**

- Students and teachers receive increased instructional time.
- Students have fewer classes, quizzes, and homework assignments each day.

**Alternating plan disadvantages:**

- Teachers still have a large number of students, just spread over two days.
- Both teachers and students have as many classes for which to prepare.

**The 75-75-30 plan:** This scheduling plan is one in which students take three classes each for two 75-day terms, followed by a 30-day intensive course or enrichment program. Variations include placing the 30 days between the two 75-day terms, having three long classes and one short class, or changing the configuration to 75-15-75-15.

**75-75-30 plan advantages:**

- Students who need more time and instruction can get it during the short term.
- Students are able to engage in a short-term enrichment program of interest to them.
- Time is available to make up incomplete work.

**75-75-30 plan disadvantages:**

- Students may not retain knowledge of fall courses when taking state and other standardized tests in the spring.

While there are no national estimates of how widely each of the above schedules is used, the Indiana and Illinois data analyzed by Harmston et al. (2003) indicates that the A/B schedule was the most popular in those states, accounting for a full five out of every six block-scheduled schools. The 4X4 schedule was second.

**Benefits of block scheduling**

Proponents of block schedules point to the following benefits:

**More time on task:** With longer class periods, classroom learning is less rushed; less time is spent on transitions between classes and classroom management activities, such as calling attendance and organizing and focusing the class. Teachers have the flexibility that enables them to allow students to spend more “time on task,” practicing and working with particular information and ideas (Northeast, 1998).

**Depth and breadth:** With more time, teachers can delve more deeply into subject matter, because they are no longer pressed by the clock to squeeze as much content as possible into a single lesson. The longer periods allow students the opportunity to experience subject material through a mixture of learning contexts and media. Math and science teachers especially appreciate the added time to conduct more in-depth exercises and lab experiments (Northeast, 1998).

**More opportunities for planning and professional development:** The longer blocks of time enable schools to build in reserve time for teachers to engage in common planning and on-site professional development.

**Stronger adult-child relationships:** More time allows for greater interaction between teacher and student; when teachers have fewer students in class and students have fewer teachers, more in-depth relationships can be forged. Farbman and Kaplan (2005) found that teachers report satisfaction with the teaching load from this arrangement

(typically three–four classes and a total of approximately 70–80 students compared with five–six classes and about 100 students in a traditional schedule), saying it allowed teachers to track their students’ progress, and made the job much less overwhelming.

In addition, studies indicate that discipline problems decrease (O’Neil, 1995; Freeman, 2001). As one high school teacher explained, “It’s a whole lot easier managing 75 kids,” as opposed to 125 under the traditional period (O’Neil, 1995).

While block scheduling has re-emerged over the past two decades, the traditional “period” schedule (where students typically take six to eight subjects a day, in 45– to 50-minute blocks of time) persists, with almost two-thirds of public schools on a traditional schedule in 2004 (Strizek et al., 2006). Yet block scheduling is more prevalent in certain types of schools:

### **Effectiveness of block scheduling**

Research on block schedules has shown mixed results in terms of impact on academic achievement, with the 4X4 block schedule appearing to produce the least gains.

A few studies have compared results between blocked and non-blocked schools on college admissions or AP scores. ACT researchers Harmston, Pilska, Ziomek, and Hackman (2003) analyzed longitudinal differences in ACT scores for Illinois and Indiana high schools on traditional and block schedules. Over a period of seven years, the study found that:

Similarly, The College Board (1998) examined AP scores for calculus, biology, U.S. history, and English literature comparing students on an extended plan (60-minutes plus), traditional period, and 4X4 schedule. The analysis found that those on the 4X4 schedule scored the lowest, while those in extended classes scored the highest.

Nonetheless, the research literature includes reports from individual schools with positive outcomes due to the introduction of the 4X4 schedule.

- Daily attendance, the percentage of pupils making the honor roll or going on to four-year colleges, and the number of course credits earned by students are all higher since Wasson High School in Colorado Springs adopted its new schedule in 1990. The failure rate is lower (O’Neil, 1995).
- In an unusual set-up, South Springfield High School in Indiana adopted a 4X4 block schedule in 1994, but the school also allowed students to choose among 4X4, traditional, or some block and some traditional classes. Veal and Schreiber (1999) found no significant differences among students in the three groups in state-administered test scores of reading, language arts, and mathematics.

Interestingly, most block schedules result in the loss of allocated instructional time. For example, in a traditional schedule, a student would have 165 hours in any one subject (180 days times 55 minute period), while in most block schedules, a student receives only 135 hours (90 days times 90 minute period). But less time is lost to administrative tasks such as taking attendance and transitions into and out of the classroom. The loss of allocated time can be overcome by increasing the amount of engaged time if teachers reduce their use of lecture and turn to new strategies such as cooperative and small group learning, hands on projects or labs, and increased use of technology (Freeman, 2001).

