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Exploration of Motivations for Adopting a Four-Day School Week or Year Round Calendars: Evidence from Arkansas

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Summary Points

- Legislation allowed Arkansas school districts increased flexibility to adopt a non-traditional calendars.
- In the 2022-23 school year, 33 school districts throughout the state adopted a four-day school week or year-round calendar.
- Prior research about the academic achievement outcomes of both calendars yields mixed results.
- After interviewing district leaders, we found the main motivations for adopting a new calendar were teacher recruitment and retention, mental health of students and teachers, and learning loss.
- Pre-K is currently required to remain on a traditional calendar.

Exploration of Motivations for Adopting a Four-Day School Week or Year Round Calendars: Evidence from Arkansas

This brief provides an overview of the motivations for Arkansas school districts adopting a four-day school week or year-round calendar. In addition to examining these motivations, this brief provides an overview of the districts adopting non-traditional calendars and policy recommendations for districts and communities considering changing calendars.

Introduction

In 2021, a bill passed the State of Arkansas's General Assembly that provided school districts more flexibility in choosing a school calendar. Act 688¹ stated that beginning with the 2022-23 school year, districts would have four options for establishing a school calendar. With the passage of this law, 33 school districts in Arkansas opted into the use of a non-traditional school calendar.

This policy brief describes the calendar options available to Arkansas districts, explores the trends in districts adopting new calendars, discusses the themes that emerged from interviews with district superintendents, and provides policy recommendations for districts that may be considering adopting a non-traditional school calendar.

This Brief

- Structure & Prior Research - Pg. 1
- Arkansas Calendar Policy - Pg. 2
- Study Framework - Pg. 5
- Emerging Themes - Pg. 6
- Conclusions & Policy Recommendations - Pg. 8

Structure and Prior Research of Non-Traditional Calendars

A traditional school calendar in Arkansas is structured for 170-180 school days from August to May. The nine months are divided into two periods with a two-week winter holiday, a one-week break in the spring, and a twelve-week break in the summer.² Although Arkansas districts are relatively new to adopting and navigating non-traditional school calendars, these calendar structures have been used consistently in the United States since the 1960s. The longevity of the use of non-traditional calendars has allowed researchers to study the impacts in various ways.

Four-Day School Week

The four-day school week (4DSW) structure differs depending on the state or district. The most popular schedules hold classes Monday through Thursday or Tuesday through Friday. The fifth day is not a required school day, but some districts offer enrichment or childcare opportunities. To meet state

regulations for minimum instructional time, districts operating with a 4DSW have longer school days than districts operating on the traditional calendar. Although districts have used the 4DSW since the 1970s, the adoption of this calendar has grown over the past few decades. As of the 2018-19 school year, approximately 1,607 schools in 662 districts across at least 24 states operate using a four-day school week.³ This equates to approximately 5% of schools in the United States using a 4DSW.⁴

Districts that have previously adopted the 4DSW identified cost savings as a primary motivation for the change.³ Initial studies estimated that districts operating a 4DSW could save 20% on energy costs from savings in transportation and utilities.⁵ The reduction in operating expenditures is a fairly consistent finding in the research. More recent studies estimated that districts with 4DSW have the potential to reduce a district's overall cost; however, it is also likely to reduce the district's revenue due to a reduction in services, such as the federal revenue designated for nutrition, due to the shortened week.⁶ Empirical research estimating the relationships between student achievement and a 4DSW has yielded mixed results. Some studies reported slight declines in students' test scores in 4DSW districts compared to districts operating on a traditional calendar. Other studies have reported no effect on student achievement in mathematics or literacy or an increase in the percentage of students meeting benchmark readiness standards in mathematics and literacy.^{2,7}

Year-Round School Calendars

Year-round calendars (YRC) have been more prevalent in the history of public education in the United States than the 4DSW. There is more variability in the structure of YRC compared to 4DSW. Typically, YRC features a shorter summer break than traditional calendars, with longer and more frequent breaks, called intersessions, throughout the school year. Despite being structured differently, YRC still operates with students in school for the same 170-180 days as the traditional calendar. Although initially popular in the 1960s, the percentage of districts adopting these calendars has

