



School Funding
Advisory Council

COMPONENTS OF OHIO'S EVIDENCE-BASED MODEL OF SCHOOL FUNDING

Calculations, Data, Reasoning and Research
March 1, 2010

Ohio's EBM Components

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Ohio's EBM Components

Overview

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- This presentation offers an overview of the calculations, data, research and reasoning used in creating Ohio's evidence-based model (EBM) of school funding.
- Primarily based on the research done by Allan Odden and Lawrence Picus, as well as conversations with Ohio's leaders who worked on the model, this presentation outlines major influences in the model's development.
- The EBM identifies an educational program which includes research-based educational strategies, and uses the cost of that program to determine the cost of education.

Odden, A., Picus, L., Archibald, S., Goetz, M., Mangan, M. and Aportela, A. (2007) Moving From Good to Great in Wisconsin: Funding Schools Adequately and Doubling Student Performance. Prepared for Wisconsin State and Local Policymakers, Educators and Citizens.

Ohio's EBM Components

Overview

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- This presentation does not:
 - ▣ Address funding for community schools (“charter schools”), STEM schools, non-public schools or other educational entities. It is limited to traditional public K-12 schools.
 - ▣ Consider how the model is phased-in. The presentation describes the fully-funded EBM based on FY 2010-2011 figures. Note that phase-in details are included for reference in the overview (slides 6-8).
 - ▣ Focus on the technical details of the funding and payment system as it exists today. The model is presented conceptually to allow readers to evaluate the complete model.
 - ▣ Claim to be an exhaustive list of all contributing sources, or act as an authority on the legislative process leading up to the model’s adoption. Questions about that process should be addressed to those who were participants at the time.

Ohio's EBM Components

Overview – Cost of Education

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The sum of the components of the EBM is used to determine the cost of education for the purposes of Ohio's foundation program of school funding.

Ohio's EBM Components

Overview

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School Configuration	Elementary	Middle	High
	K-5	6-8	9-12
School Characteristics			
Organizational Unit (Prototypical School Size) ¹	418	557	733
Ohio Educational Challenge Factor	Accounts for differences that exist between school districts in terms of college attainment, wealth and concentration of poverty. The factor is applied to the instructional services components, as well as family and community liaisons, summer remediation, and enrichment support.		
Instructional Services²			
Core Teachers ³ (Student/Teacher Ratio)	K-3 = 15:1 4-5 = 25:1	25:1	25:1
All-day Kindergarten	Universal	N/A	N/A
Specialist Teachers (e.g., art, physical education)	20% of the number of Core Teachers	20% of the number of Core Teachers	25% of the number of Core Teachers
Lead Teachers (Instructional Facilitators)	1 per organizational unit		
Supplemental Teachers (Tutors)	1 per 100 students in poverty		
Special Education Teachers ⁴	1 teacher per 20 weighted special education students (funded at 90%)		
Special Education Teachers Aides ⁴	1 aide per 2 special education teachers (Funded at 50% in 2010-11)		
Limited English Proficient (LEP) Teachers	1 teacher per 100 LEP students		

Ohio's EBM Components

Overview

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School Configuration	Elementary	Middle	High
	K-5	6-8	9-12
Additional Services Support			
Summer Remediation	\$3,000 per summer teacher ⁵		
Family and Community Liaisons	1 per 75 students in poverty (\$38,633 in 2010, \$39,381 in 2011)		
Counselors	N/A	1 per 250 per students (Not funded in 2010-11)	
School Wellness Coordinators	1 per organizational unit (Not funded in 2010-11)		
District Health Professionals	1 per district (Not funded in 2010-11)		
Gifted Education Support			
Gifted Identification	\$5 per student		
Gifted Coordinators	1 per 2,500 students (\$66,375 in 2010, \$67,660 in 2011)		
Gifted Intervention Specialists (GIS)	1 per organizational unit (Funded at 20% in 2010, 30% in 2011) ⁶		
GIS Professional Development	\$1,833 per GIS (Funded at 20% in 2010, 30% in 2011)		
Enrichment Support			
Student Enrichment	\$100 per student (Funded at 20% in 2010, 30% in 2011)		
Technology Resources Support			
Licensed Librarians/ Media Specialists	\$60,000 per organizational unit (Funded at 20% in 2010, 30% in 2011)		
Technical Equipment	\$250 per student (Funded at 20% in 2010, 30% in 2011)		
Other Support			
Instructional Materials	\$165 per student (Funded at 20% in 2010, 30% in 2011)		
Professional Development	\$1,833 per core, lead, specialist, and special education teacher		
Operations and Maintenance	\$884 per student (Funded at 45% in 2010-11)		

Ohio's EBM Components

Overview

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School Configuration	Elementary	Middle	High
	K-5	6-8	9-12
Administrative Services Support			
District Administration	1 per district (\$187,176 in 2011, \$190,801 in 2011)		
Principals	1 per organizational unit (\$89,563 in 2010, \$91,297 in 2011) ⁷		
Secretaries	1 per organizational unit	1 per organizational unit	3 per organizational unit
	(\$33,624 in 2010, \$34,275 in 2011)		
Building Managers	1 per organizational unit (\$33,624 in 2010, \$34,275 in 2011)		
Non-Instructional Aides	2 per organizational unit	2 per organizational unit	3 per organizational unit
	(Not funded in 2010-11)		
Non-EBM Elements			
Career-Technical Education Funding	0.75% increase over the prior year career-technical education weighted funding		
Transportation	ODE formula (prorated portion) ⁸		

1. Districts smaller than 418 students are counted as one organizational unit, to ensure that every district receives funding for at least organizational unit.
2. Salaries and benefits for instructional service personnel are \$56,902 in FY 2010 and \$57,812 in FY 2011.
3. K-3 student teacher ratio is 19:1 in FY 2010, 17:1 in FY 2012, and 15:1 in FY 2014.
4. Special education is funded at 90% of components.
5. Each summer remediation teacher is determined by a student teacher ratio of 30:1, calculated to be provided for half the students identified in poverty. 1 teacher = (number of students in poverty / 2) / 30.
6. GISs are calculated at the instructional services salary.
7. Rural districts (Type 1, Type 2) are calculated to receive funding for at least 1 principal per building.
8. Transportation supplement for districts with both wealth and density below the state median includes a supplement phased-in at 30% in FY 2010 and 70% in FY 2011.

