New Coordinators' Community of Practice – Session Five

Mike Brown and Avisia Whiteman | Early Learning Services

January 29, 2024

Welcome to Session Five – The Role of Data (part I)

This learning community is designed to be an **informal, semi-structured time and space** for early childhood coordinators/leaders to meet together virtually to:

- Learn *from* each other and learn *with* each other.
- Network and share experiences.
- Share ideas, strategies, resources, etc.
- Provide collegial support and guidance.
- Develop personally/professionally, and advance our practice, both individually and collectively.

The quality of an early childhood education program is largely dependent on an often overlooked group of professionals: school or program leaders. After teachers, research shows that school leaders are the greatest in-school factor impacting student achievement. Abbie Lieberman, p. 5

Our Time Together

- Nine, 90 minute sessions
  - Presentation, discussion
  - Session guides, slides and resources, session survey
- Mike hosts with various MDE guests
  - Session #5, Avisia Whiteman
- Regional Networking Group leaders may join us
- Early Childhood Administration website
  - New Administrators page
- Adult learners

"We learn better when we learn together"

Why have a New Coordinators' Community of Practice?

This is a completely new role for many of us! *(even if the role is not new, we always experience new situations)*

- "What do I need to know?" What are my responsibilities?" "How do I _____?"
  - Asking questions is essential to our work.

Our positions do not require any formal training.

- Most early childhood coordinators are/were classroom teachers who are now in an administrative role.

Lack of support for our positions, lack of understanding the nature and purpose of early childhood education.

- There is a lack of infrastructure in early childhood education.
- We can experience fragmentation, misalignments, and system complexities.

Lack of professional development opportunities, including professional literature.

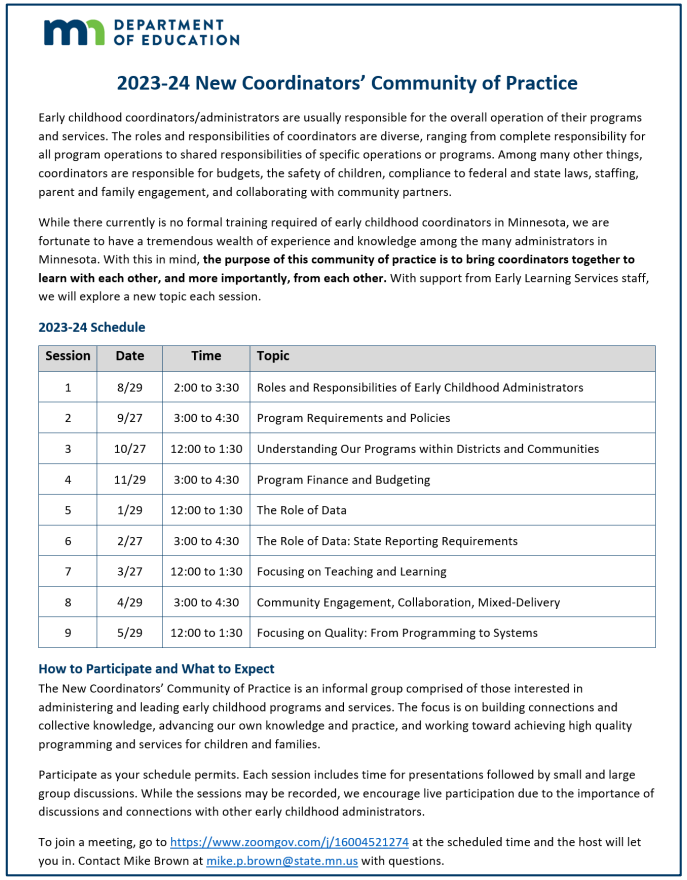
- Other organizations offer professional development and support for administrators/leaders.

So, we designed the sessions to focus on providing:

1. Core tasks for new coordinators to help ensure a strong start.
2. A landscape view of knowledge and competencies relevant to administration and leadership.
3. Strategies for leadership and program operations.

Community of Practice Sessions

1. Understanding the Roles and Responsibilities of Your Position
2. Understanding Program Requirements and Policies
3. Understanding Our Programs within Districts and Communities
4. Program Finance and Budgeting
5. **The Role of Data**
6. The Role of Data: State Reporting Requirements
7. Focusing on Teaching and Learning
8. Community Engagement, Collaboration and Mixed Delivery
9. Focusing on Quality: From Programming to Systems



DEPARTMENT OF EDUCATION

2023-24 New Coordinators' Community of Practice

Early childhood coordinators/administrators are usually responsible for the overall operation of their programs and services. The roles and responsibilities of coordinators are diverse, ranging from complete responsibility for all program operations to shared responsibilities of specific operations or programs. Among many other things, coordinators are responsible for budgets, the safety of children, compliance to federal and state laws, staffing, parent and family engagement, and collaborating with community partners.

While there currently is no formal training required of early childhood coordinators in Minnesota, we are fortunate to have a tremendous wealth of experience and knowledge among the many administrators in Minnesota. With this in mind, **the purpose of this community of practice is to bring coordinators together to learn with each other, and more importantly, from each other.** With support from Early Learning Services staff, we will explore a new topic each session.

2023-24 Schedule

Session	Date	Time	Topic
1	8/29	2:00 to 3:30	Roles and Responsibilities of Early Childhood Administrators
2	9/27	3:00 to 4:30	Program Requirements and Policies
3	10/27	12:00 to 1:30	Understanding Our Programs within Districts and Communities
4	11/29	3:00 to 4:30	Program Finance and Budgeting
5	1/29	12:00 to 1:30	The Role of Data
6	2/27	3:00 to 4:30	The Role of Data: State Reporting Requirements
7	3/27	12:00 to 1:30	Focusing on Teaching and Learning
8	4/29	3:00 to 4:30	Community Engagement, Collaboration, Mixed-Delivery
9	5/29	12:00 to 1:30	Focusing on Quality: From Programming to Systems

How to Participate and What to Expect

The New Coordinators' Community of Practice is an informal group comprised of those interested in administering and leading early childhood programs and services. The focus is on building connections and collective knowledge, advancing our own knowledge and practice, and working toward achieving high quality programming and services for children and families.

Participate as your schedule permits. Each session includes time for presentations followed by small and large group discussions. While the sessions may be recorded, we encourage live participation due to the importance of discussions and connections with other early childhood administrators.

To join a meeting, go to https://www.zoomgov.com/j/16004521274 at the scheduled time and the host will let you in. Contact Mike Brown at mike.p.brown@state.mn.us with questions.

Learning Objectives for Sessions 1-4

1. Participants understand how to connect with others locally, regionally, and statewide.
2. Participants gain an understanding of potential roles and responsibilities associated with their position.
3. Participants understand how to find out about the requirements of the programs they supervise and lead.
4. Participants understand the role policies and procedures play in the operation and functioning of early childhood education and family programs.
5. Participants discuss and understand the role of district and community information/data as it relates to early childhood program leadership.
6. Participants learn about the role of program finance and budgeting in program operations.
    - Participants learn about sources of early childhood education revenue, how to access aid reports, and how to account for revenue and expenditures.

Agenda and Goals for Session #5

Agenda:

1. Embrace the role of data in our work.
2. Explore ways data helps us understand, plan, and improve.
   - Use tools to help us organize our data efforts.
3. Ensure data is part of everyday, intentional practice.

Goals:

- Gain an understanding of the role of data throughout our work.
- Provoke planning for ways data will help you (and your team) understand and guide the role of data in your work.
- Gain awareness of approaches, concepts, resources, and strategies.