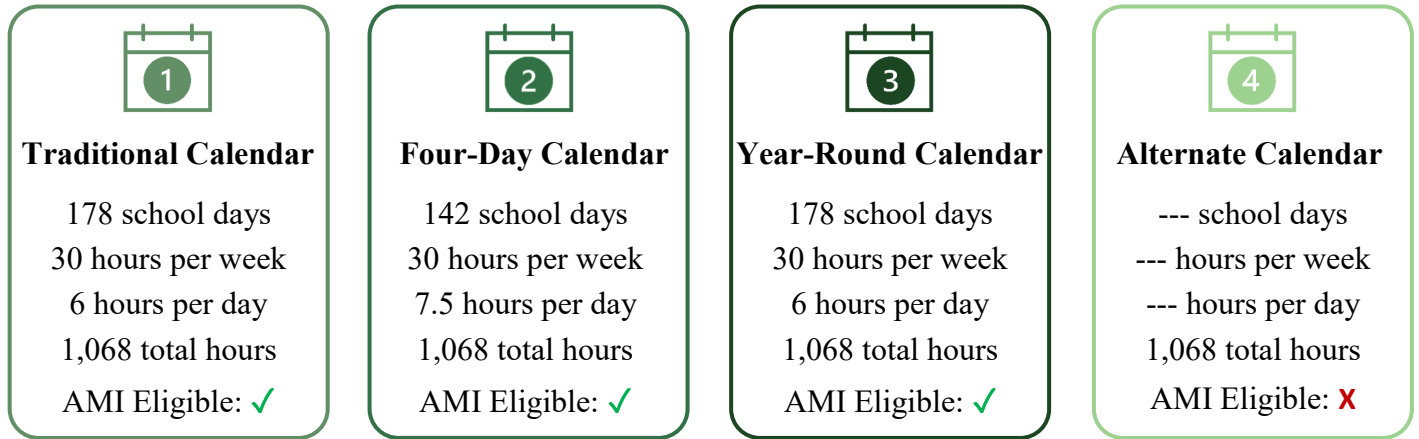
declined over the past few decades. In the 1990-91 school year, approximately six percent of schools nationally used a year-round calendar. In the 2017-18 school year, only about three percent of schools nationally operated using a YRC.⁸

Critics of the YRC point out that since there is not an increase in instructional time, YRC cannot be expected to increase student achievement. Supporters for the YRC advocate that a shortened summer break helps reduce students' learning loss, which is most acute among disadvantaged students.⁹ Therefore, YRC calendars should increase test scores, especially for disadvantaged students. However, recent research calls into question the idea of summer learning loss. Studies have estimated that children lose very little skill over the summer or that learning loss is no larger among disadvantaged students than advantaged students.¹⁰ As with the 4DSW, recent literature on increased learning in YRC has been mixed. A meta-analysis from 2003 estimates that YRC improved student test scores by a small but statistically significant amount. The scores for disadvantaged students, however, had a greater improvement.¹¹ Newer studies conclude that YRC has not improved test scores overall and that positive effects for disadvantaged students are negligible. Further studies have estimated null or adverse effects for lower-achieving students attending YRC schools.¹²

Arkansas Calendar Policy

In the past several years, there has been an increase in the number of districts in Arkansas moving to the use of a non-traditional school calendar, particularly the use of the four-day week calendar. The first noticeable increase happened between the 2019-20 and 2020-21 school years. In December of 2021, it was announced that Arkansas districts would have four options for establishing a school year calendar for the 2022-23 school year: a traditional school calendar, an alternative school calendar, a 4-day week school calendar, and a 12-month/year-round school calendar. The differences between calendar options are displayed in Figure 1 at the top of the next page.