Ohio's EBM Components

Instructional Services

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- Core Teachers
- Specialist Teachers
- Lead Teachers
- Special Education Teachers
- Special Education Aides
- Limited English Proficiency Teachers
- Supplemental Teachers

Ohio's EBM Components

Core Teachers (Student/Teacher Ratio)

ORC Sec. 3306.05 (B) (1)

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Calculation

Core Teachers	Core Teacher Salary FY2010	Core Teacher Salary FY2011
(K-3 ADM) / 15	\$56,902 x ECF	\$57,812 x ECF
(4-12 ADM) / 25	\$56,902 x ECF	\$57,812 x ECF

- Core teachers are calculated at one teacher for every 15 students in grades K-3 and one teacher for every 25 students in grades 4-12.

Ohio's EBM Components

Core Teachers (Student/Teacher Ratio)

ORC Sec. 3306.05 (B) (1)

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Data

- *Average Daily Membership (ADM)* – student enrollment
- *Average Instructional Salary*

Reasoning

- Smaller class sizes, especially during early grades, can improve student achievement. Research has focused on smaller classes of 10-15 students, in comparison to standard class sizes of about 25 students.

Ohio's EBM Components

Core Teachers (Student/Teacher Ratio)

ORC Sec. 3306.05 (B) (1)

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Research Highlights

- Reduced class size is linked to increased student performance. Students in small classes achieve at significantly higher levels than those in regular class sizes (20-25), with the greatest gains shown for low income and minority students. (Achilles, 1999; Finn, 2002; Grissmer, 1999; Krueger, 2002).
- The effects of reduced class sizes cannot be replicated by adding an instructional aide to an existing larger classroom. Student/teacher ratios must be reduced to realize gains. (Gerber, Achilles, & Boyd- Zacharias, 2001).
- With fewer students per teacher, less time is needed for disciplinary matters and more time is available for individualized instruction and student progress monitoring (Betts &, Shkolnik, 1999).

Ohio's EBM Components

Core Teachers (Student/Teacher Ratio)

ORC Sec. 3306.05 (B) (1)

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Notes

- Core teachers are defined as teaching “English-language arts, mathematics, science, social studies, or foreign languages” (Sec. 3306.02 (F)). These subjects are identified as part of the Ohio Core curriculum, now required for high school graduation.

Ohio's EBM Components

Core Teachers (Student/Teacher Ratio)

ORC Sec. 3306.05 (B) (1)

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Ohio's EBM Components

Core Teachers (Student/Teacher Ratio)

ORC Sec. 3306.05 (B) (1)

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Ohio's EBM Components

Specialist Teachers

ORC Sec. 3306.05 (B) (2)

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Calculation

Specialist Teachers	Specialist Teacher Salary FY2010	Specialist Teacher Salary FY2011
(Total Core Teachers for K-8) / 5	\$56,902 x ECF	\$57,812 x ECF
(Total Core Teachers for 9-12) / 4	\$56,902 x ECF	\$57,812 x ECF

- Specialists teachers are calculated as a ratio of core teachers.

Ohio's EBM Components

Specialist Teachers

ORC Sec. 3306.05 (B) (2)

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Data

- *Average Daily Membership (ADM)* – student enrollment
- Average Instructional Salary

Reasoning

- Specialist teachers are calculated at a ratio that provides core teachers with one free period per day to be used for joint planning time and collaborative instructional preparation. The ratio assumes a six or five period day for elementary and middle or high school, respectively.
- Specialist teachers can teach electives, including arts and physical education, which are required of Ohio students.

Ohio's EBM Components

Specialist Teachers

ORC Sec. 3306.05 (B) (2)

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Research Highlights

- Professional development is more effective in changing teachers' classroom practice when it has collective participation of peer teachers, active learning opportunities, such as reviewing student work or obtaining feedback on teaching, and coherence through links to other activities or building on teachers' previous knowledge. (Odden and Archibald, 2001; Birman, Desimone, Porter & Garet, 2000; Cohen & Hill, 2001).
- Teacher planning is linked to more opportunities for active learning and more effective targeting of resources to special needs students (Birman, B. F., Desimone, L., Porter, A.C., & Garet, M.S., 2000).
- Students learn more when they are provided with uninterrupted time for learning through block scheduling (Bransford, Brown & Cocking, 1999; Donovan & Bransford, 2005a, 2005b, 2005c).

Ohio's EBM Components

Specialist Teachers

ORC Sec. 3306.05 (B) (2)

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Notes

- Specialist teachers are defined as teaching “dance, drama and theater, music, visual art, or physical education” (Sec. 3306.02 (BB)).

Ohio's EBM Components

Specialist Teachers

ORC Sec. 3306.05 (B) (2)

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Ohio's EBM Components

Lead Teachers

ORC Sec. 3306.05 (B) (3)

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Calculation

Lead Teachers	Lead Teacher FY2010 Salary	Lead Teacher FY2011 Salary
One per organizational unit	\$56,902 x ECF	\$57,812 x ECF

Data

- *Average Daily Membership (ADM)* – student enrollment
- *Average Instructional Salary*

Ohio's EBM Components

Lead Teachers

ORC Sec. 3306.05 (B) (3)

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Reasoning

- Lead teachers can act as instructional coaches, providing the job-embedded professional development which has been shown to significantly improve teacher quality. They can also lead professional development activities at the school level.
- One lead teacher is provided for each organizational unit to match Ohio's new operating standards related to professional learning communities.