New Administrators Page on EC Administration Website

Early Childhood Program Administration

Resources, Training, Best Practices, Sharing

brown343 | My account

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- Coordinator's Corner
- COVID-19
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- Data Submissions to MDE
- Early Childhood Screening
- Early Childhood Special Education
- Early Learning Standards
- ECFE 2.0
- ECFE Implementation Guide
- ECFE Implementation Guide 2
- ECFE Needs Assessment
- Ethics
- Handbooks
- Head Start
- Health & Safety
- History
- Home Visiting
- Human Resources
- Inclusion & Special Needs

New Administrators

Overview | 2023-24 New Coordinators' Community of Practice | Contact | 2022-23 New Coordinators' Community of Practice

New Coordinators' Community of Practice

Early childhood administrators are responsible for the overall operation of their programs and services. The roles and responsibilities of early childhood administrators are diverse, ranging from complete responsibility for program operations to shared responsibilities of specific operations or programs. Administrative roles may include managing the school/program, providing instructional and program leadership, and human resources. Among many other things, administrators are responsible for budgets, the safety of children, compliance to federal and state regulations, staffing, parent and family engagement, and collaborating with and involving community partners.
Unlike other school administrators, there is no formal training required of early childhood administrators in Minnesota. Thankfully, we have a tremendous wealth of experience and knowledge among the many administrators in Minnesota. The purpose of this community of practice is to bring early childhood administrators together to learn with each other, and from each other. With support from Early Learning Services staff, we will explore a new topic each session.

Schedule

Session	Date	Time	Topic	Survey	Presentation Slides	Session Guide
1	8/29	2:00 to 3:30	Roles and Responsibilities	Click Here	Click Here	Click Here
2	9/27	3:00 to 4:30	Program Requirements and Policies	Click Here	Click Here	Click Here
3	10/27	12:00 to 1:30	Understanding Our Programs within Districts and Communities	Click Here	Click Here	Click Here
4	11/29	3:00 to 4:30	Program Finance and Budgeting	Click Here	Click Here	Click Here
5	1/29	12:00 to 1:30	The Role of Data I	Click Here	Click Here	Click Here
6	2/27	3:00 to 4:30	The Role of Data II: State Reporting Requirements	Click Here	Click Here	Click Here
7	3/27	12:00 to 1:30	Focusing on Teaching and Learning	Click Here	Click Here	Click Here
8	4/29	3:00 to 4:30	Community Engagement, Collaboration, Mixed-Delivery	Click Here	Click Here	Click Here
9	5/29	12:00 to 1:30	Focusing on Quality: From Programming to Systems	Click Here	Click Here	Click Here

http://ecadmin.wikidot.com/new-administrators

Virtual Session Reminders

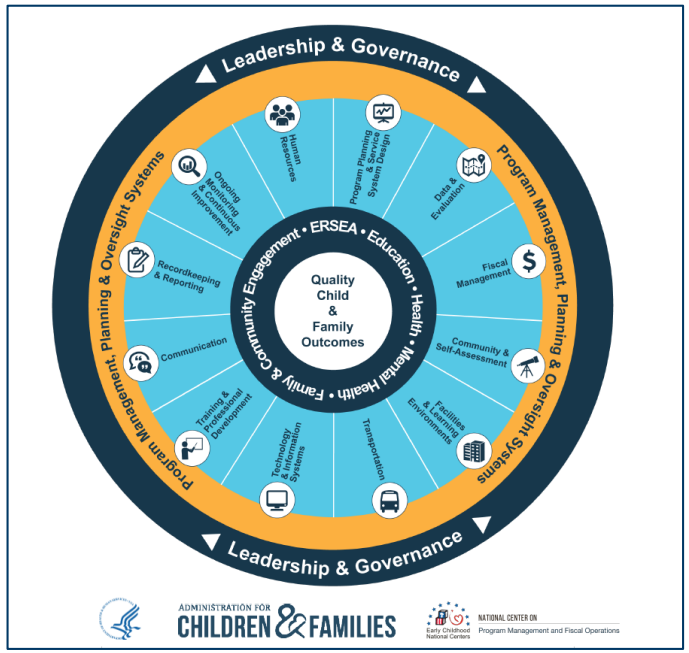
- Make sure that your audio is muted.
- Use the “chat” function to send comments/questions throughout the presentation.
  - Send to “All Participants” so that we can be most responsive to your questions.
- Please place resource links that are pertinent to the discussion in the chat box so that we can share the information after the session ends.
- Slides from this session will be posted on New Administrators page.
- Please complete session survey

Before We Begin…

Our Reminders

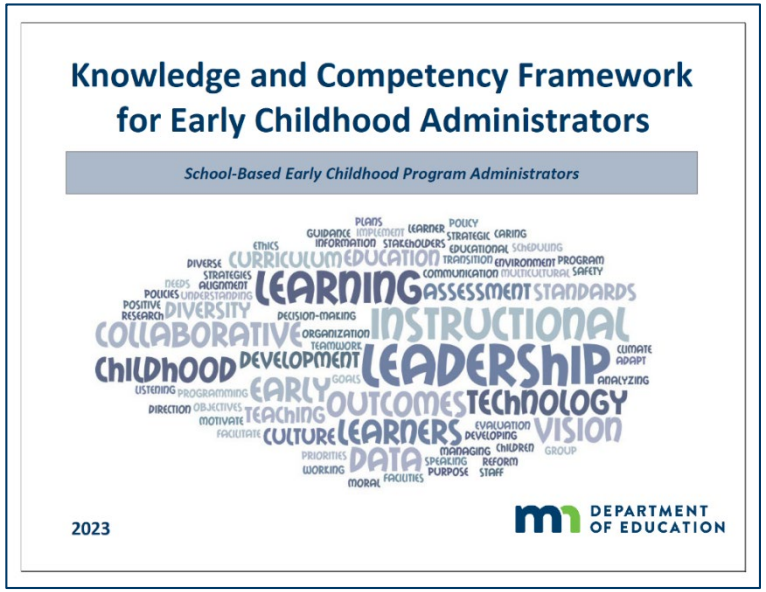
1. Lifelong learning is who we are – *Be patient!*
2. Goals and values that guide you
3. Organize and prioritize

