



Interim results from a study of Michigan's 21j districts implementing Competency-Based Education

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EPIC's Evaluation of Competency-Based Education Outline

- **Project overview**
 - Timeline
 - Data and Activities
 - 21J (districts that received 21j funds to implement CBE) district descriptions
 - CBE Theory of Change
- **Survey Data: Tracing the Theory of Change**
- **Case studies:** Structures, policies, and practices supporting components of CBE
- **Takeaways and Next Steps**

EPIC's Evaluation of Competency-Based Education Project Timeline

- **Activities:**
 - **21j District Workshop: September 12-13, 2019**
 - **Survey training/overview workshops, Fall 2019**
 - **Center for Assessment webinar, December 16, 2019**
- **Data collection:**
 - **Survey administration, round 1: November 4, 2019 – January 9, 2020**
 - Survey administration, round 2: November 2, 2020 – December 18, 2020
 - **Round 1 interviews:**
 - **Superintendents/district staff and MDE staff: April – May 2019**
 - **Teachers, Principals, Coaches: September 2019 – February 2020**
 - Students: Fall/Winter 2020-2021
 - **Round 2 interviews:**
 - **Teachers, Principals: April – May 2020;** Fall/Winter 2020-2021
 - Superintendents: Fall/Winter 2020-2021
 - Additional participant interviews (*including secondary teachers*): Fall/Winter 2020-2021
 - **Round 1 Classroom and PD Observations: October 2019 – March 2020**
 - Round 2 Classroom and PD Observations, additional elementary and middle sites: Fall/Winter 2020-2021

EPIC's Evaluation of Competency-Based Education

Data and Activities

- **Interviews:**

- Superintendents (n=7) of districts that received 21j funding to implement CBE
- MDE Leadership (n=7)
- ISD/RESA Leadership (n=2)

- **Surveys:**

- Students: 5,054/8,485 = 60%
 - Elementary students: 3,040/4,238 = 72%
 - Secondary student: 2,014/4,247 = 47%
- Teachers: 444/609 = 73%
- Administrators: 29/42 = 69%

- **Cases:** (n=6 case sites within 3 districts)

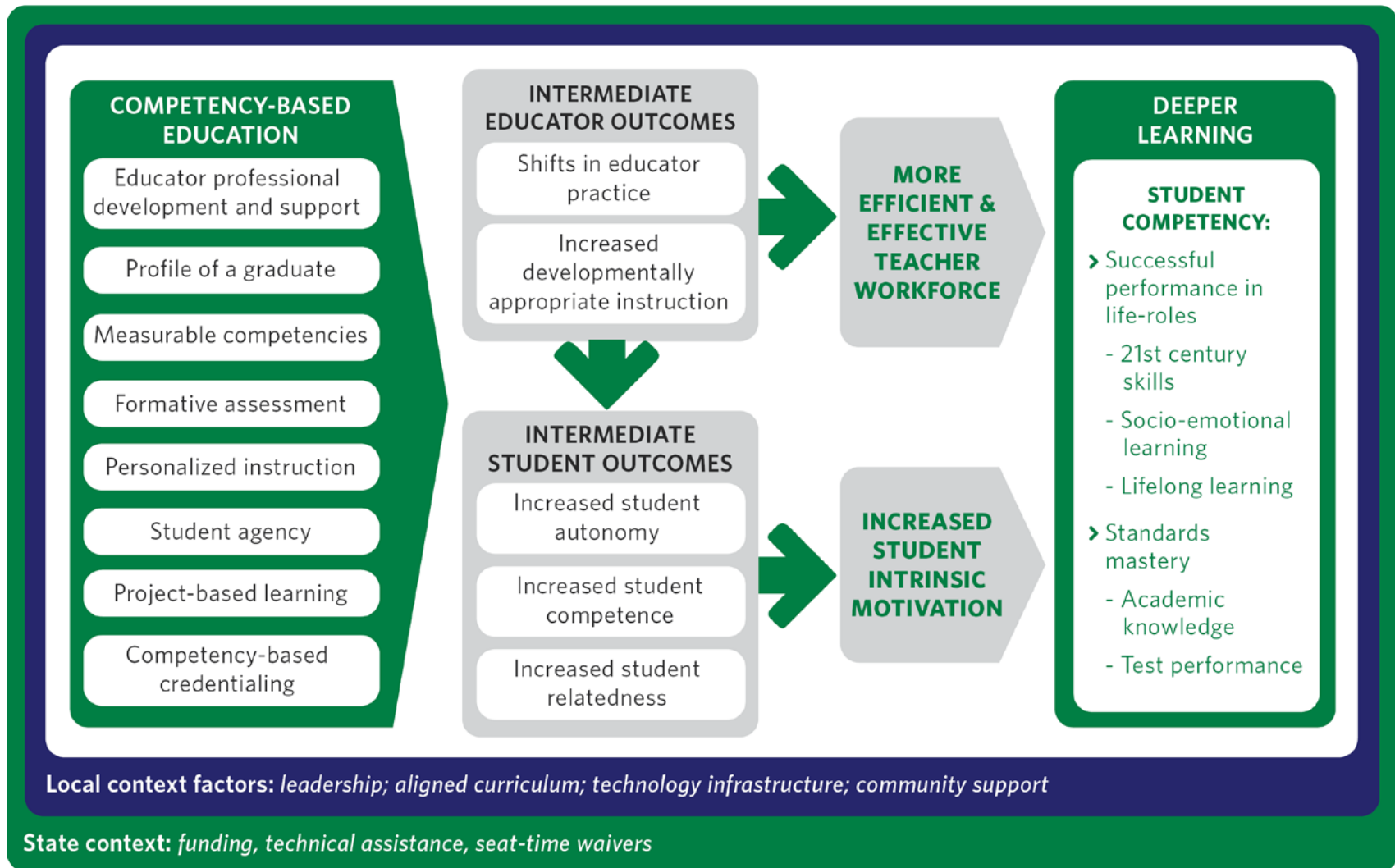
- Teacher interviews (n=38)
- Principal interviews (n=6)
- Instructional coach interviews (n=4)
- Observations of classrooms and professional development (220 hours)