Key to the successful implementation of block scheduling is appropriate professional development to help teachers move away from reliance on lecture (Irmsher, 1996). Teachers who are most effective in block scheduling often plan lessons in three parts: Explanation, application, and synthesis. Teachers generally have much less experience with the latter two phases. Teachers may also need training in cooperative learning, class building, and team formation.

Source: O’Brien, 2006

## APPENDIX VII ADDITIONAL RESOURCES ON YEAR-ROUND EDUCATION

The following sites offer more information regarding Year-Round Education:

[The National Association for Year Round Education \(NAYRE\)](#)

*A California-based organization devoted to implementing year-round education in America.*

[“The Never-Ending School” An Analysis of Year-Round Education in California](#)

*A well-researched article with specific examples that discusses the pitfalls of year-round education.*

[Year Round School: A Parent’s Point of View](#)

*A personal website opposing year-round education that offers reports on the educational, financial, emotional, and political aspects of YRE that “you are not likely to get from your local school.”*

[Family Education.com](#)

*Features educational-based articles including those that examine the pros and cons of YRE.*

[Education World](#)

*A comprehensive site providing articles on all aspects of education.*

[Arizona Association for Year Round Education](#)

*Provides a list of year-round schools in Arizona and facts about year-round education.*

[The U. S. Department of Education](#)

*Offers thousands of publications and files concerning education in America.*

[Time to Learn](#)

*Features an organization of parents, teachers, businesses, and citizens opposed to YRE.*

<http://www.summermatters.com/grassroots.htm>

*Opponents for the year round education.*

## Works Cited

- Backgrounder on Balanced and Year-round School Calendars at <http://summermatters.com/rejects.htm> ([www.cupe.be.ca](http://www.cupe.be.ca))
- Balanced School Year, (2005). Retrieved from Vernal Express ([http://www.vernal.com/Cmsimple2\\_3new/?January\\_12%2C\\_2005:opinionbalanced\\_school\\_year](http://www.vernal.com/Cmsimple2_3new/?January_12%2C_2005:opinionbalanced_school_year)).
- Bruillard, K. (2004, August 5) *Alexandria Rounds Out School Year, Tucker Switches to 12-Month Schedule*. [Electronic Version] Washington Post.
- Carskadon, Mary Dr., (July 05) "Work, School, Sleep And Circadian Timing in Adolescents". Brown Univ.- School of Medicine. Contemporary Perspectives on Adolescent Sleep. ([www.stanford.edu](http://www.stanford.edu))
- Cobb, County School District, (Nov/Dec 2003), District Answers Concerns Regarding Balanced School Year, Online Newsletter, [www.cobbk12.org](http://www.cobbk12.org)
- Coleman, Richard, NAYRE, President, (2006), *Calendar Reform, Learning In All Seasons*, NAYRE, Specialist In Time and Learning, [www.nayre.org](http://www.nayre.org).
- Fager, Jennifer (1997, February). *Scheduling Alternatives – Options for Student Success*, [Electronic Version] Northwest Regional Educational Library.
- Focus, (Nov/Dec 2003,) *District Answers Concerns Regarding Balanced School Year*, Cobb County School District, [Electronic version] [www.cobb.k12.ga.us](http://www.cobb.k12.ga.us)
- Fogarty, Robin, (1996) *Year-Round Education*. 1st ed. Vol. 1. Arlington Heights, IL: IRI Skylight Training and Inc., 13-22.
- Glines, Don and Mussatti, Ray, (2000). *Year-Round Education: Paths to Resources*. Published jointly with the National Association for Year- Round Education and Sierra Nevada College Teacher Education Department.
- Glines, Don, and David Mussati, (2000) *Year-Round Education: Paths to Resources*. Sierra Nevada College. San Diego, CA: National Association for Year-Round Education, 3-99.
- Harned, Kathie, and Watkins, Barry, (2005) *Balanced Calendar*, Metropolitan Nashville Board of Public Education, Balanced Calendar Committee.
- Hermansen, Kenneth J., and James R. Grove, (1971), *The Year-Round School*. 1st ed. Vol. 1. Hamden, CT: Linnet Books, 3-55.
- Hinz, Lisa, (1993) *Non-Traditional Alternatives to School Organization*, [Positive Directions for Schools and Communities](http://www.positivedirections.org), Produced by Communication and Educational Technology Services, University of Minnesota Extension.
- Kneese, Carolyn, and Knight, Stephanie, (1995). *Selected Research Studies on Year-Round Education*. National Association For Year-Round Education.
- Kelly, Melissa (no date). Year Round Education. About – Secondary Education [Electronic Version] <http://712educators.about.com/cs/reformtime/a/yearrounded.htm>
- Kneese, Carolyn, (1999). *Year-Round Learning, A Research Synthesis Relating To Student Achievement*.