Our Journey Starts with Lifelong Learning

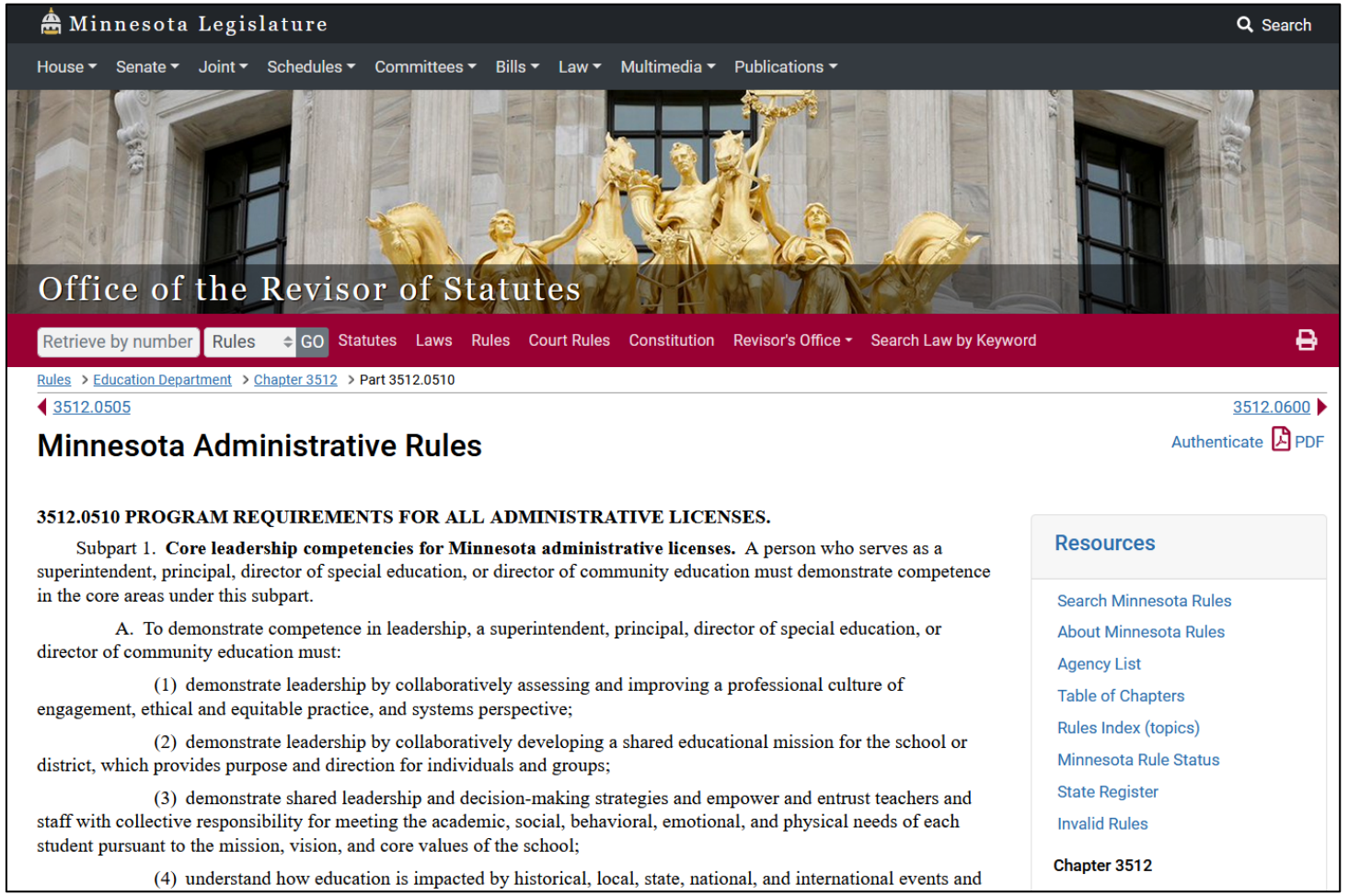


Core Leadership Competencies	
A. Leadership B. Organizational Management C. Equity and Culturally Responsive Leadership D. Policy and Law E. Political Influence and Governance F. Communication	G. Community Relations H. Curriculum, Instruction, and Assessment for the Success of All Learners I. Human Resource Management J. Values and Ethics of Leadership K. Judgment and Problem Analysis L. Safety and Security
In addition to demonstrating all core competencies listed above, a person who serves as an early childhood administrator should demonstrate competence in the following specific areas:	
A. Instructional Leadership B. Monitor Student and Participant Learning C. Early Childhood and Family Programs Administration D. Early Childhood System Building and Alignment	

What resources/sources do you rely on for information?
What supports do you have?
What goals have you set?



Program Requirements for Administrative Licenses


Minnesota Legislature

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Rules > Education Department > Chapter 3512 > Part 3512.0510

3512.0505 | 3512.0600

Minnesota Administrative Rules

Authenticate PDF

3512.0510 PROGRAM REQUIREMENTS FOR ALL ADMINISTRATIVE LICENSES.

Subpart 1. **Core leadership competencies for Minnesota administrative licenses.** A person who serves as a superintendent, principal, director of special education, or director of community education must demonstrate competence in the core areas under this subpart.

A. To demonstrate competence in leadership, a superintendent, principal, director of special education, or director of community education must:

(1) demonstrate leadership by collaboratively assessing and improving a professional culture of engagement, ethical and equitable practice, and systems perspective;

(2) demonstrate leadership by collaboratively developing a shared educational mission for the school or district, which provides purpose and direction for individuals and groups;

(3) demonstrate shared leadership and decision-making strategies and empower and entrust teachers and staff with collective responsibility for meeting the academic, social, behavioral, emotional, and physical needs of each student pursuant to the mission, vision, and core values of the school;

(4) understand how education is impacted by historical, local, state, national, and international events and

Resources

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Rules Index (topics)
Minnesota Rule Status
State Register
Invalid Rules

Chapter 3512

[Program Requirements for All Administrative Licenses]

Session 5: Competencies (Organizational Management)

Core leadership competencies for Minnesota administrative licenses. Minnesota Rule 3512.0510

B. Competence in Organizational Management

1) Demonstrate an understanding of organizational systems, including structural and cultural dynamics;
2) **Define and use processes for gathering, analyzing, managing, and using data to plan and make decisions for program evaluation;**
3) Plan and schedule personal and organizational work, establish procedures to regulate activities and projects, and delegate and empower others at appropriate levels;
4) Demonstrate the ability to analyze need and allocate personnel and material resources;
5) Develop and manage budgets and maintain accurate fiscal records;
6) Demonstrate an understanding of facilities development, planning, and management; and
7) **Understand and use technology as a management tool.**

Session 5: Competencies (Equity and Culturally Responsive Leadership)

Core leadership competencies for Minnesota administrative licenses. Minnesota Rule 3512.0510

C. Competence in Equity and Culturally Responsive Leadership:

1) Ensure that each student is treated fairly, respectfully, and with an understanding of each student's culture and context;

2) Recognize, respect, and employ each student's strengths, diversity, and culture as assets for teaching and learning;

3) Ensure that each student has equitable access to effective teachers, learning opportunities, academic and social support, and other resources necessary for success;

4) Ensure policies and practices are in place that proactively encourage positive behavior and respond to student behavior needs in a positive, fair, and unbiased manner;

5) Recognize, identify, and address individual and institutional biases;

6) Promote the preparation of students to live productively in and contribute to a diverse and global society;

7) Address matters of equity and cultural responsiveness in all aspects of leadership; and

8) Ensure policies and practices are in place that address student and staff mental and physical health and trauma.

Session 5: Competencies (Policy & Law)

Core leadership competencies for Minnesota administrative licenses. Minnesota Rule 3512.0510

D. Competence in Policy and Law

1) Understand and implement policy to meet local, state, and federal requirements and constitutional provisions, standards, and regulatory applications to promote student success;

2) Recognize and apply standards of care involving civil and criminal liability for negligence, harassment, and intentional torts; and

3) Demonstrate an understanding of state, federal, and case law, and rules and regulations governing general education, special education, and community education.

Session 5: Competencies (Roles and Responsibilities)

Core leadership competencies for Minnesota administrative licenses. Minnesota Rule 3512.0510

F. Competence in Communication

1) Understand the need to develop shared understanding of and commitment to mission, vision, and core values within the school and the community;

2) Demonstrate individual and team facilitation skills;

3) Recognize and apply an understanding of individual and group behavior in all situations;

4) Demonstrate an understanding of conflict resolution and problem-solving strategies relative to communication;

5) Make presentations that are clear and easy to understand;

6) Respond to, review, and summarize information for groups;

7) Communicate appropriately, through speaking, listening, and writing, for different audiences, including students, teachers, parents, the community, and other stakeholders; and

8) Understand and utilize appropriate communication technology.