Figure 1: Arkansas School Calendar Options by Type, 2022-23

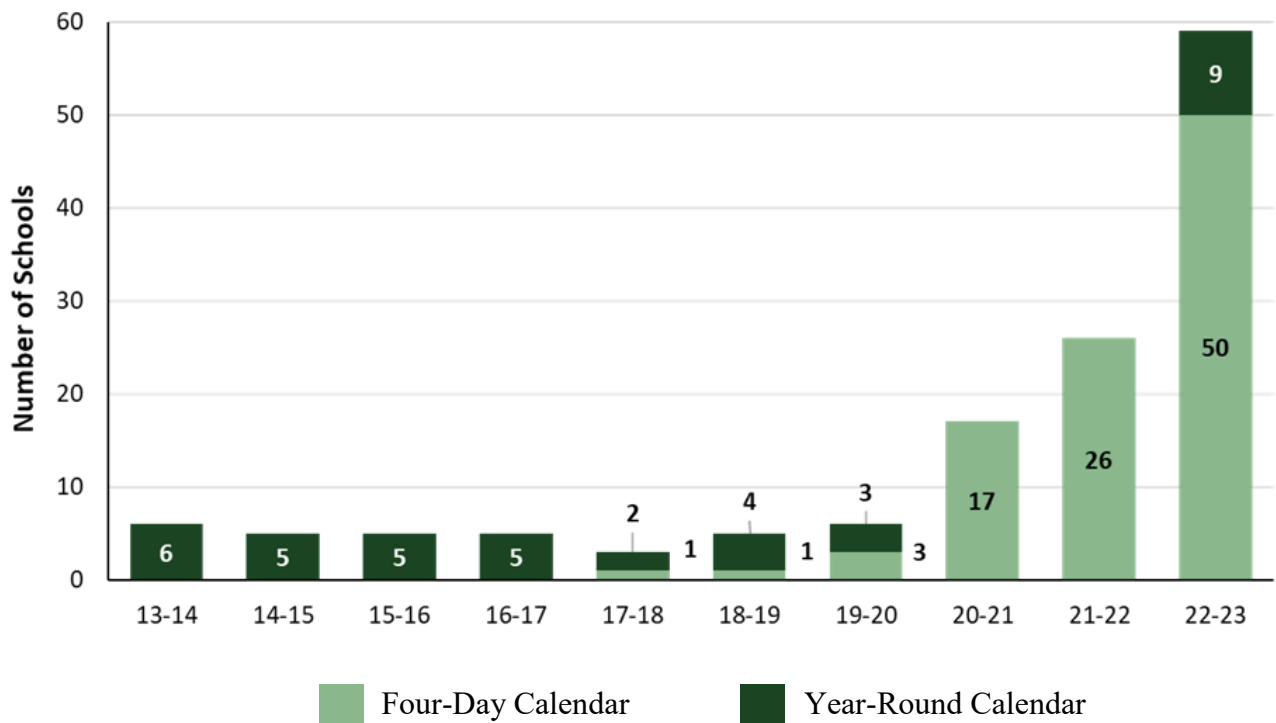


*Note: AMI stands for Alternative Methods of Instruction. An AMI day is a day in which school is cancelled (e.g., in the case of inclement weather) but students do not have to make up the day because they will be provided the opportunity to complete assignments over a specified period

All calendar options require students to have 1,068 total hours of instruction throughout the school year. The Alternate Calendar is unique in that the district creates their own schedule and calendar to fulfill the instructional hours requirement.

Act 688 introduced increased flexibility for entire district to adopt different school calendars starting in the 2022-23 school year. Before this point, individual schools within districts could operate on various calendars. For example, in one of the larger districts in the state, most schools operated using a traditional calendar while three schools operated on a year-round calendar. The information presented in Figure 2 shows how the number of schools using 4DSW and YRC has changed over the past ten years. In 2022 -23, students attending 4DSW and YRC schools represent roughly 4% of Arkansas’s overall student population.