Ohio's EBM Components

Lead Teachers

ORC Sec. 3306.05 (B) (3)

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Research Highlights

- When teachers have sufficient time to engage in professional development that is embedded in classrooms with the aid of instructional coaches, they show increased skill-level and knowledge-level objectives (Garet, et al, 2001; Joyce and Calhoun, 1996; Joyce and Showers, 2002).
- High-quality teachers, sustained through intensive professional development, are lacking in the schools with high needs and challenging populations. Addressing this shortage is a key strategy in closing the achievement gap (Haycock, 1998).

Ohio's EBM Components

Lead Teachers

ORC Sec. 3306.05 (B) (3)

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Notes

- Lead teachers are aligned with Ohio's new career-ladder system of teacher licensure.
- Lead teacher positions will help support peer-assistance review programs for teachers. ODE and the Educator Standards Board are required to develop a model peer review program.

Ohio's EBM Components

Lead Teachers

ORC Sec. 3306.05 (B) (3)

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Ohio's EBM Components

Special Education

ORC Sec. 3306.05 (B) (4), Sec. 3306.11

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Calculation

Special Education Teachers	Special Education Teachers' Aides	FY 2010 Salary	FY 2011 Salary
$(\text{Weighted ADM}) / 20$	Total Special Education Teachers / 2	\$56,902 x ECF	\$57,812 x ECF

- Both special education teachers and special education teachers' aides are calculated at the instructional salary level.
- Weighted ADM is calculated by multiplying the number of students in each of six disability categories by the weight assigned to that category.
- Category weights are based on the services needed to treat the student's disability, and vary from 0.2906 for Category 1 to 4.7205 for Category 6.

Ohio's EBM Components

Special Education

ORC Sec. 3306.05 (B) (4), Sec. 3306.11

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Data

- *Special Education Average Daily Membership (ADM)* – student enrollment
- Average Instructional Salary

Reasoning

- Federal and state law require districts to serve the needs of special education students through Individualized Education Programs (IEPs).
- Category weights were developed by the Ohio Coalition for the Education of Children with Disabilities in 2000 and updated in 2006 (OCECD, 2006).

Ohio's EBM Components

Special Education

ORC Sec. 3306.05 (B) (4), Sec. 3306.11

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Research Highlights

- Educating special needs students in general education environments, rather than in separated classrooms, results in higher academic achievement for special needs students and more positive social outcomes for students with and without disability labels (Frattura & Capper, 2007).
- Cost calculations underlying the category weights are based on pupil-to-provider ratios, contained in Ohio's operating standards for special education programs, and the costs of compensating those providers (OCECD, 2006).

Ohio's EBM Components

Special Education

ORC Sec. 3306.05 (B) (4), Sec. 3306.11

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Notes

- Special Education Transportation and Preschool Units are additional special education programs which are funded after the charge-off on the PASS Form.
- Though the special education components are calculated through a teacher ratio, they are intended to also capture the need for related service providers such as school psychologists and speech language pathologists.

Ohio's EBM Components

Special Education

ORC Sec. 3306.05 (B) (4), Sec. 3306.11

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Ohio's EBM Components

Limited English Proficiency (LEP) Teachers

ORC Sec. 3306.05 (B) (5)

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Calculation

LEP Teachers	LEP Teacher FY 2010 Salary	LEP Teacher FY 2011 Salary
$(\text{LEP percentage} \times \text{ADM}) / 100$	$\$56,902 \times \text{ECF}$	$\$57,812 \times \text{ECF}$

- LEP students will also trigger the supplemental teacher (tutor), summer remediation and family and community liaison factors if they are also economically disadvantaged.

Ohio's EBM Components

Limited English Proficiency (LEP) Teachers

ORC Sec. 3306.05 (B) (5)

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Data

- Percentage of LEP students (district local report card)
- *Average Daily Membership (ADM)* – student enrollment
- Average Instructional Salary

Reasoning

- Providing the dedicated programming needed for LEP students requires specialized LEP teachers.
- One LEP teacher per 100 LEP students would provide for five LEP classes per day of 20 LEP students, and reflects common practice in the field.

Ohio's EBM Components

Limited English Proficiency (LEP) Teachers

ORC Sec. 3306.05 (B) (5)

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Research Highlights

- LEP students need high quality resources and curricula just like other students with learning challenges, but are often shortchanged in practice (Gandara et al, 2003).
- In a summative review of 17 studies, LEP students performed better when they had access to bilingual programs than when they were placed in English-only educational programs (Slavin & Cheung, 2005).

Ohio's EBM Components

Limited English Proficiency (LEP) Teachers

ORC Sec. 3306.05 (B) (5)

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Notes

- The EBM represents the first time Ohio has systematically included LEP programming in the school funding formula. Limited funding for certain districts was available under the former Poverty-Based Assistance program. LEP enrollment, now at 1.9% statewide, has more than doubled since 2000.
- Districts must follow federal guidelines for LEP programming set forth in *Lau v. Nichols*, 414 U.S. 563 (1974).

Ohio's EBM Components

Limited English Proficiency (LEP) Teachers

ORC Sec. 3306.05 (B) (5)

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Ohio's EBM Components

Supplemental Teachers (tutors)

ORC Sec. 3306.05 (B) (6)

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Calculation

Supplemental Teachers (tutors)	Supplemental Teacher FY 2010 Salary	Supplemental Teacher FY 2011 Salary
$(\text{Economically disadvantaged percentage} \times \text{ADM}) / 100$	$\$56,902 \times \text{ECF}$	$\$57,812 \times \text{ECF}$

- 1 tutor per 100 students allows each student to receive twenty minutes of one-on-one instruction, or one hour of 3:1 instruction, per week in a six-hour school day.