Session 5: Competencies (Judgment and Problem Analysis)

Core leadership competencies for Minnesota administrative licenses. Minnesota Rule 3512.0510

K. Competence in Judgment and Problem Analysis

1) Identify the elements of a problem situation by analyzing relevant information, framing issues, identifying possible causes, and reframing possible solutions;

2) Demonstrate adaptability and conceptual flexibility;

3) Reach logical conclusions by making quality, timely decisions based on available information;

4) Identify and give priority to significant issues;

5) Demonstrate an understanding of, and utilize appropriate technology in, problem analysis; and

6) Demonstrate an understanding of different leadership and decision-making strategies, including but not limited to collaborative models and model appropriately their implementation.

Session 5: Competencies (Community Education Director)

Subpart 1: Core leadership competencies for Minnesota administrative licenses. Minnesota Rule 3512.0510

Subpart 5: Director of community education competencies.

A. To demonstrate competence in community education concepts, a director of community education must:

1) Understand and describe the history and philosophy of community education;
2) Demonstrate a knowledge and application of the principles of community education;
3) Demonstrate a knowledge of the role of the local school district's administrative team;
4) Demonstrate, facilitate, and lead the integration of community education into the prekindergarten through grade 12 system;
5) **Demonstrate the skills necessary to conduct community needs assessments as required by statute and district policy**;
6) **Demonstrate knowledge of the various assessment tools used to effectively evaluate community education programs and determine educational objectives and learning experiences**; and
7) Demonstrate an understanding of the resources available to support learners of all abilities and ages.

Ten Minnesota Commitments to Equity

1. Prioritize equity.
2. Start from within.
3. Measure what matters.
4. Go local.
5. Follow the money.
6. Start early.
7. Monitor implementation of standards.
8. Value people.
9. Improve conditions for learning.
10. Give students and families options.

Using Elements of Data Literacy Models to Organize

PART I

1. **Awareness**: Understanding data and its role in our world;
2. **Access**: Understanding how to identify and appropriately use data;
3. **Engagement**: Evaluating, analyzing, organizing, and interpreting data;

PART II

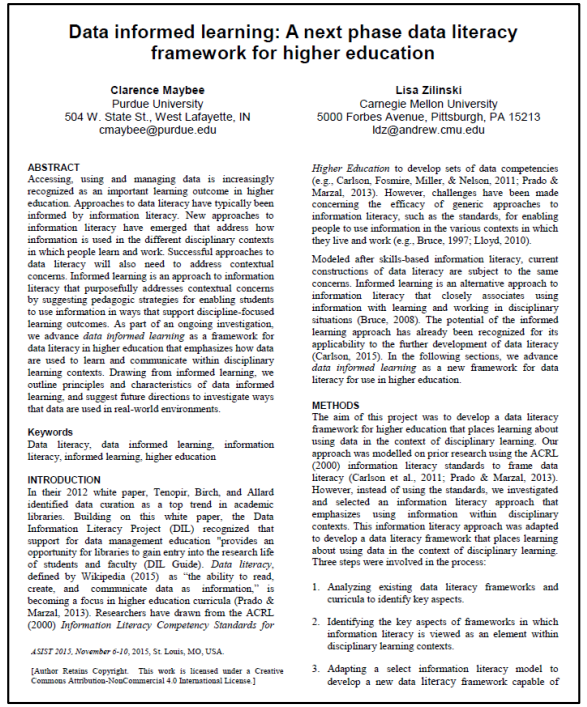
4. **Management**: Planning and managing data, including organization and analysis, data storage, sharing data, and documentation;
5. **Communication**: Synthesizing, visualizing, and representing data;

PART III

6. **Ethical Use**: Identifying diversified data sources, in particular data from human and social activity, considering the risks and issues implicit in the use of such data;
7. **Preservation**: Being aware of long-term practices of storing, using, and reusing data.

PART IV

State Reporting: Understanding what data needs to be reported; how to report.



Data informed learning: A next phase data literacy framework for higher education

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ABSTRACT
Accessing, using and managing data is increasingly recognized as an important learning outcome in higher education. Approaches to data literacy have typically been informed by information literacy. New approaches to information literacy have emerged that address how information is used in the different disciplinary contexts in which people learn and work. Successful approaches to data literacy will also need to address contextual concerns. Informed learning is an approach to information literacy that purposefully addresses contextual concerns by suggesting pedagogic strategies for enabling students to use information in ways that support discipline-focused learning outcomes. As part of an ongoing investigation, we advance *data informed learning* as a framework for data literacy in higher education that emphasizes how data are used to learn and communicate within disciplinary learning contexts. Drawing from informed learning, we outline principles and characteristics of data informed learning, and suggest future directions to investigate ways that data are used in real-world environments.

Keywords
Data literacy, data informed learning, information literacy, informed learning, higher education

INTRODUCTION
In their 2012 white paper, Tenopir, Birch, and Allard identified data curation as a top trend in academic libraries. Building on this white paper, the Data Information Literacy Project (DIL) recognized that support for data management education "provides an opportunity for libraries to gain entry into the research life of students and faculty (DIL Guide). *Data literacy*, defined by Wikipedia (2015) as "the ability to read, create, and communicate data as information," is becoming a focus in higher education curricula (Prado & Marzal, 2013). Researchers have drawn from the ACRL (2000) *Information Literacy Competency Standards for Higher Education* to develop sets of data competencies (e.g., Carlson, Fosmire, Miller, & Nelson, 2011; Prado & Marzal, 2013). However, challenges have been made concerning the efficacy of generic approaches to information literacy, such as the standards, for enabling people to use information in the various contexts in which they live and work (e.g., Bruce, 1997; Lloyd, 2010).

Modeled after skills-based information literacy, current constructions of data literacy are subject to the same concerns. Informed learning is an alternative approach to information literacy that closely associates using information with learning and working in disciplinary situations (Bruce, 2008). The potential of the informed learning approach has already been recognized for its applicability to the further development of data literacy (Carlson, 2015). In the following sections, we advance *data informed learning* as a new framework for data literacy for use in higher education.

METHODS
The aim of this project was to develop a data literacy framework for higher education that places learning about using data in the context of disciplinary learning. Our approach was modelled on prior research using the ACRL (2000) information literacy standards to frame data literacy (Carlson et al., 2011; Prado & Marzal, 2013). However, instead of using the standards, we investigated and selected an information literacy approach that emphasizes using information within disciplinary contexts. This information literacy approach was adapted to develop a data literacy framework that places learning about using data in the context of disciplinary learning. Three steps were involved in the process:

1. Analyzing existing data literacy frameworks and curricula to identify key aspects.
2. Identifying the key aspects of frameworks in which information literacy is viewed as an element within disciplinary learning contexts.
3. Adapting a select information literacy model to develop a new data literacy framework capable of