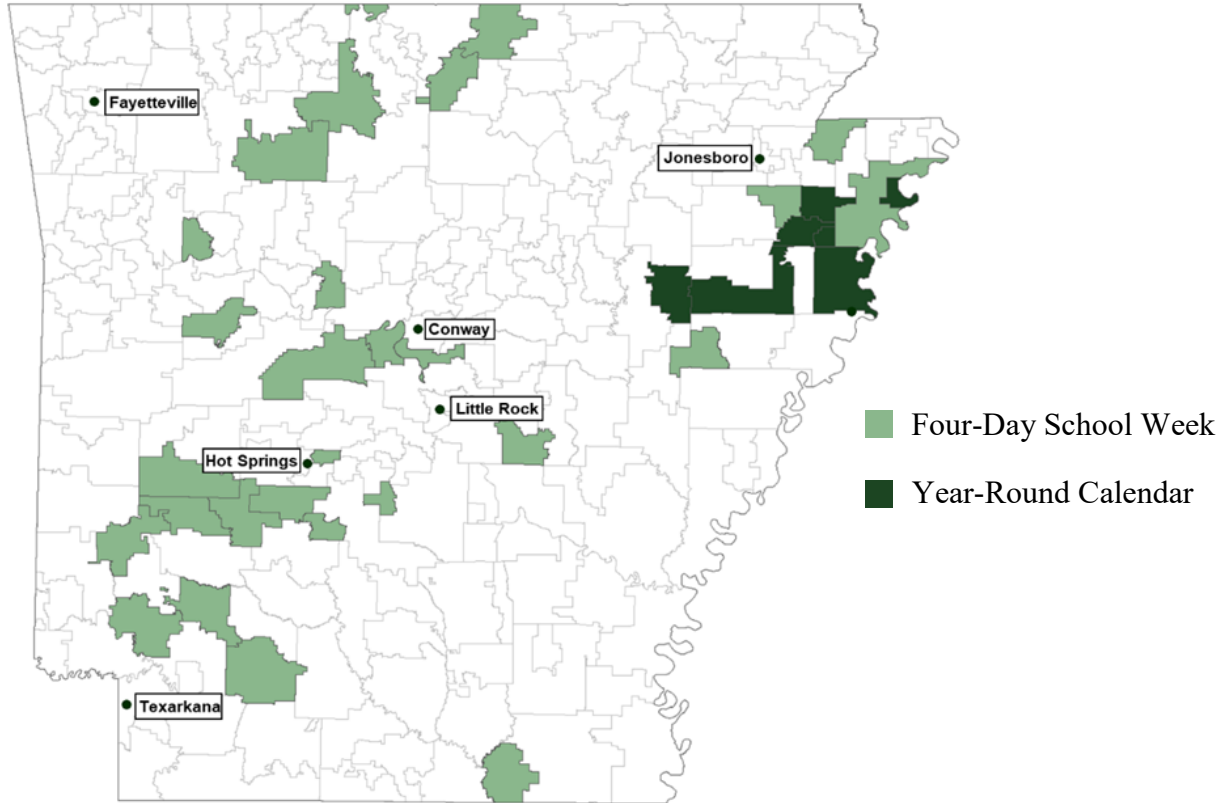
Figure 2: Number of Arkansas Schools Using 4DSW and YRC, 2013-23



Characteristics of Arkansas Schools with Non-Traditional Calendars

Currently, there are thirty-three districts in Arkansas operating a 4DSW or YRC. Twenty-seven districts are currently using the 4DSW and six districts use a YRC. The map to below shows the location of the districts utilizing the 4DSW or YRC. Key cities are identified as geographic benchmarks.

Figure 3: Arkansas Districts Operating on a 4DSW or YRC, 2022-23



When we compare districts operating a 4DSW, YRC, and traditional calendars, several noticeable differences appear. Comparisons are shown below in Table 1 and are discussed further on the subsequent page.