Ohio's EBM Components

Supplemental Teachers (tutors)

ORC Sec. 3306.05 (B) (6)

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Data

- Percentage of economically disadvantaged students (district local report card)
- *Average Daily Membership (ADM)* – student enrollment
- Average Instructional Salary

Reasoning

- Tutoring is used to help struggling students meet state standards. Students who are economically disadvantaged tend to face greater educational challenges.

Ohio's EBM Components

Supplemental Teachers (tutors)

ORC Sec. 3306.05 (B) (6)

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Research Highlights

- “The most powerful and effective strategy to help struggling students meet state standards is individual one-to-one tutoring provided by licensed teachers” (Shanahan, 1998; Shanahan & Barr, 1995; Wasik & Slavin, 1993).
- The alignment between class curriculum and tutoring content is critical (Mantzicopoulos et al, 1992; Wheldall et al, 1995).
- Trained tutors and professional teachers have the biggest impact on student learning (Cohen et al, 1982; Farkas, 1998; Mathes & Fuchs, 1994; Shanahan, 1998; Shanahan & Barr, 1995; Wasik & Slavin, 1993).

Ohio's EBM Components

Supplemental Teachers (tutors)

ORC Sec. 3306.05 (B) (6)

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Notes

- Supplemental teachers can support academic interventions for struggling students required under Ohio's operating standards (revised in HB 1).

Ohio's EBM Components

Supplemental Teachers (tutors)

ORC Sec. 3306.05 (B) (6)

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Ohio's EBM Components

Supplemental Teachers (tutors)

ORC Sec. 3306.05 (B) (6)

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Ohio's EBM Components

Additional Services

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- Family and Community Liaisons
- Summer Remediation
- Guidance Counselors
- School Wellness Coordinators
- District Health Professionals

Ohio's EBM Components

Family and Community Liaisons

ORC Sec. 3306.06 (B) (1)

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Calculation

Family and Community Liaisons	Liaison Salary FY2010	Liaison Salary FY2011
(Percentage of economically disadvantaged students) / 75	\$38,633 x ECF	\$39,381 x ECF

Data

- *Average Daily Membership (ADM)* – student enrollment
- Percentage of economically disadvantaged students (district local report card)
- Average Support Staff Salaries

Ohio's EBM Components

Family and Community Liaisons

ORC Sec. 3306.06 (B) (1)

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Reasoning

- Liaisons are resources for each school site to engage in parent outreach and involvement.
- Liaisons can support the Closing the Achievement Gap program (linkage coordinators) and school district Family and Community Engagement teams.

Ohio's EBM Components

Family and Community Liaisons

ORC Sec. 3306.06 (B) (1)

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Research Highlights

- Schools need a student support and family outreach strategy, though various school designs can achieve this goal (Stringfield, Ross & Smith, 1996).
- Parent outreach that explicitly addresses what parents can do to help their children learn, and ensures they understand expectations for students, produces discernable impacts (Steinberg 1996, 1997).
- Fully engaging the broader community will be a key to improving education in Ohio (OPPCC, 2008).
- Parents and communities should be involved in supporting education and in helping students achieve high educational standards (Governor's Commission on Student Success, 2003).

Ohio's EBM Components

Family and Community Liaisons

ORC Sec. 3306.06 (B) (1)

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Ohio's EBM Components

Summer Remediation

ORC Sec. 3306.06 (B) (3)

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Calculation

Summer Remediation Factor

$$\frac{(\text{Economically disadvantaged percentage} \times \text{ADM}) \times 0.5}{30 \times \$3,000 \times \text{ECF}}$$

- \$3000 is allocated to compensate one summer teacher at a student/teacher ratio of 30:1

Ohio's EBM Components

Summer Remediation

ORC Sec. 3306.06 (B) (3)

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Data

- Percentage of economically disadvantaged students (district local report card)
- *Average Daily Membership (ADM)* – student enrollment

Reasoning

- Participating in summer programs helps minimize summer learning loss, which especially affects students with greater learning challenges.
- In common practice only about half of the students will participate in summer programs, which are generally paid for through supplemental contracts with teachers.

Ohio's EBM Components

Summer Remediation

ORC Sec. 3306.06 (B) (3)

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Research Highlights

- An average student loses about a month's worth of abilities and skills over summer break (Cooper, Nye, Charlton, Lindsay and Greathouse, 1996).
- Summer learning loss is most acute for low income students. Middle class students make gains on reading recognition tests over summer break, but low income students lose ground (Cooper, Nye, Lindsay & Greathouse, 1996).
- Students attending summer school outperform students who do not attend summer school by 60% (Cooper et. al., 2000).
- Summer programs using volunteer college tutors can have a positive effect on the prevention of summer learning loss (Borman, Ruchuba, Hewes, Boulay & Kaplan, 2001).

Ohio's EBM Components

Summer Remediation

ORC Sec. 3306.06 (B) (3)

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Notes

- Though students may attend private or independent summer programs, those programs are not implemented in a systematic way.
- Many school districts only offer summer school programs for students that need to complete credits, rather than as a general “summer bridge” program to avoid summer learning loss.

Ohio's EBM Components

Summer Remediation

ORC Sec. 3306.06 (B) (3)

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Ohio's EBM Components

Guidance Counselors

ORC Sec. 3306.06 (B) (2)

52

Calculation

Guidance Counselors	FY2010 Salary	FY2011 Salary
(6-12 ADM) / 250	\$66,375*	\$67,660*

*Not funded in 2010-11. Salary figures drawn from As Introduced version of HB 1.

Data

- *Average Daily Membership (ADM)* – student enrollment
- *Average Guidance Staff Salaries*

Ohio's EBM Components

Guidance Counselors

ORC Sec. 3306.06 (B) (2)

53

Reasoning

- One guidance counselor per 250 students is the recommended ratio from the American School Counselor Association.

Research Highlights

- Offering school leadership and counseling support is critical for promoting access to higher education for all students (Indiana, 2008).