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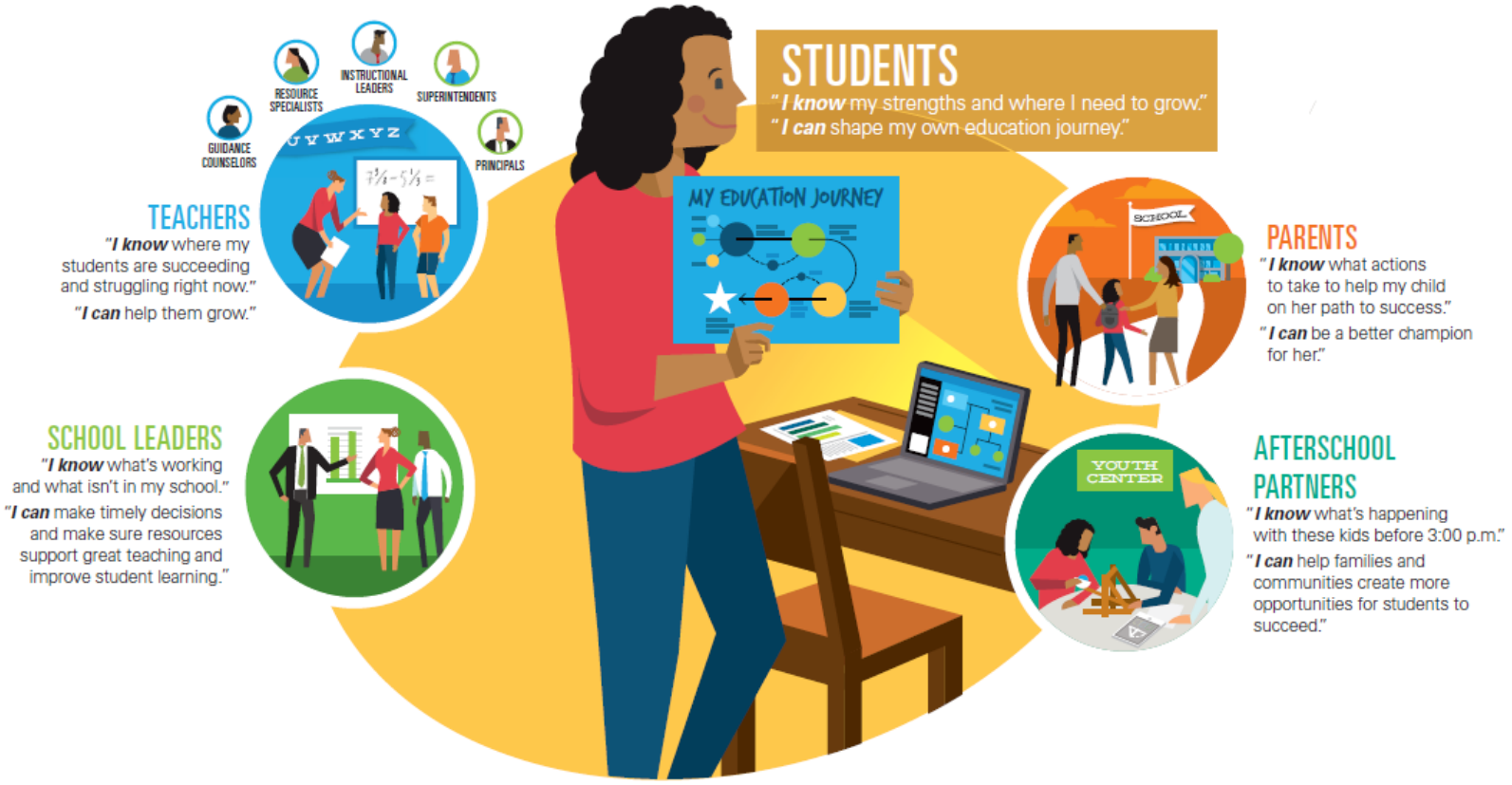
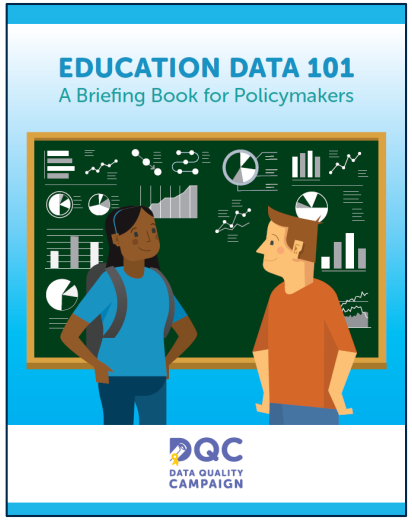
Data Informed Learning

Embracing the Role of Data

1. Acknowledging and valuing data in the world of education.
    - Developing a shared understanding about data.
    - Acknowledging ways we currently use data.
2. Deepening our engagement with data.
    - Exploring ways data helps in our work.

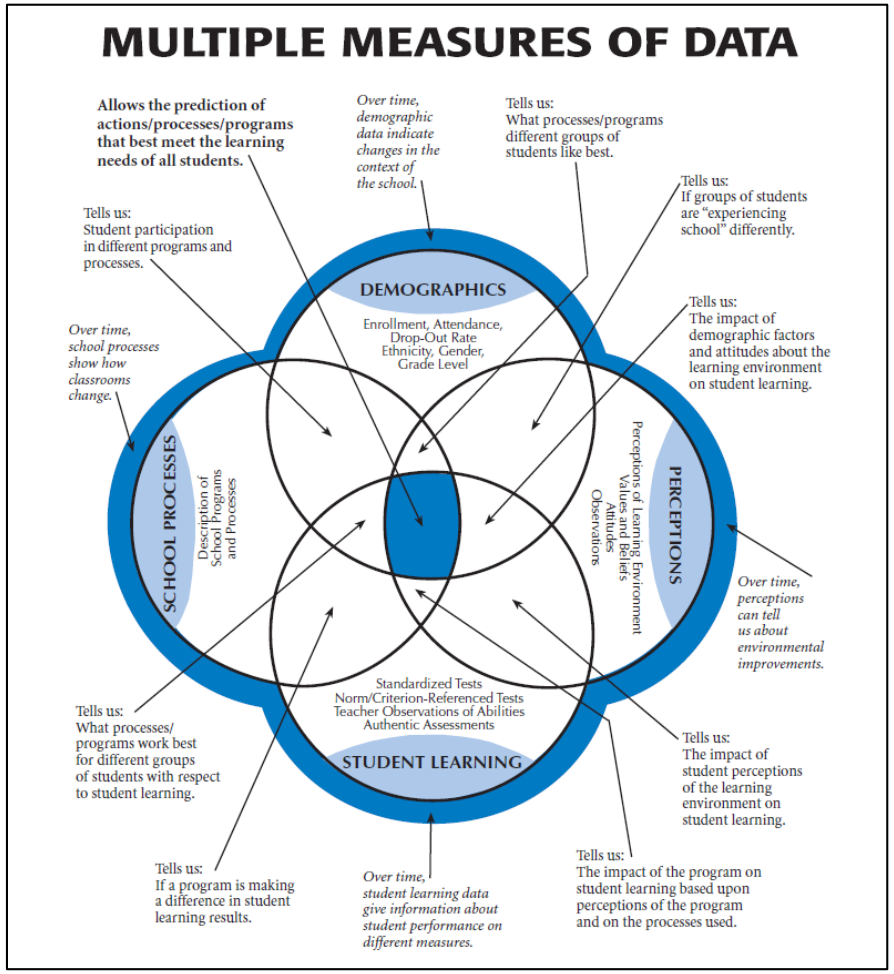
Acknowledging Data in Our World





[Education Data 101]