Table 1: Comparisons of District Characteristics by Calendar Option, Weighted Average, 2022-23

	4DSW	YRC	Arkansas
Total Enrollment	658	1,466	1,810
% Free and Reduced Lunch	81	75	65
Number of Teachers	91	127	149
% Inexperienced Teachers	53	33	43
% Proficient ACT Aspire Literacy (2022)	37	33	37
% Proficient ACT Aspire Math (2022)	34	32	35
Value-Added Growth Literacy (2022)	79.37	79.15	79.68
Value-Added Growth Math (2022)	78.62	79.06	79.45
ACT Composite Score (2022)	18.33	14.25	18.36
Total Districts	27	6	260

The average student enrollment in 4DSW and YRC districts is lower than that of Arkansas public schools. The difference is especially noticeable in districts operating a 4DSW. The average number of students enrolled in these districts is 658 compared to the state average of 1,810. Both 4DSW and YRC districts have higher percentages of students qualifying for free and reduced-price lunch (FRL) than the state average. FRL is a proxy for low-socioeconomic status. Overall, 65% of students enrolled in Arkansas public schools qualify for FRL. In 4DSW districts, 81% of students qualify for FRL, and in YRC districts, 75% of students are eligible for FRL. From these characteristics, we conclude that most districts that have adopted non-traditional calendars are small and serve a high percentage of economically disadvantaged students.

Since the districts that adopted non-traditional calendars are smaller, they have fewer teachers on average. When examining the percentage of inexperienced teachers, we see mixed results from 4DSW districts and YRC districts. On average, 43% of teachers in Arkansas school districts are classified as inexperienced, meaning they have 0-3 years of teaching experience. In YRC districts, the percentage of inexperienced teachers is lower than the state average at 33%. However, in 4DSW districts, the percentage of inexperienced teachers is 53%. We assume this percentage is higher than the state because historically districts using a 4DSW may have had difficulty recruiting and retaining teachers.

Differences also emerge when focusing on students' academic outcomes in Arkansas public schools, 4DSW districts, and YRC districts. In literacy, the average percentage of students meeting benchmark readiness standards in 4DSW districts is equivalent to the state average. In YRC districts, however, a lower percentage of students, on average, meet benchmark readiness standards compared to all districts in Arkansas. In mathematics, students in 4DSW and YRC districts are less likely to meet benchmark readiness standards than all Arkansas districts.

Value-added growth is an academic outcome that indicates how much students growing in their learning. Unlike achievement, academic growth is not strongly correlated with school enrollment demographics or the factors students face outside of school. We find that districts operating a 4DSW and YRC score lower, on average than the overall student population in Arkansas. Additionally, the average ACT composite score of students in YRC districts is considerably lower than that of all Arkansas public school students.

Study Framework

This research aims to study and compare the experiences of districts that adopted a 4DSW or YRC. This study followed the ethical practices outlined in human subject research per the Institutional Review Board (IRB) at the University of Arkansas. To gather information, the research team identified eligible 4DSW and YRC districts and invited the district superintendents to participate in the interview process. The semi-structured and open-ended interview format allowed interviewers to ask about tangential topics. The information presented in Table 2 displays the interview response rate by calendar type.

Table 2: Interview Response Rate by Calendar Type

	4DSW	YRC	Total
<i>Total Districts</i>	27	6	33
<i>No. of Scheduled Interviews</i>	21	6	27
<i>No. of Interviews Conducted</i>	18	5	23
<i>% of Interviews Completed</i>	67%	83%	70%

Once the interviews were completed, recordings were anonymized, transcribed, and imported into a database for analysis. The themes that emerged from the interview are presented on the next page.

Emerging Themes

An analysis of participants' interview responses revealed five central themes and several sub-themes. Figure 4 presents the central themes: calendar change rationale, modified school structures, outcomes monitored, extended partners, and ancillary matters. The sections that follow will briefly discuss each theme, with a focus on calendar change rationale, and outcomes monitored as these are measurable and most relevant for policy. A more detailed examination of the themes can be found in the full report.

Calendar Change Rationale

Every superintendent interviewed discussed their district's rationale for shifting away from the traditional school calendar. The three main reasons districts adopted a 4DSW or YRC calendar were: teacher recruitment and retention, the mental health of students and teachers, and learning loss.