Bibliography

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Ohio's EBM Components

Health Personnel

ORC Sec. 3306.06 (B) (4) & (5)

54

Calculation

Health Personnel	Number of Positions	FY2010 Salary	FY2011 Salary
School Wellness Coordinators	1 per organizational unit	\$28,009*	\$28,551*
District Health Professionals	1 per district	\$56,902*	\$57,812*

*Not funded in 2010-11. Salary figures drawn from comparisons to As Introduced version of HB 1.

Ohio's EBM Components

Health Personnel

ORC Sec. 3306.06 (B) (4) & (5)

55

Data

- *Average Daily Membership (ADM)* — student enrollment
- Average Instructional and Health Professional Salaries

Reasoning

- Provides for a staff member in every school building to promote healthy lifestyles through the school wellness coordinator program.

Ohio's EBM Components

Health Personnel

ORC Sec. 3306.06 (B) (4) & (5)

56

Research Highlights

- Recent trends in Ohio expect students to receive more wellness and mental health services in school settings, rather than through traditional community-based channels (Tracy, 2007).
- The Ohio Departments of Education and Health have collaborated to advance mental health and wellness in schools (ODMH & ODE, 2004).

Ohio's EBM Components

Health Personnel

ORC Sec. 3306.06 (B) (4) & (5)

57

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Notes

- Districts are required to give hiring preferences to licensed school nurses.



School Funding
Advisory Council

INTERMISSION

Components of Ohio's Evidence-Based Model of School Funding
March 1, 2010

Ohio's EBM Components

Administrative Services

59

- District Administration
- Principals
- Building Managers
- Building Administration
 - ▣ Secretaries
 - ▣ Non-Instructional Aides

Ohio's EBM Components

District Administration

ORC Sec. 3306.07 (B) (1)

60

Calculation

District Administration Factor	FY2010	FY2011
One per school district	\$187,176	\$190,801

- Calculated to support one superintendent and one district treasurer

Data

- Average District Administration Salaries

Ohio's EBM Components

District Administration

ORC Sec. 3306.07 (B) (1)

61

Reasoning

- Funding for central office staff is only calculated for the two positions required by law for each district to maintain: superintendent and treasurer. This prevents possible incentives towards large central office administrations.
- District can account for district-level staff through program-area funding (e.g. account for a Transportation Director position through transportation funding).

Ohio's EBM Components

District Administration

ORC Sec. 3306.07 (B) (1)

62

Research Highlights

- One of a district central office's primary responsibilities is to allocate resources so that all students can achieve academic success. The central office assures the district's schools function as an integrated system focused on increased student achievement (School Communities that Work 2002).
- School district central offices have a responsibility to facilitate and encourage the exchange of information among schools and instructional leaders (Burch & Spillane 2004).
- District central offices assist in completing essential tasks that would otherwise fall to school site personnel (Berg & Hall 1997).

Ohio's EBM Components

District Administration

ORC Sec. 3306.07 (B) (1)

63

Notes

- Central office staff plays a different role in “portfolio” school districts, in which district administrators manage their schools as a portfolio of options to encourage continuous improvement and intervene with failing schools. In portfolio districts, such as New York and New Orleans, central office administrators provide resources and accountability for individual schools.
- The New Commission on the Skills of the American Workforce identified portfolio-style district management as a key strategy in its report “Tough Choices or Tough Times” (NCEE, 2007).

Ohio's EBM Components

District Administration

ORC Sec. 3306.07 (B) (1)

64

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Ohio's EBM Components

Principals, Building Managers

ORC Sec. 3306.07 (B) (2) & (3)

65

Calculation

Personnel	Number of Positions	FY2010 Salary	FY2011 Salary
Principals	1 per organizational unit*	\$89,563	\$91,297
Building Managers	1 per organizational unit	\$33,624	\$34,275

*Type 1 districts (rural/agricultural, high poverty, low median income) and Type 2 districts (rural/agricultural, low poverty, low to moderate median income) receive funding for at least one principal per building, regardless of the district's number of organizational units.

Ohio's EBM Components

Principals, Building Managers

ORC Sec. 3306.07 (B) (2) & (3)

66

Data

- Average Principal Salary
- Average Building Administrator Salaries

Reasoning

- Every educational model includes a building principal.
- Rural areas often have smaller buildings, but still require a principal.
- Principals are most effective when they act as instructional leaders.
Building managers relieve principals of their facilities management responsibilities.

Ohio's EBM Components

Principals, Building Managers

ORC Sec. 3306.07 (B) (2) & (3)

67

Research Highlights

- The key role of a school's principal and the importance of instructional leadership is broadly accepted. Most researchers and policymakers agree that principals play important roles in schools' successes (Hallinger & Heck 1996, 1998).
- Principals influence school success through indirect means. In particular, the principal's influence on a school's instructional climate and organization is crucial (Hallinger & Heck 1996, 2002, 2003; Murphy et al 2001).
- One of the most important aspects of principal instructional leadership is creating a professional community within schools (Halverson 2003).

Ohio's EBM Components

Principals, Building Managers

ORC Sec. 3306.07 (B) (2) & (3)

68

Research Highlights (cont.)

- Principals support the professional growth of individual teachers through direct classroom supervision, including teacher observation and feedback, and by creating professional development opportunities (Hallinger & Heck 1998, 2002, 2003; Heck, Larsen & Marcoulides, 1990).
- Professional community has been shown to increase the intellectual quality of instruction and the overall level of student achievement by strengthening the instructional capacity and focus of schools (Louis & Marks 1998; Newmann & Wehlage 1995).
- Building manager programs have been demonstrated to raise student achievement by increasing the amount of time principals spend on instructional leadership (Shellinger, 2005).