Education Policy Innovation Collaborative's

Competency-Based Education Evaluation is Based on a Unified Theory of Change

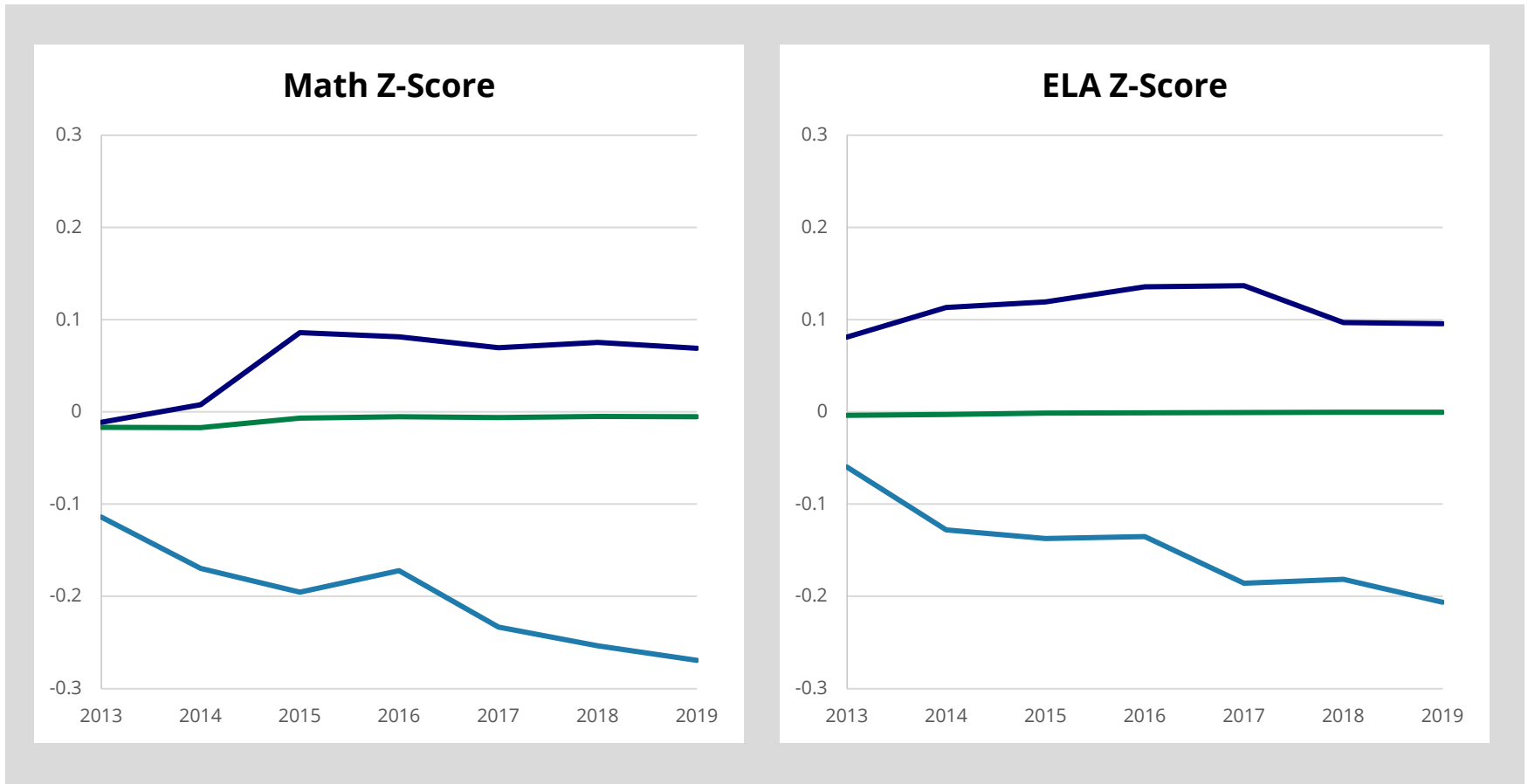


21j Districts are Observably Different from Other Michigan Districts

	Statewide	TPS	Charter	21j Districts	21j-denied*	Alpena	Schoolcraft	Kenowa Hills	Tecumseh	FlexTech	Armada	Fraser
				21j Districts		21j Districts						
STUDENTS												
Special Education	14.2%	13.7%	12.7%	12.7%	13.4%	11.3%	10.6%	14.7%	13.1%	11.8%	11.8%	13.2%
English Learners	7.0%	6.7%	10.8%	2.4%	6.7%	0.4%	0.0%	8.2%	0.4%	0.0%	0.6%	2.8%
Economic Disadvantage	52.7%	50.0%	77.0%	45.9%	69.5%	59.3%	30.0%	52.1%	36.3%	37.6%	23.9%	49.1%
Schools of Choice	13.5%	15.1%	n/a	22.7%	34.0%	2.0%	12.7%	1.2%	17.5%	0.0%	26.7%	36.3%
Black students	17.9%	14.3%	49.3%	5.1%	16.4%	0.6%	0.3%	4.7%	0.6%	0.0%	0.1%	14.4%
Hispanic students	8.1%	8.0%	9.6%	5.7%	9.9%	1.7%	2.6%	17.1%	6.6%	4.9%	1.7%	3.1%
White students	65.7%	69.3%	33.1%	83.5%	63.6%	94.0%	94.0%	69.4%	89.8%	88.6%	95.7%	73.8%
Other race/ethnicity	8.4%	8.4%	8.0%	5.8%	10.1%	3.6%	3.1%	8.8%	2.9%	6.5%	2.5%	8.8%
TEACHERS												
Early Career Teachers	10.4%	9.5%	17.9%	0.1%	9.5%	11.0%	3.3%	8.6%	9.1%	0.0%	6.8%	1.1%
Master's Degree +	55.7%	58.6%	29.6%	66.1%	51.8%	59.1%	57.1%	64.6%	62.4%	11.8%	76.1%	76.5%
<i>N (students)</i>	1,479,706	1,314,960	149,613	17,733	13,665	3,778	1,071	3,085	2,812	263	1,756	4,968
<i>N (teachers)</i>	85,104	76,312	8,577	976	716	200	61	175	164	16	88	272
<i>Ratio</i>	17.4	17.2	17.4	18.2	19.1	18.9	17.6	17.6	17.1	16.4	20.0	18.3

* 21j-denied districts are those districts that applied for 21j funds but did not receive them.

21j Districts are Higher Performing Than Other Michigan Districts



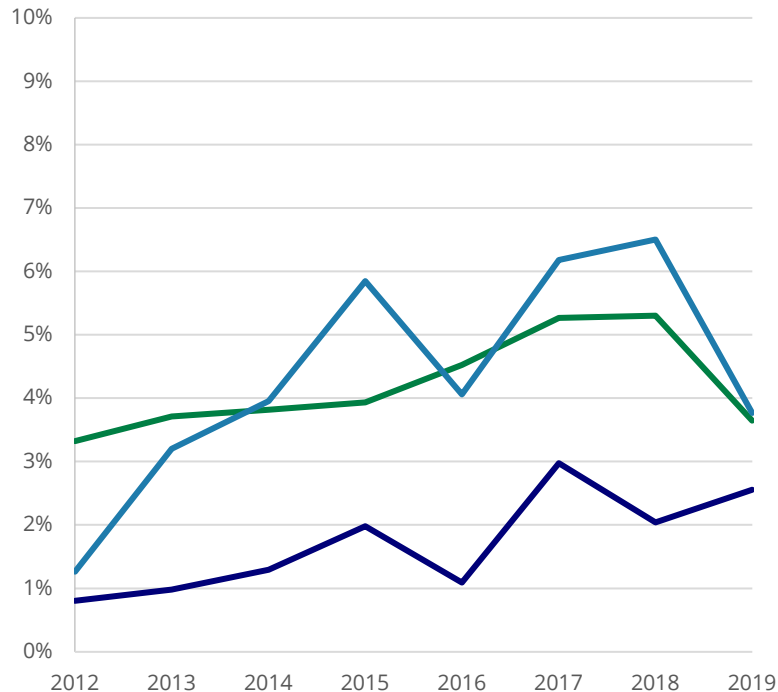
Statewide

CBE Districts (N = 7 districts)

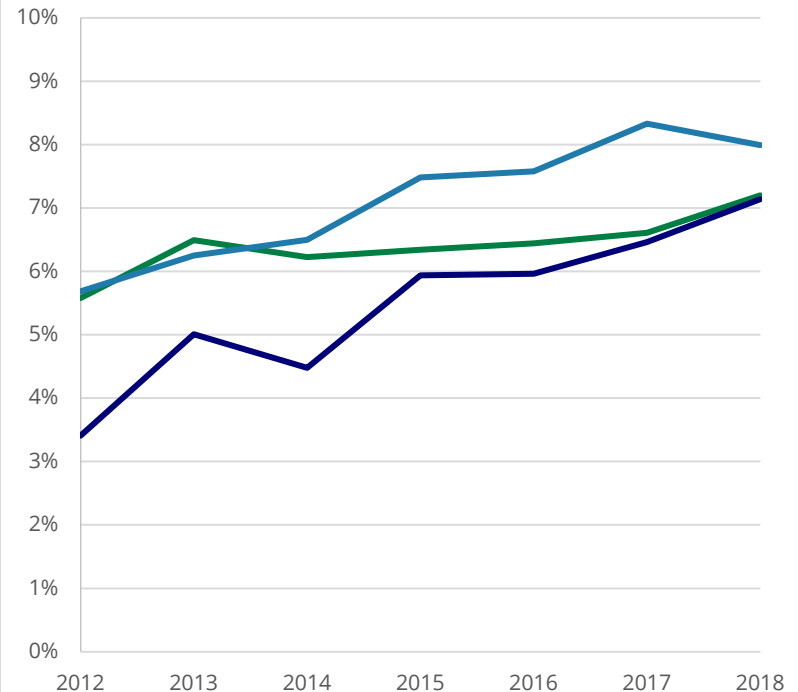
21j-Denied (N = 11 districts)

21j Districts Have Lower Teacher Turnover Than Other MI Districts

Teacher Transfers (Out-of-District)



Exits from Teaching Profession



Statewide

CBE Districts (N = 7 districts)

21j-Denied (N = 11 districts)

21j Districts Offer Little Opportunity for Teachers to be Observed or Observe Other Teachers' Practice