Data in Our World: Multiple Measures

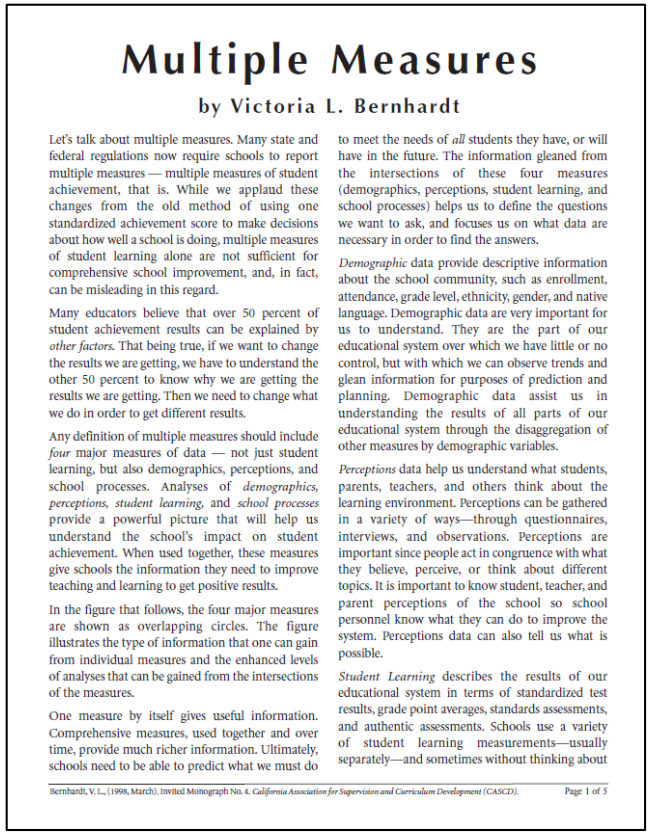


Demographics

Perceptions

School Processes

Student Learning



Multiple Measures

by Victoria L. Bernhardt

Let's talk about multiple measures. Many state and federal regulations now require schools to report multiple measures — multiple measures of student achievement, that is. While we applaud these changes from the old method of using one standardized achievement score to make decisions about how well a school is doing, multiple measures of student learning alone are not sufficient for comprehensive school improvement, and, in fact, can be misleading in this regard.

Many educators believe that over 50 percent of student achievement results can be explained by *other factors*. That being true, if we want to change the results we are getting, we have to understand the other 50 percent to know why we are getting the results we are getting. Then we need to change what we do in order to get different results.

Any definition of multiple measures should include *four* major measures of data — not just student learning, but also demographics, perceptions, and school processes. Analyses of *demographics, perceptions, student learning,* and *school processes* provide a powerful picture that will help us understand the school's impact on student achievement. When used together, these measures give schools the information they need to improve teaching and learning to get positive results.

In the figure that follows, the four major measures are shown as overlapping circles. The figure illustrates the type of information that one can gain from individual measures and the enhanced levels of analyses that can be gained from the intersections of the measures.

One measure by itself gives useful information. Comprehensive measures, used together and over time, provide much richer information. Ultimately, schools need to be able to predict what we must do to meet the needs of *all* students they have, or will have in the future. The information gleaned from the intersections of these four measures (demographics, perceptions, student learning, and school processes) helps us to define the questions we want to ask, and focuses us on what data are necessary in order to find the answers.

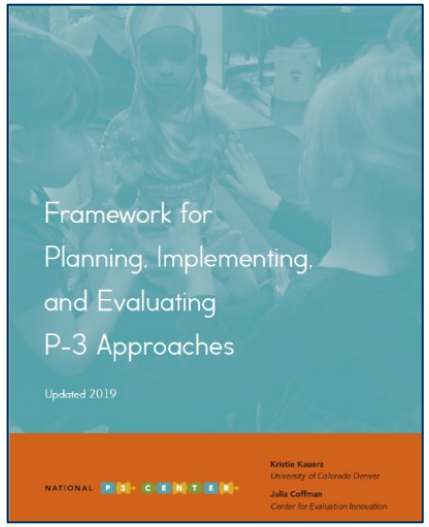
Demographic data provide descriptive information about the school community, such as enrollment, attendance, grade level, ethnicity, gender, and native language. Demographic data are very important for us to understand. They are the part of our educational system over which we have little or no control, but with which we can observe trends and glean information for purposes of prediction and planning. Demographic data assist us in understanding the results of all parts of our educational system through the disaggregation of other measures by demographic variables.

Perceptions data help us understand what students, parents, teachers, and others think about the learning environment. Perceptions can be gathered in a variety of ways—through questionnaires, interviews, and observations. Perceptions are important since people act in congruence with what they believe, perceive, or think about different topics. It is important to know student, teacher, and parent perceptions of the school so school personnel know what they can do to improve the system. Perceptions data can also tell us what is possible.

Student Learning describes the results of our educational system in terms of standardized test results, grade point averages, standards assessments, and authentic assessments. Schools use a variety of student learning measurements—usually separately—and sometimes without thinking about

Bernhardt, V. L., (1998, March). Invited Monograph No. 4. *California Association for Supervision and Curriculum Development (CASCD).*

Data in Our World: In Frameworks and Models



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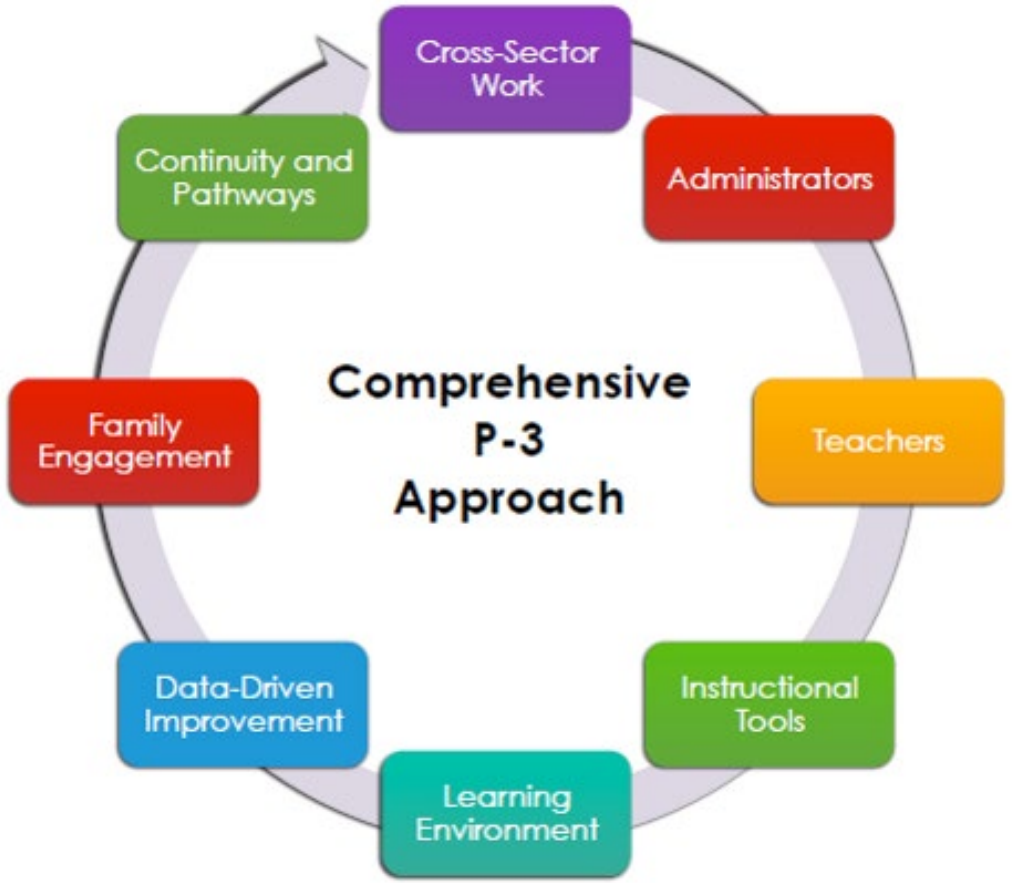