Ohio's EBM Components

Principals, Building Managers

ORC Sec. 3306.07 (B) (2) & (3)

69

Notes

- A building manager is defined as “a person who supervises the non-curricular, non-instructional administrative functions of school operations. A building manager may be, but is not required to be, a licensed educator” (Sec. 3306.02 (B)).
- The Wallace Foundation has been a national leader in investigating and promoting school-site leadership, and sponsored the school administration manager project on which the building manager component is based.
- School-based management strategies, in which schools manage their own budgets, curricula and operations, depend on capable building-level staff.

Ohio's EBM Components

Principals, Building Managers

ORC Sec. 3306.07 (B) (2) & (3)

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Ohio's EBM Components

Principals, Building Managers

ORC Sec. 3306.07 (B) (2) & (3)

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Ohio's EBM Components

Building Administrative Support

ORC Sec. 3306.07 (B) (3)

72

Calculation

Building Administration Personnel	Number of Positions	FY2010 Salary	FY2011 Salary
Secretaries (K-8)	1 per organizational unit	\$33,624	\$34,275
Secretaries (9-12)	3 per organizational unit	\$33,624	\$34,275
Non-Instructional Aides (K-8)	2 per organizational unit	\$19,966*	\$20,353*
Non-Instructional Aides (9-12)	3 per organizational unit	\$19,966*	\$20,353*

*Not funded in 2010-11. Salary figures drawn from As Introduced version of HB

Data

- Average Building Administrator Salaries

Ohio's EBM Components

Building Administrative Support

ORC Sec. 3306.07 (B) (3)

73

Reasoning

- Standard practice for hiring additional building-level support personnel includes secretaries in each school. Non-instructional clerical and facilities management personnel can also support positive behavior intervention strategies.

Research Highlights

- Positive behavior intervention and supports lower the incidence of problem behaviors and improve student achievement (OSEP, 2009).

Research

- Office of Special Education Programs Technical Assistance Center on Positive Behavior Interventions and Supports, Effective Schoolwide Interventions. *Is School-wide Positive Behavior Support an Evidence-based Practice?* March, 2009. U.S. Department of Education. Available at <http://www.pbis.org/research/default.aspx>

Ohio's EBM Components

Other Components

74

- Gifted Services
 - ▣ Gifted Identification
 - ▣ Gifted Coordinators
 - ▣ Gifted Intervention Specialists (GIS)
 - ▣ GIS Professional Development
- Enrichment

Ohio's EBM Components

Gifted Education

ORC Sec. 3306.09

75

Calculation

Component	FY 2010	FY 2011
Identification	ADM x \$5	ADM x \$5
Gifted Coordinators	ADM / 2,500 x \$66,375	ADM / 2,500 x \$67,660
Gifted Intervention Specialists	Total Organizational Units x \$56,902 x ECF	Total Organizational Units x \$57,812 x ECF
GIS Professional Development	Total Organizational Units x \$1833	Total Organizational Units x \$1833

Ohio's EBM Components

Gifted Education

ORC Sec. 3306.09

76

Data

- *Average Daily Membership (ADM)* – student enrollment
- Average Instructional and Administrative Salaries
- Professional Development Cost

Reasoning

- Beyond the baseline required identification of all students, the components for gifted education are derived from Ohio's operating standards for programming for gifted students (OAC 3301-51-15).

Ohio's EBM Components

Gifted Education

ORC Sec. 3306.09

77

Research Highlights

- Research and teacher reports indicate that general classroom teachers make very few, if any, modifications for academically talented learners (Archambault et al, 1993; Westberg, Archambault, Dobyys & Salvin, 1993).
- Curriculum programs specifically designed for talented learners produce greater learning outcomes than do regular academic programs, especially among minority or low-income students (Rito & Moller, 1989; Struck, 2003).

Ohio's EBM Components

Gifted Education

ORC Sec. 3306.09

78

Notes

- In Ohio, school districts are required to identify students as gifted but not required to provide services to those students. If provided, services for gifted students must be based on operating standards.
- Odden and Picus (2007) note that differentiation through class grouping is also a proven strategy that should not incur additional costs.

Ohio's EBM Components

Gifted Education

ORC Sec. 3306.09

79

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Ohio's EBM Components

Student Enrichment

ORC Sec. 3306.091

80

Calculation

Enrichment Support Component

$$ADM \times \$100 \times ECF$$

Data

- *Average Daily Membership (ADM)* – student enrollment

Reasoning

- Enrichment support provides average-to-modest expenditure for student enrichment activities.

Ohio's EBM Components

Student Enrichment

ORC Sec. 3306.091

81

Research Highlights

- Particularly at the secondary level, students engaged in after school activities tend to perform better academically than students who do not participate (Feldman & Matjasko 2005).
- The potential for involvement in student activities leading to success is tempered by research showing too much involvement in extracurricular activities can be detrimental to academic learning by stretching students too thin (Committee on Increasing High School Students' Engagement and Motivation to Learn 2004; Steinberg 1997).

Ohio's EBM Components

Student Enrichment

ORC Sec. 3306.091

82

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Ohio's EBM Components

Other Services

83

- Professional Development
- Technology Services
- Instructional Materials
- Operations and Maintenance
- Career-Technical Education

Ohio's EBM Components

Professional Development

ORC Sec. 3306.03 (A) (7)

84

Calculation

Instructional Services Personnel	Professional Development Factor
Core teachers, specialist teachers, lead teachers, special education teachers	(Total number of instructional services personnel) x \$1833

Data

- *Average Daily Membership (ADM)* – student enrollment
- Graduate education course costs

Reasoning

- Professional development component captures the cost of 2.5 graduate semester hours per year per teacher to finance sustained and high quality professional development.

Ohio's EBM Components

Professional Development

ORC Sec. 3306.03 (A) (7)

85

Research Highlights

- Teacher quality is the single most important school factor affecting student achievement (Hanushek, Kain and Ravin, 1999).
- Professional development positively influences teacher efficacy in student achievement through improved instruction (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).
- Professional development strategies tend to cost at least \$1500 per teacher, but vary in effectiveness (Odden, Archibald, Fermanich and Gallagher, 2002).