Frequency of Teachers' Receipt of Educator Professional Development and Support

COMPETENCY-BASED EDUCATION

PD opportunities

PD Focus

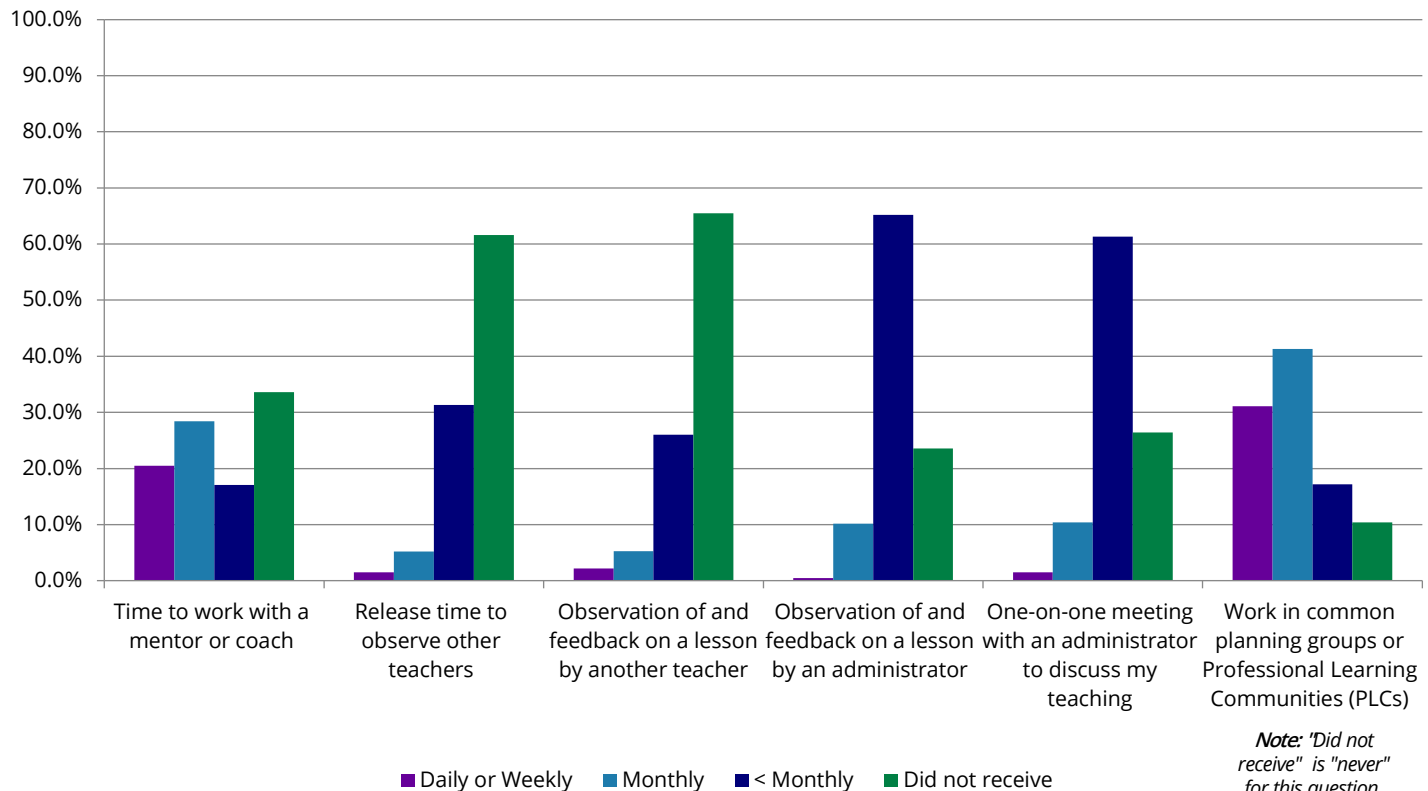
Measurable competencies

Formative assessment

Personalized instruction

Project-based learning

Competency based credentialing



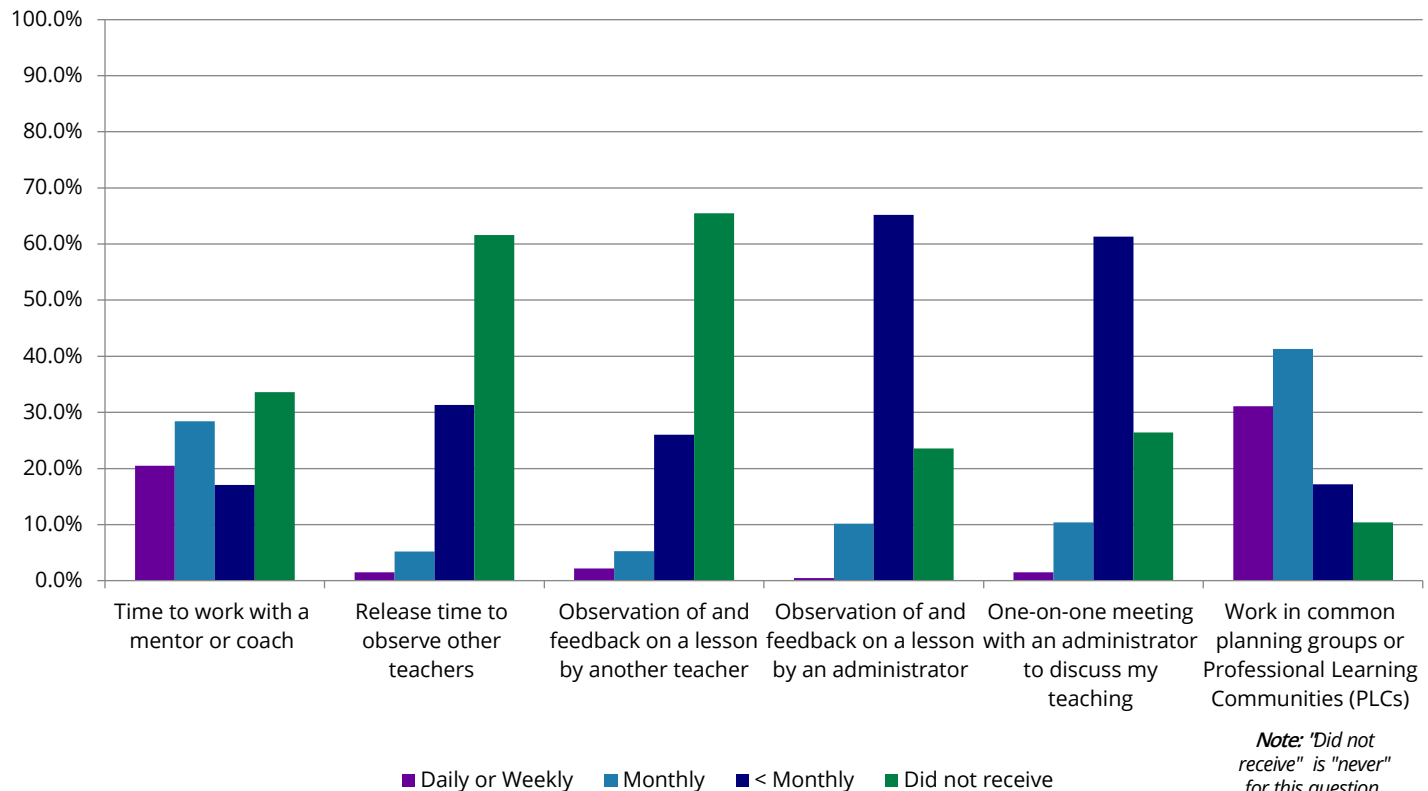
Note: "Did not receive" is "never" for this question.

Nonetheless, 76% of Teachers are Satisfied with Professional Development and Support

Frequency of Teachers' Receipt of Educator Professional Development and Support

76%

Of teachers are satisfied with the current level of professional development and support they received this school year.



Note: "Did not receive" is "never" for this question.



District Employees Have Clear Visions of What a High School Graduate Looks Like

Educators' Perceptions of Their Own and Districts' Visions of a Graduate

COMPETENCY-BASED EDUCATION

PD opportunities

Profile of a graduate

Measurable competencies

Formative assessment

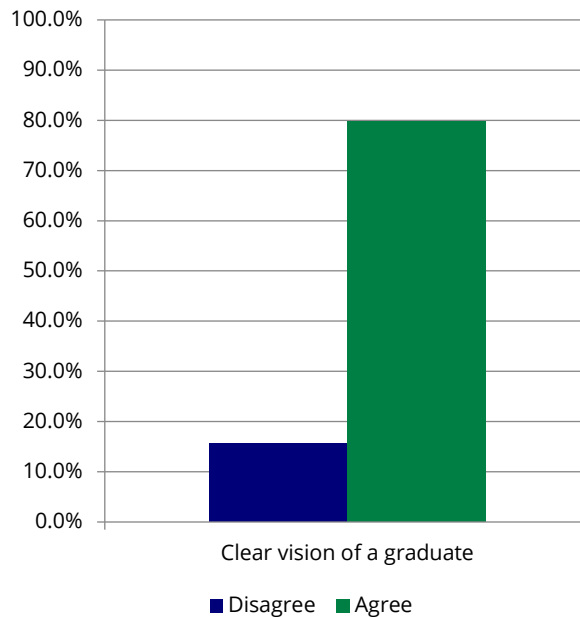
Personalized instruction

Project-based learning

Competency based credentialing

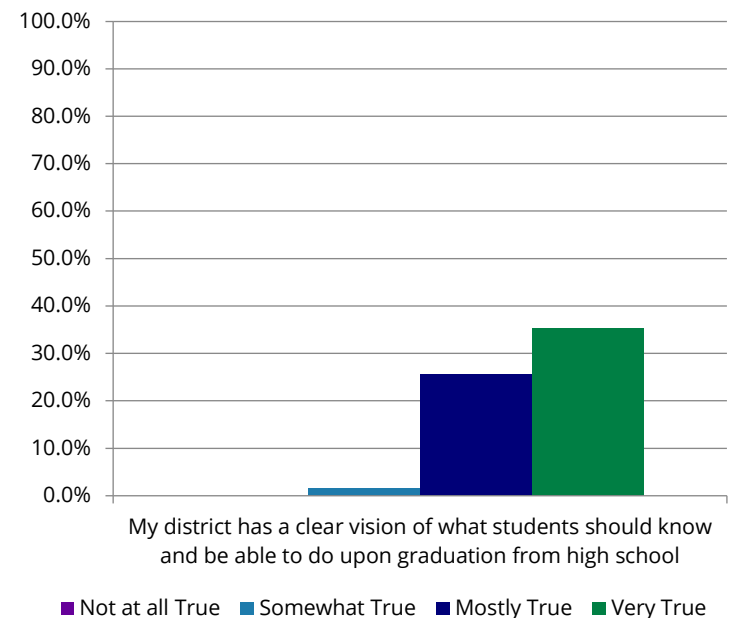


Teacher Perceptions



Note: Teachers were asked if they agreed or disagreed with the statement "My district has a clear vision of what students should know and be able to do upon graduation from high school."

Administrator Perceptions



Note: Administrators were asked "How true is the following statement?" My district has a clear vision of what students should know and be able to do upon graduation from high school.