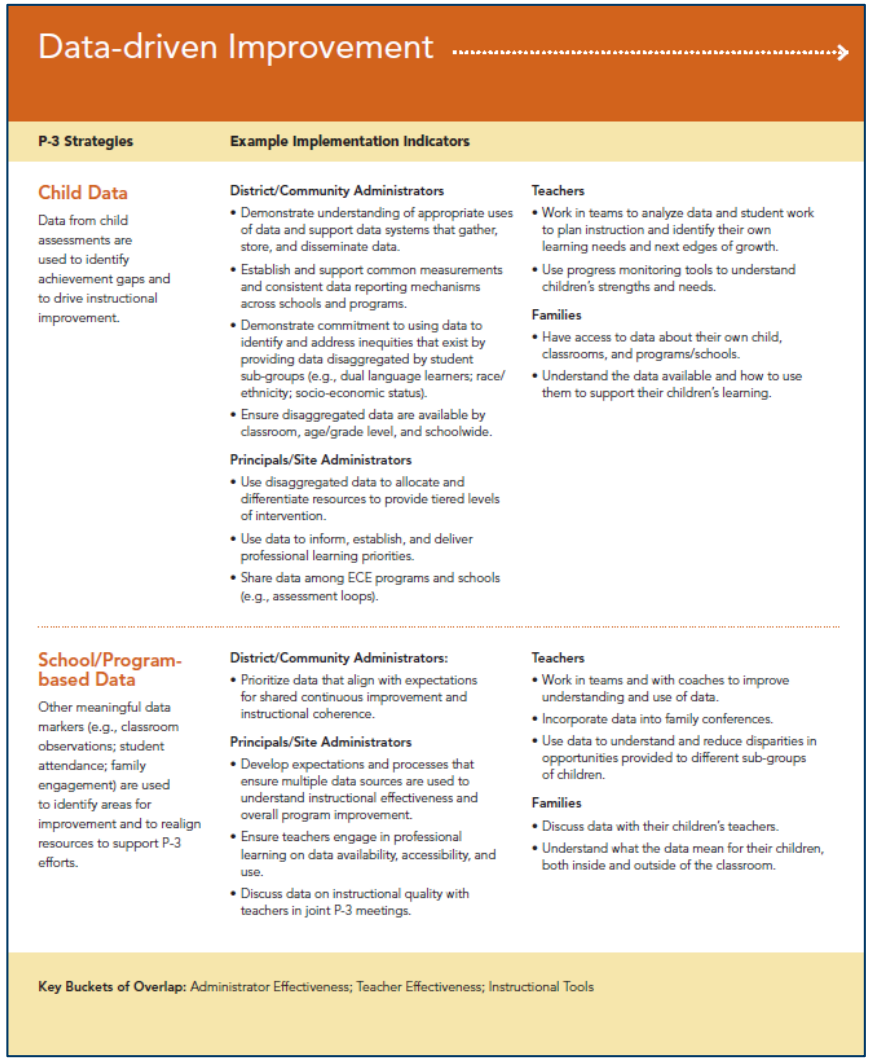

Data-driven Improvement

P-3 Strategies	Example Implementation Indicators	
Child Data Data from child assessments are used to identify achievement gaps and to drive instructional improvement.	**District/Community Administrators** • Demonstrate understanding of appropriate uses of data and support data systems that gather, store, and disseminate data. • Establish and support common measurements and consistent data reporting mechanisms across schools and programs. • Demonstrate commitment to using data to identify and address inequities that exist by providing data disaggregated by student sub-groups (e.g., dual language learners; race/ethnicity; socio-economic status). • Ensure disaggregated data are available by classroom, age/grade level, and schoolwide. **Principals/Site Administrators** • Use disaggregated data to allocate and differentiate resources to provide tiered levels of intervention. • Use data to inform, establish, and deliver professional learning priorities. • Share data among ECE programs and schools (e.g., assessment loops).	**Teachers** • Work in teams to analyze data and student work to plan instruction and identify their own learning needs and next edges of growth. • Use progress monitoring tools to understand children's strengths and needs. **Families** • Have access to data about their own child, classrooms, and programs/schools. • Understand the data available and how to use them to support their children's learning.
School/Program-based Data Other meaningful data markers (e.g., classroom observations; student attendance; family engagement) are used to identify areas for improvement and to realign resources to support P-3 efforts.	**District/Community Administrators:** • Prioritize data that align with expectations for shared continuous improvement and instructional coherence. **Principals/Site Administrators** • Develop expectations and processes that ensure multiple data sources are used to understand instructional effectiveness and overall program improvement. • Ensure teachers engage in professional learning on data availability, accessibility, and use. • Discuss data on instructional quality with teachers in joint P-3 meetings.	**Teachers** • Work in teams and with coaches to improve understanding and use of data. • Incorporate data into family conferences. • Use data to understand and reduce disparities in opportunities provided to different sub-groups of children. **Families** • Discuss data with their children's teachers. • Understand what the data mean for their children, both inside and outside of the classroom.

Key Buckets of Overlap: Administrator Effectiveness; Teacher Effectiveness; Instructional Tools

Data in Our World: Data Systems

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International Journal of Educational Technology in Higher Education

REVIEW ARTICLE Open Access

Big data in education: a state of the art, limitations, and future research directions