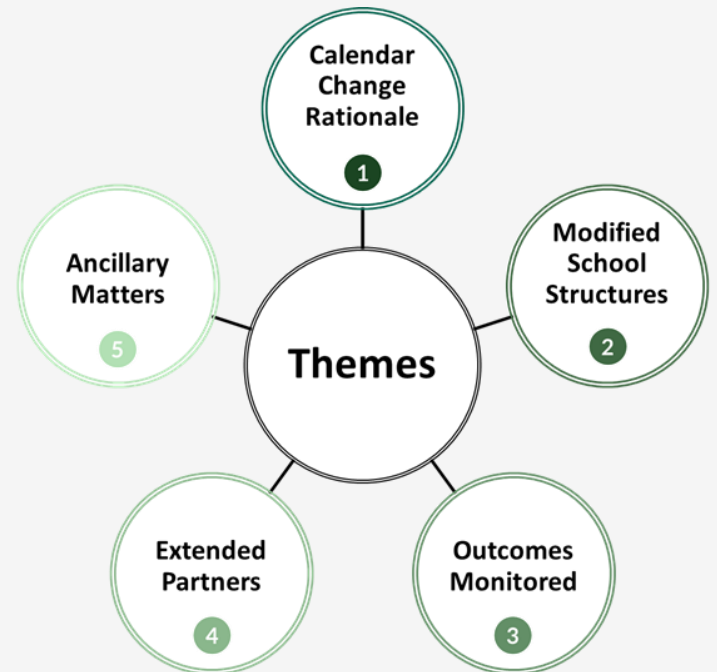
Teacher Recruitment and Retention

Nine of the superintendents interviewed noted that their district adopted a new calendar primarily to help recruit and retain teachers. The superintendents lead districts located in rural areas and reportedly face various challenges, including recruiting and retaining high-quality teachers. Although districts set their pay scale, rural districts report difficulty matching the teacher salaries provided in more populous nearby districts. For the 2021-22 school year, the average teacher salary for first-year teachers with a bachelor's degree is \$35,837 for districts utilizing a 4DSW calendar and \$38,009 for districts utilizing a YRC. Adopting a new calendar is being used as an innovative way to attract new teachers despite the pay differences they may face. One superintendent noted an increase in applications from highly qualified teachers with more years of experience or higher degree levels after changing calendars.

Mental Health of Students and Teachers

Seven of the interviewees noted that improving the mental health of students and teachers was one of the primary motivators for adopting a new calendar. In addition, these superintendents noted that the perceived

Figure 4: Central Themes from Interviews



level of burnout for their teachers and students was higher than the previous year, specifically before the Covid-19 pandemic. Therefore, they addressed this by adopting a calendar allowing more breaks throughout the school year.

Learning Loss

The Covid-19 pandemic has exacerbated the conversations surrounding learning loss as students were not physically in a school building for various points of the year. Unlike other states, all Arkansas public schools were required to have at least one in-person option for students in the 2020-21 school year. However, as the world recovers from the pandemic, the conversations surrounding recovering from all the disruptions students experienced during Covid-19 still linger. Schools are getting more innovative with solutions for students falling behind in crucial subject areas. The superintendents noted that their new schedule allowed opportunities to address this learning loss by adding additional interventions (4DSW) or reducing summer break and distributing the time off throughout the school year (YRC).

Outcomes to Monitor Implementation

Twenty-five participants made comments about the outcome measures that district leaders are using to monitor the success of implementing a new calendar. The most frequent outcomes mentioned were teacher and student absenteeism, academic achievement, and various miscellaneous outcomes. The miscellaneous outcomes include, but are not limited to, discipline referrals, counseling referrals, student engagement, student academic growth, and student enrollment.