While Teachers Establish Competencies, Students are not Always Required to Reach Them to Move forward

Teachers' Perspectives about use of measurable competencies

COMPETENCY-BASED EDUCATION

PD opportunities

Profile of a Graduate

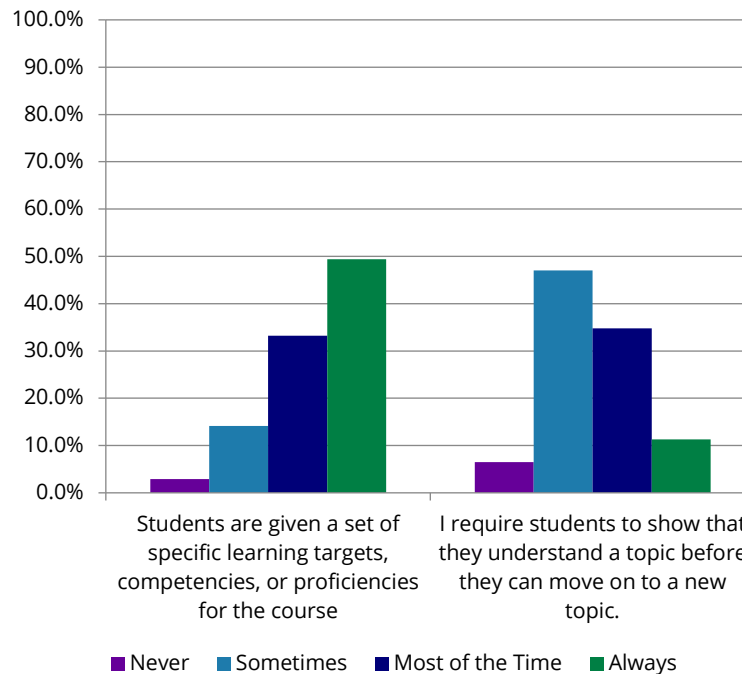
Measurable competencies

Formative assessment

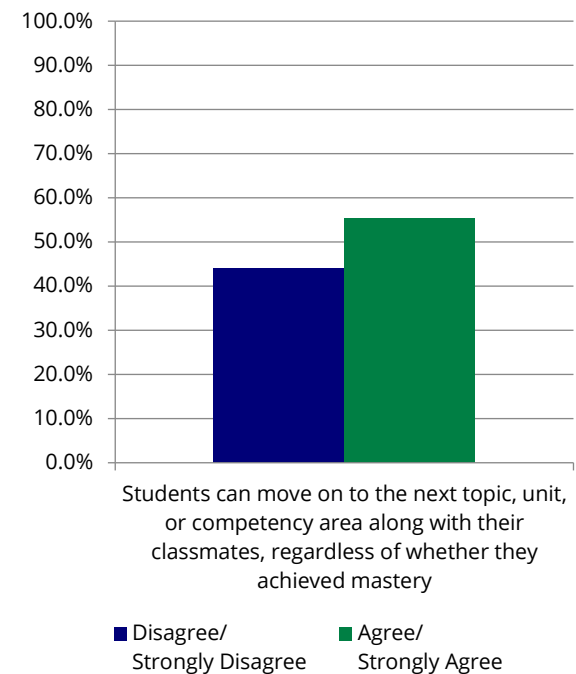
Personalized instruction

Project-based learning

Competency based credentialing



Note: Teachers were asked "How often do you use the following practices in your classroom?"



Note: Teachers were asked to "Rate their level of agreement with each of the following statements about your instruction."

21j Districts Report Using Various Forms of Formative Assessments

Teachers' reports of the use of formative assessments

COMPETENCY-BASED EDUCATION

PD opportunities

Profile of a Graduate

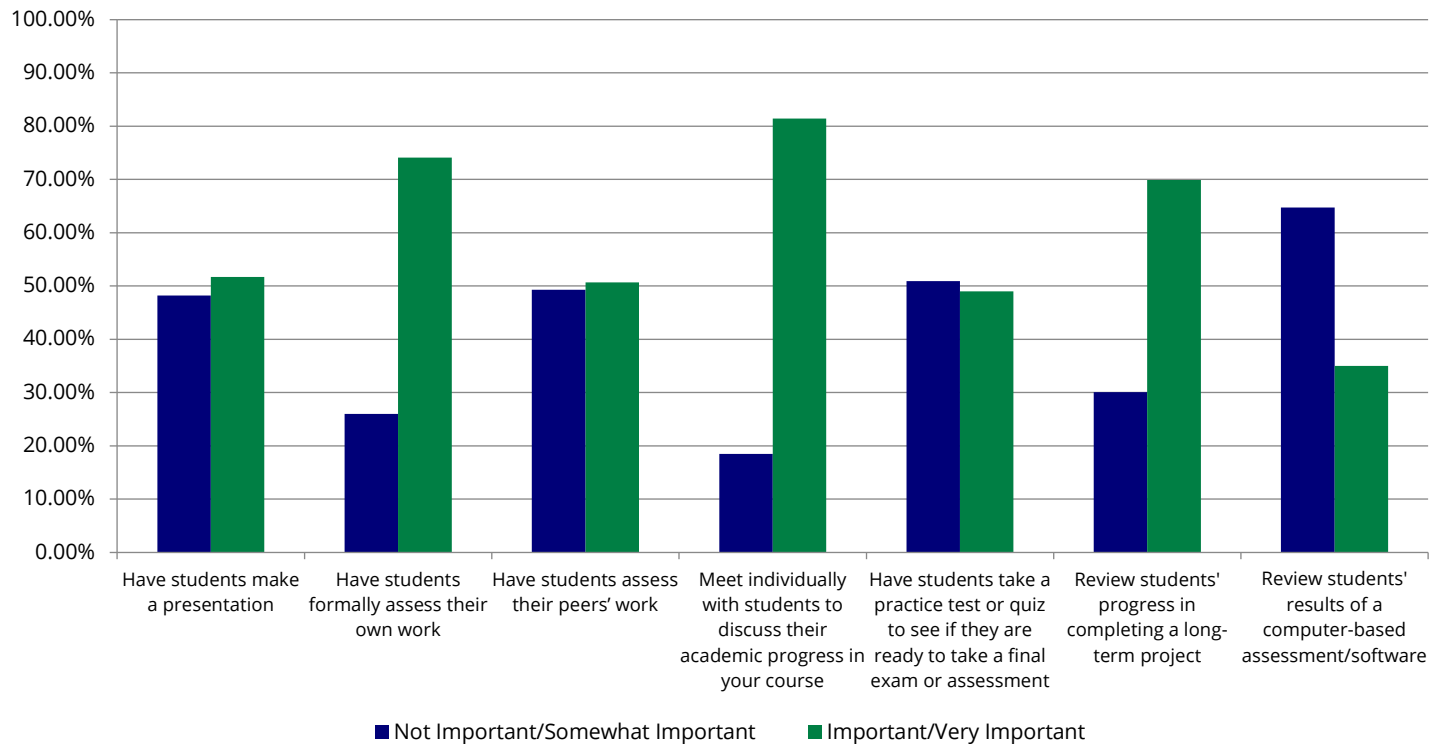
Measurable competencies

Formative assessment

Personalized instruction

Project-based learning

Competency based credentialing



Note: Teachers were asked "How important are the following assessment practices to your instruction?"

Students in 21j Districts Report Less Personalized Instruction than Expected in CBE Districts