Ohio's EBM Components

Professional Development

ORC Sec. 3306.03 (A) (7)

86

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Ohio's EBM Components

Technology Resources

ORC Sec. 3306.10

87

Calculation

Technical Equipment Factor

$ADM \times \$250$

Licensed Librarian and Media Specialist Factor

Total organizational units \times \$60,000

Data

- *Average Daily Membership (ADM)* – student enrollment

Ohio's EBM Components

Technology Resources

ORC Sec. 3306.10

88

Reasoning

- The Technical Equipment factor is based on a the following technology purchasing schedule:
 - \$100 - A \$1200 computer per 3 students, replaced every 4 years.
 - \$50 – Operating system (\$57), productivity suite (\$55), non instructional software (\$190), and server software (\$1500) for each computer, replaced every 3-4 years.
 - \$50 – Network equipment (\$26), printers (\$18, or \$11 for one \$1200 printer per 25 students and \$7 for supplies) and copiers (\$6 per student per year, leased equipment) .
 - \$50 – Instructional software (\$20,000 per year for a 400-pupil school).

Ohio's EBM Components

Technology Resources

ORC Sec. 3306.10

89

Research Highlights

Four areas are identified in which the use of technology can make a difference (Earle, 2002)

- Student preparation to enter the workforce or higher education (Dede, 2000a & 2000b; US Department of Labor, 2000).
- Student motivation (Becker, 2000; Lewis, 2002; Valdez et al, 2000).
- Student learning or increased academic achievement, if teachers are trained in the use of technology (Archer, 2000; Earle, 2002; Kulick, 2003; Kulick, 1994).
- Teacher/student access to resources on the web as well as other software and distance learning programs.

Ohio's EBM Components

Technology Resources

ORC Sec. 3306.10

90

Notes

- Many educational technology issues in Ohio, such as purchasing and professional development, receive program funding from ODE but are handled by external entities, such as the eTech Ohio Commission and regional Information Technology Centers (ITCs).
- Federal educational technology resources include Title II D of NCLB , the E-Rate program and Enhancing Education Through Technology (EETT) grants.

Ohio's EBM Components

Technology Resources

ORC Sec. 3306.10

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Ohio's EBM Components

Technology Resources

ORC Sec. 3306.10

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Ohio's EBM Components

Instructional Materials

ORC Sec. 3306.03 (A) (8)

93

Calculation

Instructional Materials Factor

$ADM \times \$165$

Data

- *Average Daily Membership (ADM)* – student enrollment

Reasoning

- \$165 can provide for the purchase of one new \$100 textbook per student per year (or a six-year replacement cycle for textbooks for a school with six class periods per day), and \$65 for “consumable” materials such as workbooks.

Ohio's EBM Components

Instructional Materials

ORC Sec. 3306.03 (A) (8)

94

Research Highlights

- Using high quality instructional materials is vital because 80% to 90% of classroom activity and homework is textbook driven or centered (Ravitch, 2004).
- Instructional materials also include library services. The national average for school library expenditure per pupil (excluding salaries) was \$15 per pupil in 1999-2000. (Michie & Holton, 2000).
- A study conducted for the U.S. Department of Education found that the majority of students found library resources “useful” in helping them with class assignments. 22% found the library “very useful” (Scott, 2002).

Ohio's EBM Components

Instructional Materials

ORC Sec. 3306.03 (A) (8)

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Ohio's EBM Components

Instructional Materials

ORC Sec. 3306.03 (A) (8)

96

Notes

- School districts are required to put aside 3% of operating expenses for the Textbook and Instructional Materials fund (ORC Sec. 3315.17).
- Ohio is joining 48 other states in the Common Core State Standards Initiative, which will align academic content standards for reading, writing and mathematics across states, and benchmark them to international standards.

Ohio's EBM Components

Operations and Maintenance

ORC Sec. 3306.08

97

Calculation

Operations and Maintenance Support

$ADM \times \$884$

Data

- *Average Daily Membership (ADM)* – student enrollment
- Average Operations Expenditures

Ohio's EBM Components

Operations and Maintenance

ORC Sec. 3306.08

98

Reasoning

- Provides for average levels of operations expenditures (ODE, 2008).

Research Highlights

- There is a correlation between high quality school facilities and student behavior and performance. Students in newer, better facilities score 5 to 17 points higher on standardized tests than those in substandard buildings (Young et al, 2003).
- Factors in school facilities which affect academic outcomes include spatial configurations, noise, heat, cold, light, and air quality (Schneider 2002).

Ohio's EBM Components

Operations and Maintenance

ORC Sec. 3306.08

99

Notes

- Ohio's operations and maintenance expenditures are in line with similar states.
- In Ohio, school construction and large-scale capital projects are primarily managed by the Ohio School Facilities Commission.
- The American Federation of Teachers, in a 2006 study of school facilities nationwide, recommended schools improve their facilities procedures. (AFT, 2006).
- The National Center for Education Statistics recommends guidelines for maintaining education facilities inventories to meet programming needs. (NCES, 2006).

Ohio's EBM Components

Operations and Maintenance

ORC Sec. 3306.08

100

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Ohio's EBM Components

Career-Technical Education

ORC Sec. 3306.052

101

Calculation

Career-Technical Education

0.75% increase over prior year funding

- State funding for joint vocational school districts (JVSDs) and comprehensive/compact programs is calculated by adding a 0.75% increase to the funding each local entity received in the prior year.

Data

- *Funding for FY09 Career Technical programs* – based on weights and FTE student enrollment

Ohio's EBM Components

Career-Technical Education

ORC Sec. 3306.052

102

Reasoning

- CTE programs were given a uniform increase to reflect growth in CTE enrollment, at a level consistent with possible school district increases.
- The weighted funding system for CTE was suspended for FY2010-2011 so that a permanent CTE funding formula structured through an evidence-based model can be developed.