- Mc Cracken, James, UCLA Neuropsychiatric Hospital, Los Angeles, CA (www. Webscience. Org)
- Marks, Melinda Warren, (2006). The Effectiveness of the Balanced Calendar in Maury County Tennessee. A doctoral dissertation submitted to the Graduate School of Tennessee State University. Year-Round School, (2007). Retrieved from Wikipedia [http://www.en.wikipedia.org/wiki/year-round\\_school](http://www.en.wikipedia.org/wiki/year-round_school)
- Metzker, B. (2002, March). School calendars. ERIC Clearinghouse on Educational Management Eugene, OR. (ERIC Document Reproduction Service: ERIC Item: ED466007)
- Metzker, B. (2003, March). Time and learning. ERIC Clearinghouse on Educational Management Eugene, OR. (ERIC Document Reproduction Service: ERIC Item: ED466007)
- O'Brien, Eileen M. (2006, September 25). Making Time: What research says about reorganizing school schedules. [Electronic Version] The Center for Public Education
- National Association for Year-Round Education Growth Of Public Year-Round Education in the United States over a 15-Year Period (2003). <http://www.nayre.org/statistics.html>. Calculations compiled from statistical tables at the NCES and NAYRE.
- National Center for Education Statistics *Projected number of participants in educational institutions, by level and control of institution: Fall 2002*. <http://nces.ed.gov/programs/digest/d01/dt002.asp>
- Parker, Randall (June 6, 2005) "High Schools Disrupt Natural Teen Sleep Schedules" [www.futurepundit.com](http://www.futurepundit.com)
- Representatives of the Year-Round School Districts, Kentucky Public Schools, (April 2003), Study of Year-Round Education In Selected Kentucky Schools Districts, Educational Services Institute, Inc., Cincinnati, Ohio, Dr. Ann Grooms, Superintendent Bardstown Independent School Districts, Dr. Robert Smotherman, Superintendent.
- Sasser, Rob, (October 11, 2005), Balanced Calendar – Information to the Board, Metropolitan Nashville Board of Public Education
- Stenvall, John, and Stenvall, Marilyn, ( 2001). An Analysis of 2000 API Scores for California Public Schools on Traditional and year-Round Calendars at the Elementary, Middle and High School Levels.
- The Effectiveness of the Balanced Calendar in Maury County, TN. Diss. Tennessee State, 2006. Ann Arbor, MI: Proquest Information and Learning Company, 2006.
- Trudian, Michelle (Jan. 18, 07) "High Schools Starting Later To Help Sleepy Teens" npr- Children's Health.
- Wahlstrom, Kyla L. PhD. (May 03) "Accommodating The Sleep Patterns of Adolescents Within Current Educational Structures". Contemporary Perspectives on Adolescent Sleep.
- Warren, Melinda, (2006). *The Effectiveness of the Balanced Calendar in Maury County Tennessee*, Dissertation Submitted to the Graduate School, Tennessee State University, for the degree of Doctor of Education.
- Welcome, Joseph (April, 06 ) "Why Teens Fall Asleep in Class" Consumer Report. org.

## HYPERLINKS

### **EXHIBIT I STUDY OF YEAR-ROUND EDUCATION IN SELECT KENTUCKY SCHOOL DISTRICTS**

[Kentucky Study](#)

### **EXHIBIT II YEAR-ROUND LEARNING – A RESEARCH SYNTHESIS RELATING TO STUDENT ACHIEVEMENT**

[Year Round Learning](#)

### **EXHIBIT III THE EFFECTIVENESS OF THE BALANCED CALENDAR IN MAURY COUNTY, TENNESSEE A DISSERTATION – GRADUATE SCHOOL UNIVERSITY OF TENNESSEE- MAY 2006**

[Maury County, TN Dissertation](#)

### **EXHIBIT IV SCHEDULING: YEAR ROUND SCHOOL – ECS INFORMATION CLEARINGHOUSE – JUNE 1997**

[Scheduling: Year-Round School](#)

### **EXHIBIT V SCHOOL CALENDARS AND MODERN-DAY WORKFORCE REALITIES: DISTORTIONS BY FRED HESS OF AMERICAN ENTERPRISE INSTITUTE**

[School Calendars & Modern-Day Workforce Realities](#)