Students' reports of personalized instruction

COMPETENCY-BASED EDUCATION

PD opportunities

Profile of a Graduate

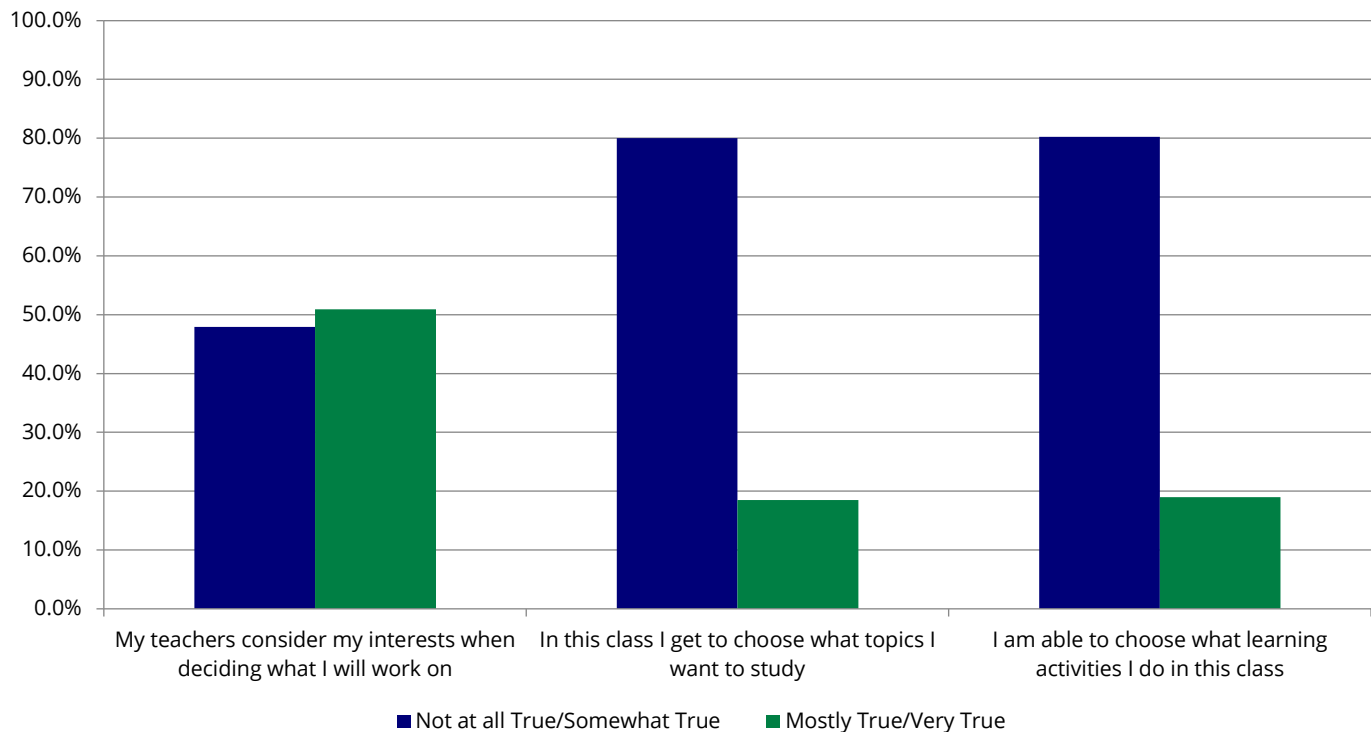
Measurable competencies

Formative assessment

Personalized instruction

Project-based learning

Competency based credentialing



Note: Students were asked "To what extent do the following statements describe what you think about and do in this class?"

However, Teachers Believe That They Differentiate Instruction to Meet Students' Needs

Teachers' perceptions of personalized instruction

COMPETENCY-BASED EDUCATION

PD opportunities

Profile of a Graduate

Measurable competencies

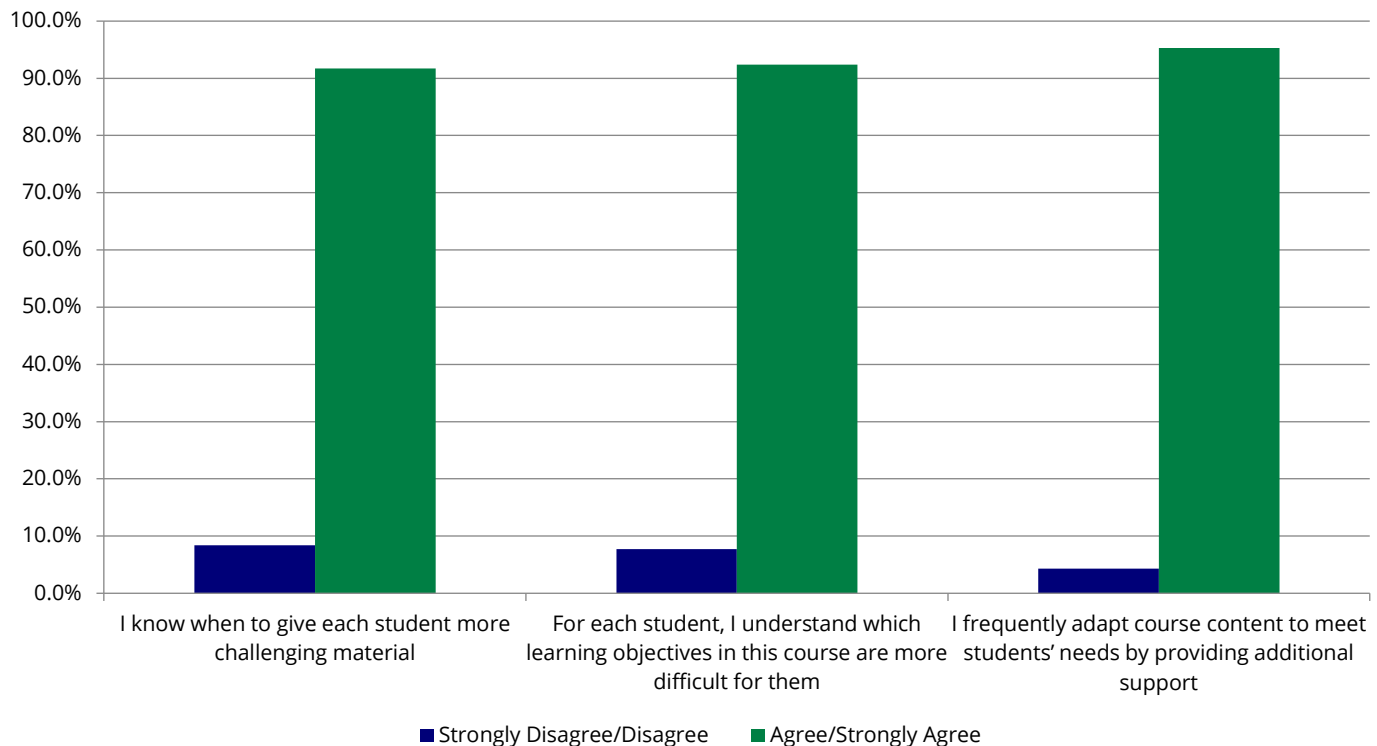
Formative assessment

Personalized instruction

Project-based learning

Competency based credentialing

EPIC



Note: Teachers were asked "Rate your level of agreement with each of the following statements about your instruction."

Teachers in 21j Districts Have Substantial Autonomy Over Their Work

Teachers' reports of their own autonomy

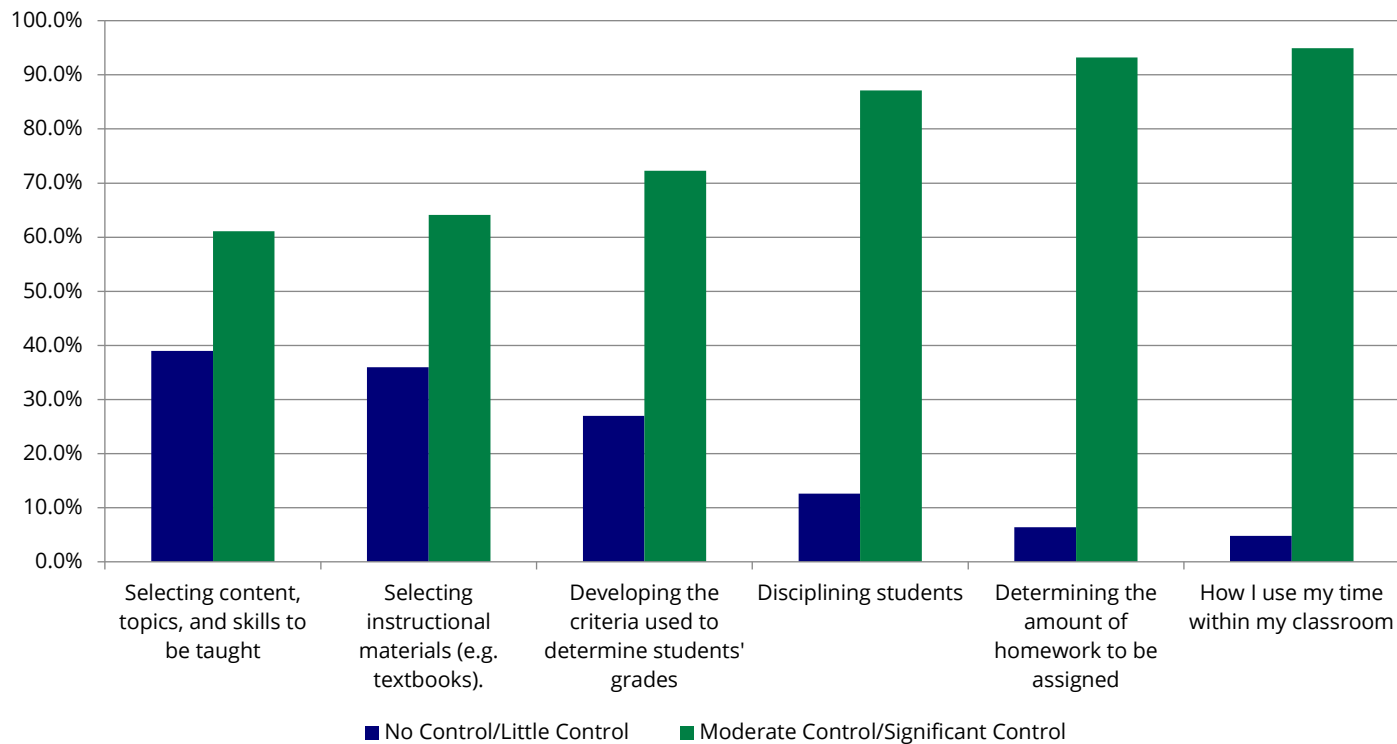
COMPETENCY-BASED EDUCATION

SHIFTS IN EDUCATOR PRACTICE

Use of instructional time

Teacher autonomy

Teacher collaboration



Note: Teachers were asked "How much actual control do you have in your classroom over the following areas of your planning and teaching?"