Teacher and Student Absenteeism

The most common measure district leaders report using to monitor the implementation of non-traditional calendars is teacher and student absences. Thirteen of the superintendents interviewed mentioned that staff and student absenteeism present challenges in their districts and that when students miss school, there is the potential for them to fall further behind academically. This is particularly worrisome for districts that adopted a four-day calendar where when a student misses one school day, they are missing the equivalent of 1.25 days of instruction in a traditional calendar. When teachers miss school days, students lose an opportunity to learn from a qualified professional. Additionally, the district must then pay for a substitute teacher to fill in when a teacher is absent.

It is important to note that many superintendents discussed that the number of student and teacher absences has been lower for this school year. Depending on the calculation, declines in staff and student absences in 4DSW could be because the number of expected school days decreased from the days in a traditional calendar. Therefore, a detailed examination of teacher and student absenteeism should be completed at the end of the academic year.

Academic Achievement

Modifying a district's calendar could have implications for students' academic achievement, mainly if there are alterations in exposure to instructional hours. Eight of

the superintendents interviewed mentioned that they would be tracking the academic achievement of their students as an outcome of switching calendars. In addition, one superintendent noted that if changing to the non-traditional calendar can help with attendance and teacher retention, they are hopeful it will also help improve student achievement.

4DSW and Pre-K

Pre-K services appeared as a recurrent concern for superintendents whose districts adopted a 4DSW. Five superintendents expressed concern or frustration that their Pre-K program was forced to remain on a five-day school schedule while the rest of the district operated only four days. One district official mentioned that the district lost their ABC funding for Pre-K after adopting a 4-day school week. Below is a comment about the struggles surrounding implementing a Pre-K program with an alternative calendar.

The mandate now, the, the way that it is mandated at this current time, is that Pre-K must go five days a week... I feel like it hurts them. We have kids that don't come to Pre-K on that fifth day [of the] week so they're missing time. They're on a five-day schedule, they are only carrying out that 360 minutes a day. So, if a kid misses Friday, they're missing 360 minutes versus if they were going on an extended day.



Superintendent 11
4DSW

Pre-K regulations are essential for district leaders to be aware of if they are considering switching to a 4DSW. The superintendents in districts using a YRC did not mention any struggles with Pre-K adapting to the new schedule.

Conclusions and Policy Recommendations

Though 33 districts in Arkansas operate using a four-day school week or year-round calendar, there is a lack of state-specific research on the topic and the outcomes associated with moving away from a traditional calendar. As seen in the prior research section, the studies surrounding 4DSW and YRC have yielded mixed results on student achievement. From the interview process of this study, we have gathered valuable contextual information surrounding the adoption of a new calendar. This information, as well as policies from other states, shaped the following recommendations for Arkansas districts considering adopting a 4DSW or YRC:

- Districts should devise a collaborative plan for gathering teacher, staff, student, parent and community input with ample time to ensure the decision process is complete and not overly rushed.
- Districts intending to convert to a 4DSW or YRC should submit a plan for adoption on a three-year cycle. The information included in the plan should contain the following:
 - ◊ An operation summary detailing how the district will meet requirements for instructional hours
 - ◊ A summary of needs for new calendar including intended educational and/or fiscal benefits. Examples include cost savings, improved test scores, teacher retention, and decreased absenteeism.
 - ◊ An explanation of how unscheduled days may be used for activities such as professional development, planning, academic interventions, or special programs.
 - ◊ A summary of comments received at one or more community meetings on the calendar proposal and how concerns will be addressed.
- Following the adoption of a 4DSW or YRC, districts should annually document the progress toward the goals outlined in the initial application.
- Prior to the beginning of the third year, districts that adopted non-traditional calendars should be evaluated, preferably by a qualified external evaluator, based on the goals outlined in the initial application.

The districts adopting a 4DSW or YRC noted various advantages of the new schedule. Additionally, there are opportunities for future analyses to be done as data becomes available. Future research could focus on the effects of various calendars on academic achievement and growth, the impacts on families and the community (e.g., childcare costs or youth-related crime), the effects on teacher recruitment and retention, and the use of unscheduled time for professional development or collaboration. Continued research can help identify the best practices for calendar adoption.

For more information about this Policy Brief and other education issues in Arkansas visit our website at:



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Resources:

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