Research Highlights

- Changing industry needs due to technology advancements have created greater demand for knowledge in science based careers such as health care and engineering (Carnevale & Desrochers, 2003).
- The National Assessment of Vocational Education found that CTE has many earning benefits which extend to low socioeconomic status students (Silverberg, Warner, Fong & Goodwin, 2004).

Ohio's EBM Components

Career-Technical Education

ORC Sec. 3306.052

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Research Highlights (cont.)

- Two or three years of involvement in a career academy has demonstrated the following effects (Phelps, 2006):
 - Higher student satisfaction, attendance, grade point averages, and course credits earned
 - Lower absenteeism and dropout rates
 - Postsecondary education outcomes that are at or above the national averages for preparation, enrollment, and success.
 - Significant long term earnings benefits for male participants
 - Between 40-50% of career academy graduates pursue college majors and employment in the academy career field (2 studies).

Ohio's EBM Components

Career-Technical Education

ORC Sec. 3306.052

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Notes

- Career-technical education (CTE) was funded before FY2010 through a two-category vocational education weight system (0.28 or 0.57).

Ohio's EBM Components

Career-Technical Education

ORC Sec. 3306.052

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Ohio's EBM Components

Concepts

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- Organizational Units
- Educational Challenge Factor
- Instructional Salary

Ohio's EBM Components

Organizational Units (Building Size)

ORC Sec. 3306.04

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Calculation

Elementary (K-5)	Middle (6-8)	High (9-12)
ADM / 418	ADM / 557	ADM / 733

- An organizational unit is a prototypical building size that varies by grade level (as indicated above), used for calculating the numbers of building-level staff positions included in the model.

Data

- *Average Daily Membership (ADM)* – student enrollment
- Average Ohio School Sizes

Ohio's EBM Components

Organizational Units (Building Size)

ORC Sec. 3306.04

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Reasoning

- Building-level staff allocations reflect research on optimal building sizes, and Ohio's average sizes fall within the windows of effective building sizes.
- Building-level staff are calculated in a way that does not create biases for exceptionally large or small schools.
- Prototypical building sizes are in line with the Ohio School Facilities Commission Program guidelines.

Ohio's EBM Components

Organizational Units (Building Size)

ORC Sec. 3306.04

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Research Highlights

- Schools that are too large are generally associated with lower levels of student achievement, especially for economically disadvantaged students (Andrews, Duncombe and Yinger, 2002).
- Optimal school size is found within a range of 600-900 students for high schools (Lee and Smith 1997) and 300-500 for elementary schools (Eberts et al., 1984).

Ohio's EBM Components

Organizational Units (Building Size)

ORC Sec. 3306.04

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Notes

- Organizational units are unrelated to Ohio's former system of "unit funding," and are used only for formula calculation purposes.
- Promoting "smaller learning communities" in high schools has been a major initiative of the Gates Foundation and other groups. Independent evaluation of these programs found them to improve school climates (Kahne, et al., 2006) and assist in better staff collaboration and individualized attention to students (Foust, et al., 2006), though transitions can be costly.

Ohio's EBM Components

Organizational Units (Building Size)

ORC Sec. 3306.04

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Ohio's EBM Components

Educational Challenge Factor

ORC Sec. 3306.051

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Calculation

College Attainment Factor (CAF)	Local Wealth Factor (LWF)	Adjusted Poverty Factor (APF)	ECF Total
$\frac{\text{(Adults over 25 with a college degree)}}{\text{(Total population)}} \div \text{(Highest \% district)}$	$[(\text{Local wealth per pupil}) \div (\text{Standard deviation above average})] \times \text{weight}$	$\frac{\text{(\% of economically disadvantaged students)}}{\text{(Highest \% district)}}$	$\frac{[(\text{CAF} + \text{LWF} + \text{APF}) \times 0.65] + [0.75 \times 3]}{3}$

- All three factors are normalized to the highest districts, with outliers removed.
- The local wealth factor receives a weight based on quintile.
- The adjusted poverty factor is adjusted based on comparing the percentage of students economically disadvantaged with the free and reduced price lunch count. Districts below the median do not receive this factor.

Ohio's EBM Components

Educational Challenge Factor

ORC Sec. 3306.051

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Data

- Number of adults over 25 with a college degree
- Total population of the school district
- Property valuation per pupil (income adjusted)
- Percentage of economically disadvantaged students (district local report card)

Reasoning

- Compensate for the challenges which students face outside of the classroom.
- Address equity issues through the weighted local wealth factor which were previously addressed through Parity Aid funding.
- Provide districts with challenging student populations with additional resources to attract and retain high quality staff.

Ohio's EBM Components

Educational Challenge Factor

ORC Sec. 3306.051

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Research Highlights

- Higher family education levels are associated with significantly higher performance on student assessments (Grissmer, Kirby, Berends, Williamson, 1994).
- Ohio continues to face challenges in providing highly qualified and effective teachers for students with the greatest educational needs (OEE, 2009).
- The persistent achievement gap for minority and economically disadvantaged students, both in Ohio and nationally, imposes costs through limiting access to educational and economic success (McKinsey, 2009; Holzman, 2009).

Ohio's EBM Components

Educational Challenge Factor

ORC Sec. 3306.051

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Ohio's EBM Components

Average Instructional Salary

ORC Sec. 3306.05 (B)

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Calculation

Instructional Services	Instructional Salary FY2010	Instructional Salary FY2011
Core Teachers, Specialists Teachers, Lead Teachers, Special Education Teachers, Special Education Teachers' Aides, LEP Teachers, Supplemental Teachers, GIS	\$56,902	\$57,812

Data

- Median district salary (of 2008 Cupp Report average district salaries)
- Add 14% for retirement contribution



School Funding
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