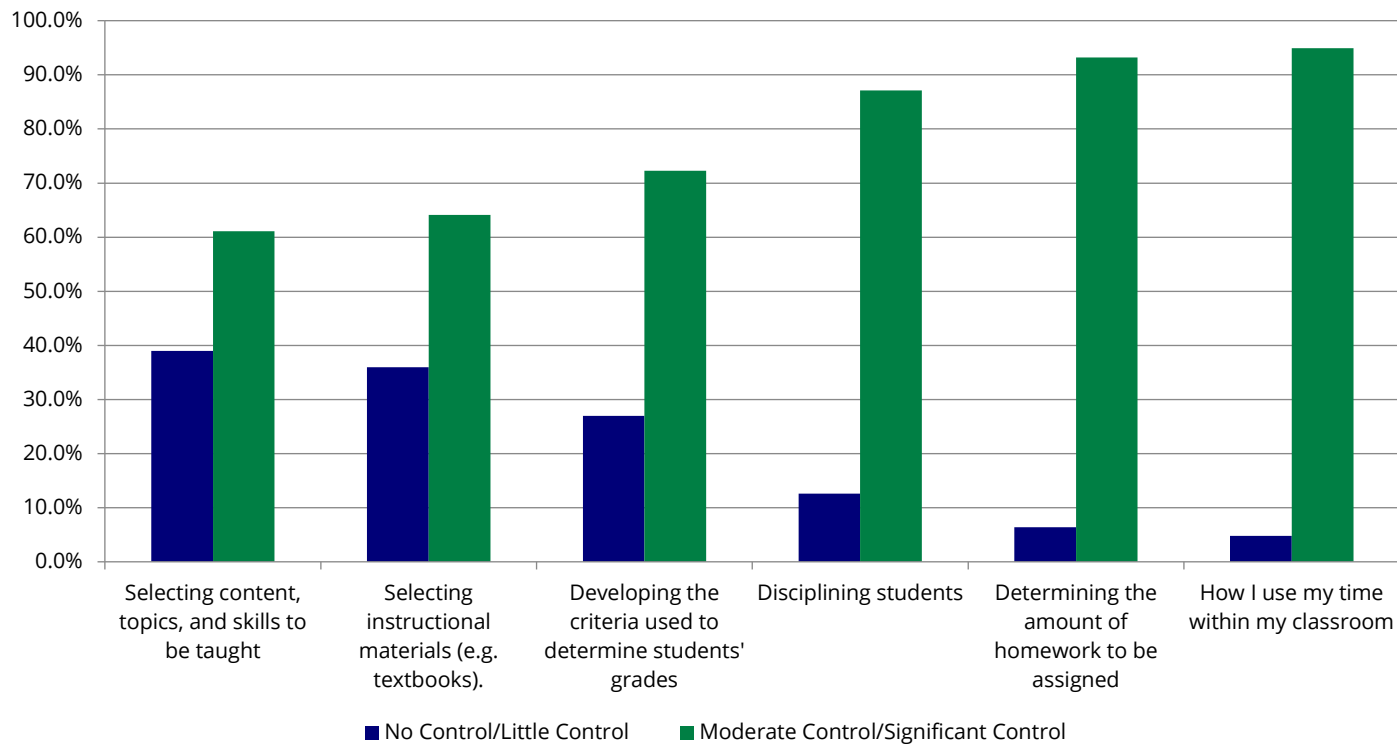


Teachers in 21j Districts Have Substantial Autonomy Over Their Work

Teachers' reports of their own autonomy

85.7%

Of teachers agree that they have the freedom to teach the way they want to teach.



Note: Teachers were asked "How much actual control do you have in your classroom over the following areas of your planning and teaching?"



Core Elements of CBE are Associated with Increased Reports of Teacher Autonomy

Correlation between reported use of CBE elements and teacher autonomy

COMPETENCY-BASED
EDUCATION

SHIFTS IN EDUCATOR
PRACTICE

Use of
instructional time

**Teacher
autonomy**

Teacher
collaboration



CBE component construct	Correlation with teacher autonomy		
	<i>Elementary</i>	<i>Middle</i>	<i>High School</i>
Professional development opportunities	0.35	0.26	0.22
Professional development quality	0.21	0.23	0.13
Measurable competencies	0.25	0.08	0.16
Formative assessment	0.27	0.29	0.24
Personalized instruction	0.14	0.46	0.23
Project-based learning	0.21	0.27	0.27
Competency-based credentialing	0.21	0.08	0.12

CBE Components Are Positively Associated with Teacher Collaboration

Correlation between reported use of CBE elements and teacher collaboration

COMPETENCY-BASED EDUCATION

SHIFTS IN EDUCATOR PRACTICE

Use of instructional time

Teacher autonomy

Teacher collaboration



CBE component construct	Correlation with teacher collaboration		
	<i>Elementary</i>	<i>Middle</i>	<i>High School</i>
Professional development opportunities	0.49	0.50	0.50
Professional development quality	0.23	0.41	0.37
Measurable competencies	0.28	0.17	0.27
Formative assessment	0.31	0.30	0.30
Personalized instruction	0.28	0.29	0.30
Project-based learning	0.23	0.24	0.31
Competency-based credentialing	0.32	0.04	0.17

Students in 21j Districts Feel Connected to Their Teachers

Students' responses about relatedness to teachers

COMPETENCY-BASED
EDUCATION

INTERMEDIATE
STUDENT OUTCOMES

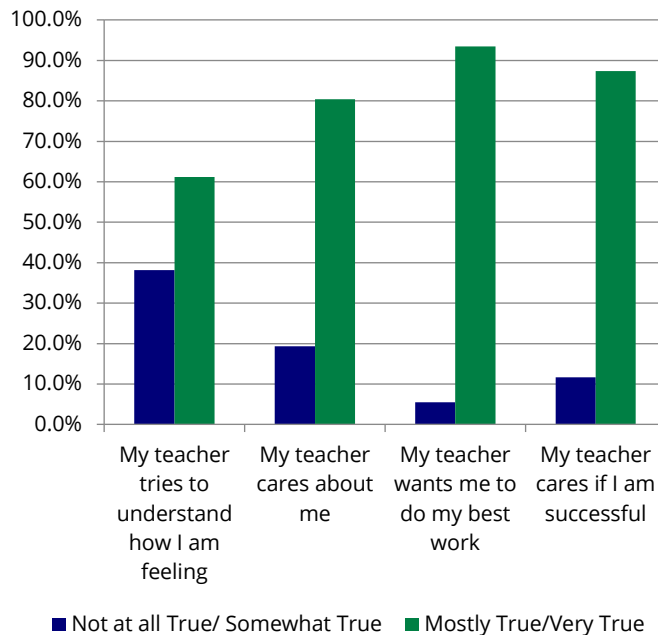
Increased student self-efficacy / learner confidence

Sense of relatedness to peers

Sense of relatedness to teachers

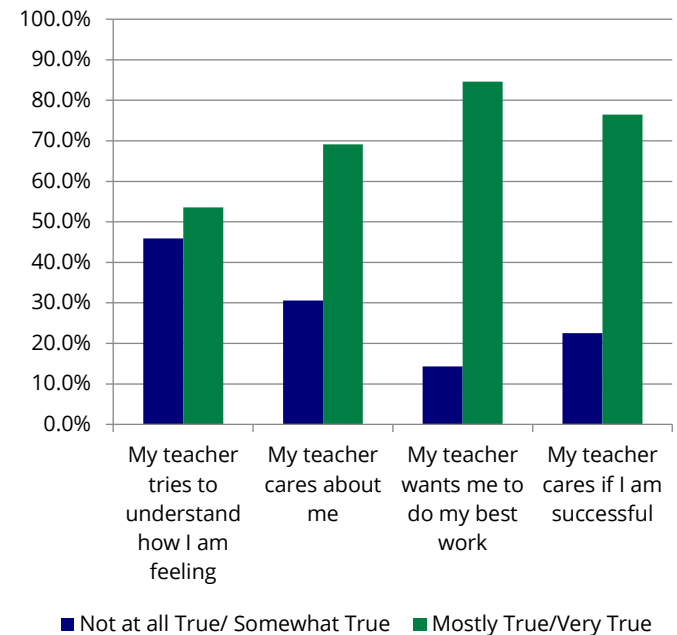


Elementary Students



Note: Students were asked "To what extent do the following statements describe what you think about and do in this class?"

High School Students



Note: Students were asked "To what extent do the following statements describe what you think about and do in this class?"

Students Who Report That Their Teachers Use CBE Practices Report More Self-Efficacy and Learner Confidence

Correlation between reported use of CBE elements and student self-efficacy/learner confidence

COMPETENCY-BASED
EDUCATION

INTERMEDIATE
STUDENT OUTCOMES

Increased
student
self-efficacy /
learner
confidence

Sense of
relatedness to
peers

Sense of
relatedness to
teachers



CBE component construct	Correlation with student self-efficacy/learner confidence		
	<i>Elementary</i>	<i>Middle</i>	<i>High School</i>
Measurable competencies	0.37	0.46	0.59
Personalized instruction	0.27	0.26	0.30
Student agency	0.33	0.22	0.36
Project-based learning	0.33	0.20	0.36
Competency-based credentialing	----	----	0.39

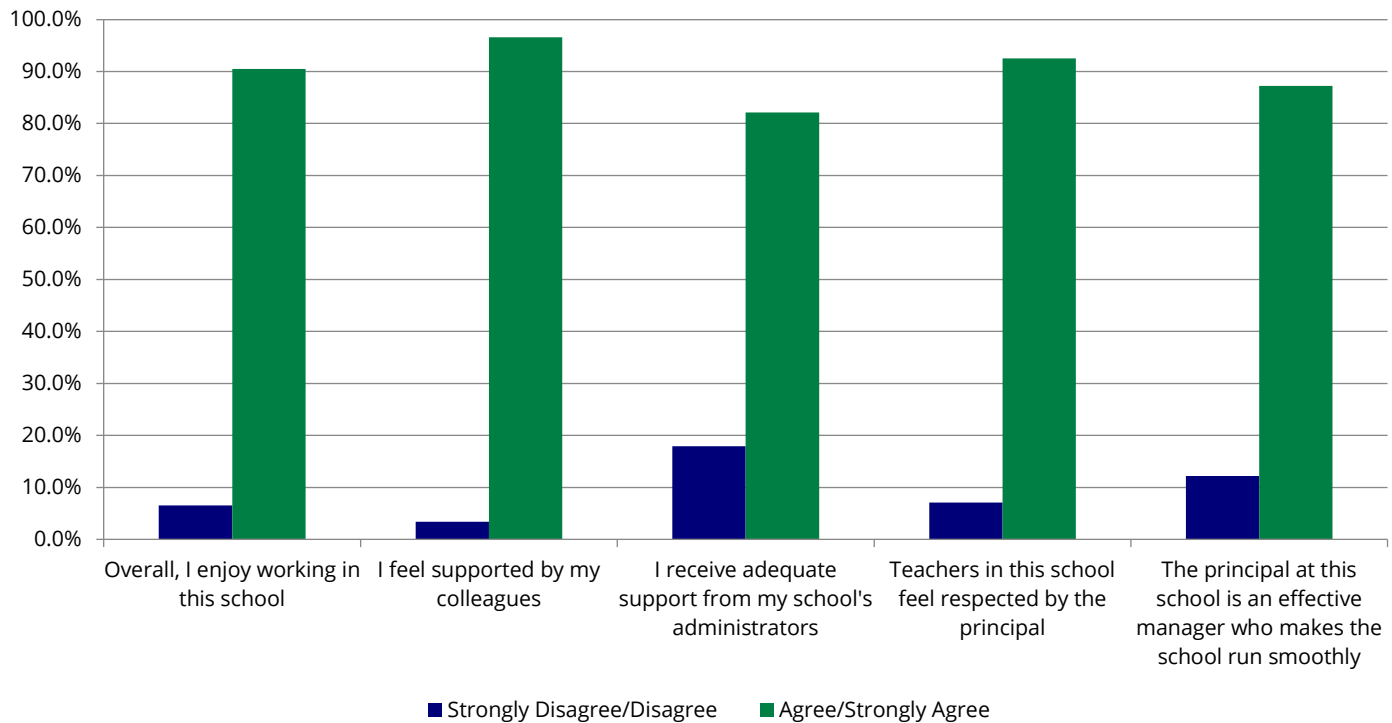
Teachers in 21j Districts are Satisfied with Their Jobs and School climate

Teachers' perceptions of school climate

COMPETENCY-BASED EDUCATION

SHIFTS IN EDUCATOR PRACTICE

MORE EFFICIENT AND EFFECTIVE TEACHER WORKFORCE



Note: Teachers were asked "To what extent do you agree with the following statements?"

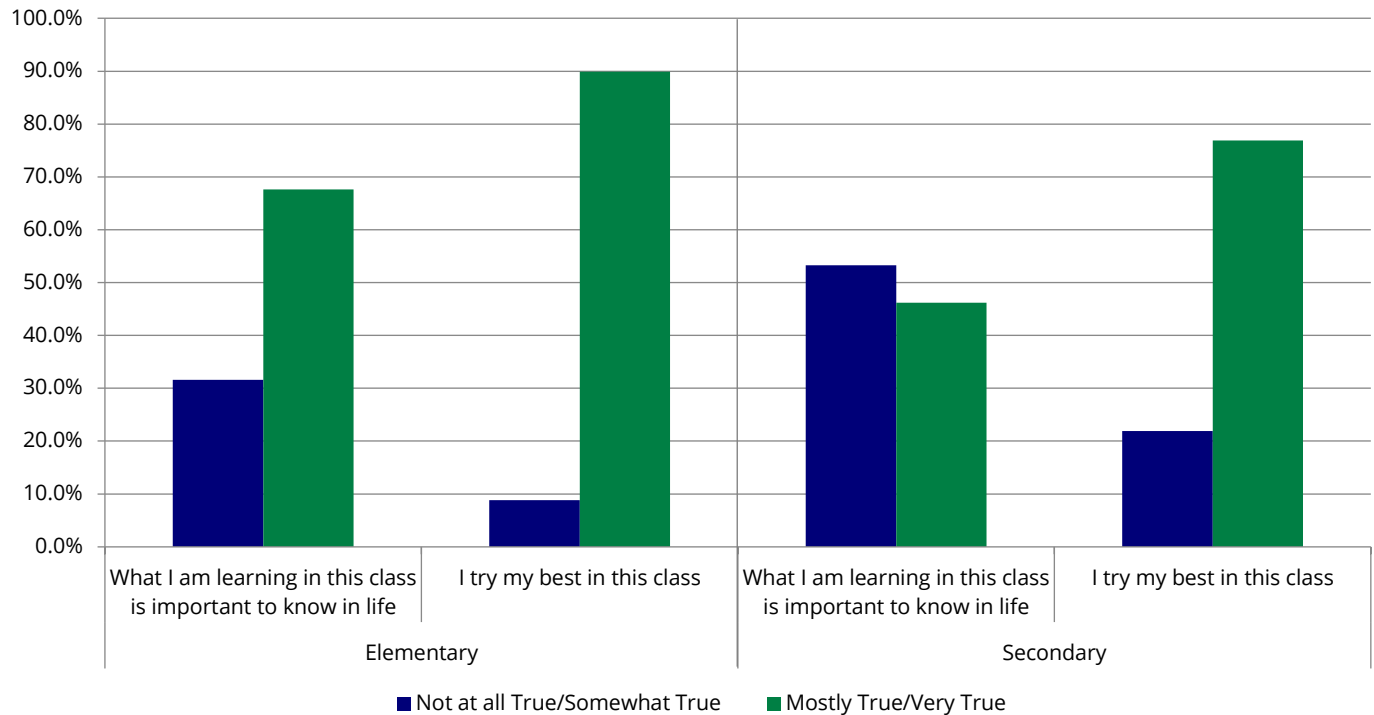
Students Report That They See Value and Try Hard in Their Classes

Students' perceptions of their coursework and motivation

COMPETENCY-BASED
EDUCATION

INTERMEDIATE
STUDENT OUTCOMES

INCREASED
STUDENT
INTRINSIC
MOTIVATION



Note: Students were asked "To what extent do the following statements describe what you think about and do in this class?"

Intermediate Student Outcomes of CBE Implementation are Associated with Greater Motivation and Deeper Learning Skills

Correlation between intermediate outcomes and motivation/deeper learning

COMPETENCY-BASED
EDUCATION

INTERMEDIATE
STUDENT OUTCOMES

INCREASED STUDENT
INTRINSIC
MOTIVATION

DEEPER
LEARNING

Critical thinking

Communication
skills



CBE Component Construct	Correlation with Intrinsic Motivation		
	<i>Elementary</i>	<i>Middle</i>	<i>High School</i>
Self-efficacy/learner confidence	0.45	0.55	0.58
Teacher and peer connections	0.62	0.64	0.63

CBE Component Construct	Deeper Learning Construct	Correlation with Deeper Learning		
		<i>Elementary</i>	<i>Middle</i>	<i>High School</i>
Intrinsic motivation	Critical Thinking	0.59	0.56	0.52
Intrinsic motivation	Communication Skills	0.59	0.49	0.53



Competency-Based Education Evaluation Case Studies

EPIC's Evaluation of Competency-Based Education

Case Site Demographics

	Statewide	Davis Charter HS*	Barrett Elementary	Winslow HS	Williamston MS	Laettner-Hill HS	Dunleavy Elementary
		<i>Davis*</i>	<i>Mercer Public Schools</i>		<i>Lehigh Public Schools</i>		
Enrollment (headcount)	1,479,706	<500	<500	>1500	<1000	<1000	<500
Special Education	14.2%	<	~	<	~	<	~
ELL	7.0%	<	<	<	~	~	>
Economically Disadvantaged	52.7%	<	>	<	~	<	>
Black	17.9%	<	~	<	<	<	<
Hispanic	8.1%	<	<	<	>	>	>
White	65.7%	>	~	>	~	>	<
Other	8.4%	<	~	~	~	<	>
Early Career Teachers	10.4%	<	<	>	<	<	>
Teacher MA+	55.7%	<	>	>	>	>	>

* All school and district names are pseudonyms to protect anonymity

EPIC's Evaluation of Competency-Based Education

Data Collection and Analysis

- **Data Collection:**

- Approx. 115 hours of interviews
 - Teachers (n=38)
 - 16 secondary, 8 middle, 14 elementary
 - Principals (n=6)
 - 3 secondary, 1 middle, 2 elementary
 - Instructional Coaches (n=4)
- Approx. 220 hours of classroom observations and professional development

- **Data Analysis:**

- Immersive engagement
 - Multiple data readings
 - Hybrid coding scheme
 - Within case and cross case analysis

Structures, policies, and practices supporting components of CBE

- **Advisory Periods**
- **District-Wide Policies**
 - Remediation and reassessment
- **Instructional Interventions**
 - Project-based learning
 - Ability grouping



Structures Supporting Low-Levels of CBE Component Fidelity

Advisory Periods at Secondary Level

Advisory Time at Secondary Sites

Advisory serves different purposes across case sites

	Davis High School (DCS)	Winslow High School (MPS)	Laettner-Hill High School (LPS)
Time in Advisory	<p>50 minutes (M-TR)</p> <p><i>200 minutes per week</i></p>	<p>50 minutes (M-F)</p> <p><i>250 minutes per week</i></p>	<p>22 minutes (T and TR)</p> <p><i>44 minutes per week</i></p>
Advisory Focus	<p>Specific Project-Based Learning Curriculum</p>	<p>Student initiated academic support; Extracurricular Clubs; district/school-wide initiatives</p>	<p>Student initiated academic support</p>



Competing Demands on Advisory Periods

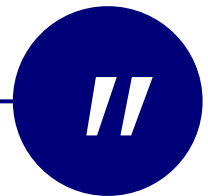


Limited opportunity for meaningful remediation

"{Advisory is for} re-testing, not re-teaching"

– Science Teacher, Laettner-Hill HS

Extracurricular and other school initiatives taking precedent



"We started holding class meetings during seminar. We've ran assemblies during seminar." – Science Teacher, Winslow HS, Mercer PS

"This year, we were in the process of trying to make {advisory} more meaningful in terms of executive functions...Like setting goals was our big one for this year and reflecting on the goals. Now I'm supposed to be reviewing their goals and talking to them about their goals...if I did have kids who came in to get help, what am I supposed to do, help the kids or do the goals? Which one comes first?"

– Science Teacher, Winslow HS



Extrinsic rewards -vs- deeper learning

"Yeah, if they have at least 80% in all their classes, {upperclassmen} don't have to come to seminar." – English Teacher, Winslow HS



Structures and Policies Supporting Medium-Levels of CBE Component Fidelity

**Advisory Periods at Middle Grades Site
District-wide Reassessment Policies**

Opportunities for Pacing and Social Emotional Development in Middle Grades Advisory

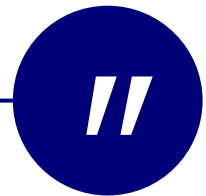


Explicit instruction for 21st century skills (e.g. meta cognition, goal setting)

"That's where we are built in our {SEL} class. You have Mondays that are goal setting....Friday, they follow back up on those. How did I do? What do I need to do? On top of talking about things like grit, and perseverance, and empathy, and those types of things. Really starting to hit those social emotional learning and build those in for kids is going to make them more self-motivated."

- Principal, Williamson Middle School

Individualized instruction, remediation and reassessment



"Essentially what happens is each teacher has two or three days where you're doing tutoring. I have two days a week where I can pull 10 to 15 kids and have them come to me during that time. We can work on... If they need to get caught up, retake a test or assessment. If they're behind pace, we can work together and figure out how to get them up to pace."

- Social Studies Teacher, Williamson Middle School



Middle Grades Advisory Missed Opportunities for Student Choice and Deeper Learning



Choice as extrinsic reward -vs- directing students' learning

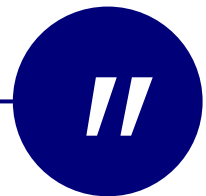
"We wanted {advisory} to give some flex for a couple of different reasons. One, for kids who needed help beyond the classroom.... We also wanted to give incentives for kids who are on pace or beyond pace...we have a gardening club in the spring, or we have an athletic club, the gym..."

- Social Studies Teacher, Williamson Middle School

Limited opportunities for deeper learning

"We give all these opportunities for kids who aren't on pace, but we don't have as many for kids who are ahead. Our focus is on the bottom, for sure."

- English Teacher, Williamson Middle School



Lehigh and Mercer Public Schools Create Structures and Policies for Reassessment

Specific policies for reassessment regarding

- Eligibility for reassessment
- Number of retakes permitted
- Timeframe for reassessment
- Scoring reassessments
- Additional evidence of learning



Regulation Complicates District-Wide Reassessment Policy

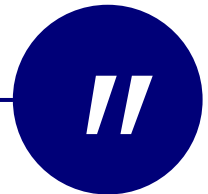


No structure for reteaching

"And it became this cycle of we were constantly retaking tests, and we were learning nothing."

– English Teacher, Laettner-Hill High School

Challenge of creating meaningful reassessment



"My time allotment to create strong retakes does not exist for five retakes. So, at some point, they're memorizing my test."

– Science Teacher, Laettner-Hill High School

"What is being regulated is minutia is, um, the number of retakes, the percent of each retakes, the window of retake time. Uh, no real discussion about the efficacy of-of the actual, um, thing that we're doing to assess them."

– Social Studies Intervention Teacher, Laettner-Hill High School



Instructional Interventions Supporting High-Levels of CBE Component Fidelity

Project-Based Learning Seminar

Choice Buckets Kindergarten Intervention

**Math Recovery 4th and 5th Grade
Intervention**

Davis Charter High School's Project-Based Learning Class Creates Opportunities for Mastery Learning

Highlights of Project Class

- **Required course for all 9th students at Davis Charter High School**
 - Transfer students enrolled based on course schedule/credit requirements
- **Introduction to project-making tools**
(e.g. 3D printer; wood cutter; video software)
- **Discussions and activities related to project mediums and demonstration of learning competencies**



Project Based Learning Creates Opportunities for Student Autonomy

The direct instruction and scaffolding in project design students receive in the project class will prepare them to master different project mediums so that they will be able to **exercise choice and voice in how they demonstrate their learning**



"{The project class} was made so kids would have a space to learn to do projects. Cause, otherwise, it was all put on that teacher to teach them all those skills, which didn't make any sense, right? And the hope is that, once they see that there are all these project mediums they can use, then they'll start thinking in projects."

- Science Teacher, Davis Charter High School

Dunleavy Elementary's "Choice Buckets" Support Student Autonomy

A Kindergarten Level Intervention



- **At the Kindergarten Level:**
 - Guided by formative assessment
 - Model student self-assessment
 - Model student autonomy

"Choice Buckets" Introduce CBE Components to Lower Elementary Students

The "Choice Buckets" intervention supports multiple CBE components including **choice, student autonomy, and developmentally appropriate instruction**



"And then there's a goal sheet that each child gets, and they're responsible for taking care of that goal sheet. The goal sheet has the goal that they're working on. I can identify letters, or I can identify—I can match letters to their sounds. So, if someone were to come into the room, eventually they can state what their goal is"

- Lower Elementary Teacher, Dunleavy Elementary

"So, if you're above, at or below teacher pace—you got activities."

- Lower Elementary Teacher, Dunleavy Elementary

Dunleavy Elementary's "Math Recovery" Creates Meaningful Opportunities for Individualized Instruction

"Math Recovery" is used as an Intervention for 4th and 5th grade students

- **At the upper elementary level:**
 - Teachers share students across grade levels
 - Teachers use formative assessment frequently to move students across groups
 - Students work in developmentally appropriate levels



"Math Recovery" Moves Students at Their Own Pace



Opportunities for developmentally appropriate instruction and individualized pacing

"Math Recovery, which is our {math} intervention time. We've tested all the kids using the math recovery program and then they're all in a group where the other kids in the group have the same mental math strategies as they do, and they're working towards the next level."

- Upper Elementary Teacher, Dunleavy Elementary

"There is a difference between productive struggle and just being frustrated"

- Upper Elementary Teacher, Dunleavy Elementary

EPIC's Evaluation of Competency-Based Education

Main Takeaways

- Not all elements of CBE are being consistently implemented across districts.
- Where CBE elements are in place:
 - teachers report more autonomy & collaboration;
 - students report more self-efficacy and learner confidence;
 - Students report more intrinsic motivation & deeper learning.
- Scaffolding and modeling for students is critical to successful CBE implementation.
- Schools/districts must protect time for academics and socio-emotional development.
- CBE is implemented more authentically when teachers lead program development (ground up vs. top down).

EPIC's Evaluation of Competency-Based Education

Moving Forward

- Grant start and end dates: January 1, 2019 -- December 31, 2021
- Activities:
 - 21j District Workshop: September 12-13, 2019
 - Survey training/overview workshops, Fall 2019
 - Center for Assessment webinar, December 16, 2019
- Data collection:
 - Survey administration, round 1: November 4, 2019 – January 9, 2020
 - **Survey administration, round 2: November 2, 2020 – December 18, 2020**
 - Round 1 interviews:
 - Superintendents/district staff and MDE staff: April – May 2019
 - Teachers, Principals, Coaches: September 2019 – February 2020
 - Students: Fall/Winter 2020-2021
 - **Round 2 interviews:**
 - **Teachers, Principals: April – May 2020; Fall/Winter 2020-2021**
 - **Superintendents: Fall/Winter 2020-2021**
 - **Additional participant interviews (including secondary teachers): Fall/Winter 2020-2021**
 - Round 1 Classroom and PD Observations: October 2019 – March 2020
 - **Round 2 Classroom and PD Observations, additional elementary and middle sites: Fall/Winter 2020-2021**



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