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Abstract

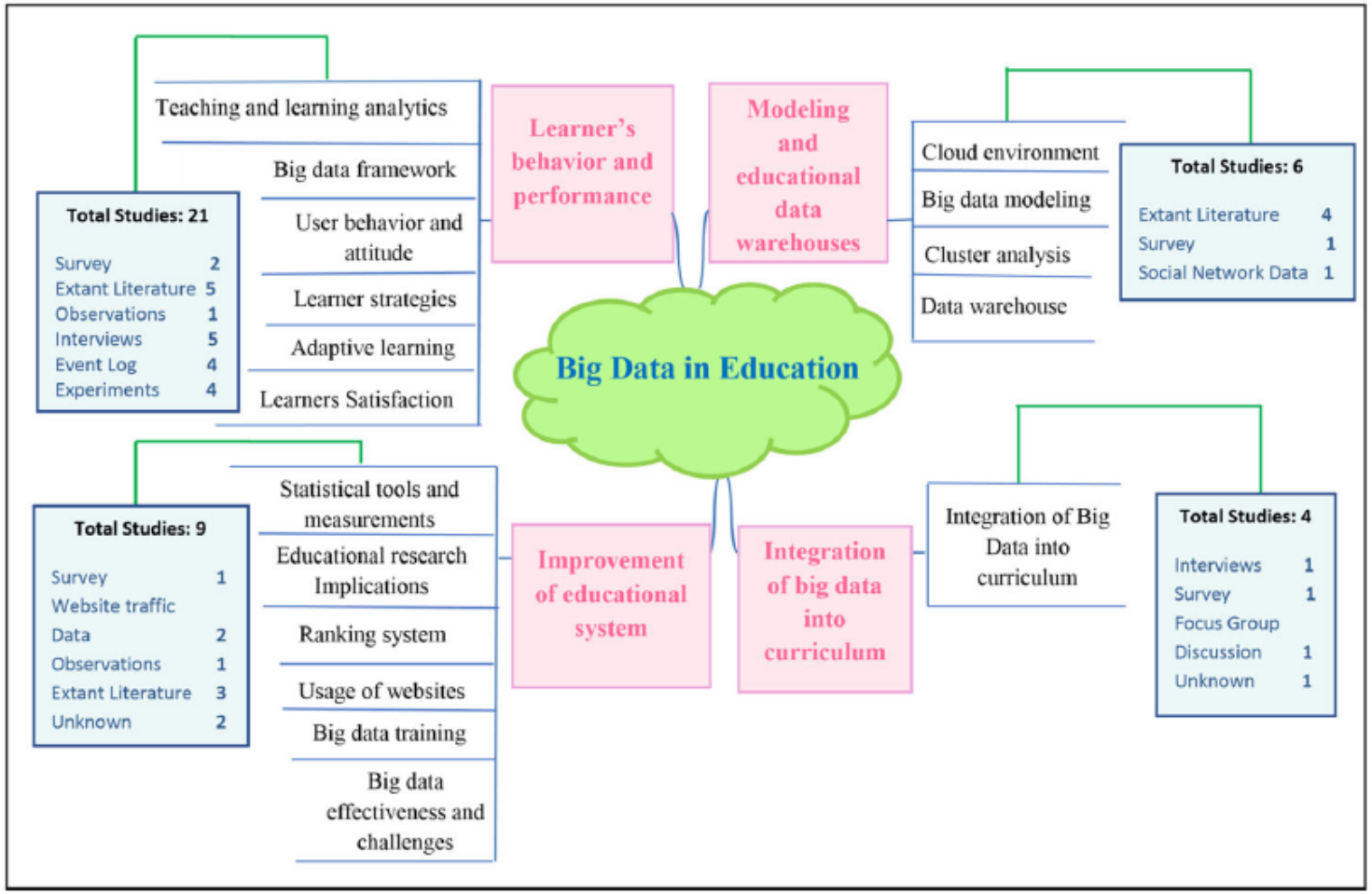
Big data is an essential aspect of innovation which has recently gained major attention from both academics and practitioners. Considering the importance of the education sector, the current tendency is moving towards examining the role of big data in this sector. So far, many studies have been conducted to comprehend the application of big data in different fields for various purposes. However, a comprehensive review is still lacking in big data in education. Thus, this study aims to conduct a systematic review on big data in education in order to explore the trends, classify the research themes, and highlight the limitations and provide possible future directions in the domain. Following a systematic review procedure, 40 primary studies published from 2014 to 2019 were utilized and related information extracted. The findings showed that there is an increase in the number of studies that address big data in education during the last 2 years. It has been found that the current studies covered four main research themes under big data in education, mainly, learner's behavior and performance, modelling and educational data warehouse, improvement in the educational system, and integration of big data into the curriculum. Most of the big data educational researches have focused on learner's behavior and performances. Moreover, this study highlights research limitations and portrays the future directions. This study provides a guideline for future studies and highlights new insights and directions for the successful utilization of big data in education.

Keywords: Data science applications in education, Learning communities, Teaching/learning strategies

Introduction

The world is changing rapidly due to the emergence of innovational technologies (Chae, 2019). Currently, a large number of technological devices are used by individuals (Shorfuzzaman, Hossain, Nazir, Muhammad, & Alamri, 2019). In every single moment, an enormous amount of data is produced through these devices (ur Rehman et al., 2019). In order to cater for this massive data, current technologies and applications are being developed. These technologies and applications are useful for data analysis and storage (Kalaian, Kasim, & Kasim, 2019). Now, big data has become a matter of interest for researchers (Anshari, Alas, & Yunus, 2019). Researchers are trying to define and characterize big data in different ways (Mikalef, Pappas, Krogstie, & Giannakos, 2018).

[Big Data in Education]



Data in Our World: An Indispensable for Early Education

Indispensables for Quality Pre-K

Embracing the Role of Data

1. Acknowledging and valuing data in the world of early education.
    - Developing a shared understanding about data.
    - Acknowledging ways we currently use data.
2. Deepening our engagement with data.
    - Exploring ways data helps in our work.

A Broad, Practical View of Data

Data:

Information collected for use.

- Cambridge Dictionary

Information:

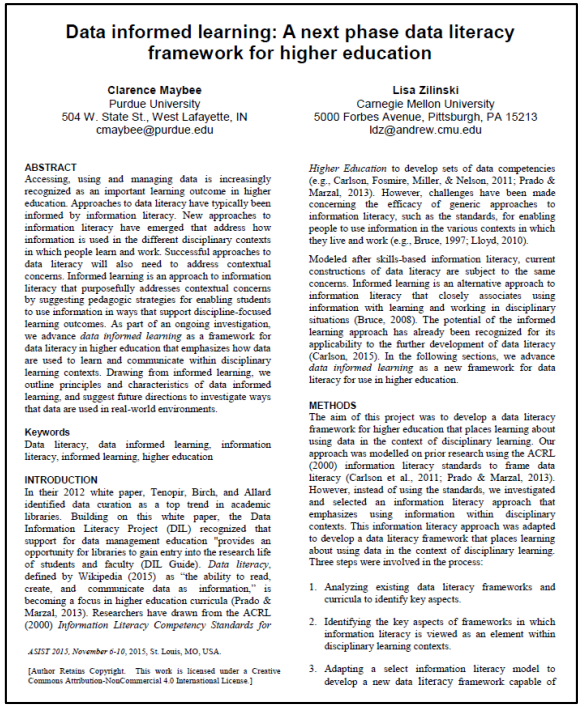
Knowledge gained through study, communication, research, instruction, etc.; factual data.

- Dictionary.com

Data + Information = Data Informed Learning

- Informed learning emphasizes “learning” as an outcome of engaging with information.
- Authors introduce *data informed learning* as an approach to data literacy that shifts the focus from acquiring generic data-related skills to **learning how to use data in contexts**.

In what ways do you use data in your everyday life?



Data informed learning: A next phase data literacy framework for higher education

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ABSTRACT
Accessing, using and managing data is increasingly recognized as an important learning outcome in higher education. Approaches to data literacy have typically been informed by information literacy. New approaches to information literacy have emerged that address how information is used in the different disciplinary contexts in which people learn and work. Successful approaches to data literacy will also need to address contextual concerns. Informed learning is an approach to information literacy that purposefully addresses contextual concerns by suggesting pedagogic strategies for enabling students to use information in ways that support discipline-focused learning outcomes. As part of an ongoing investigation, we advance *data informed learning* as a framework for data literacy in higher education that emphasizes how data are used to learn and communicate within disciplinary learning contexts. Drawing from informed learning, we outline principles and characteristics of data informed learning, and suggest future directions to investigate ways that data are used in real-world environments.

Keywords
Data literacy, data informed learning, information literacy, informed learning, higher education

INTRODUCTION
In their 2012 white paper, Tenopir, Birch, and Allard identified data curation as a top trend in academic libraries. Building on this white paper, the Data Information Literacy Project (DIL) recognized that support for data management education "provides an opportunity for libraries to gain entry into the research life of students and faculty (DIL Guide). *Data literacy*, defined by Wikipedia (2015) as "the ability to read, create, and communicate data as information," is becoming a focus in higher education curricula (Prado & Marzal, 2013). Researchers have drawn from the ACRL (2000) *Information Literacy Competency Standards for Higher Education* to develop sets of data competencies (e.g., Carlson, Fosmire, Miller, & Nelson, 2011; Prado & Marzal, 2013). However, challenges have been made concerning the efficacy of generic approaches to information literacy, such as the standards, for enabling people to use information in the various contexts in which they live and work (e.g., Bruce, 1997; Lloyd, 2010).

Modeled after skills-based information literacy, current constructions of data literacy are subject to the same concerns. Informed learning is an alternative approach to information literacy that closely associates using information with learning and working in disciplinary situations (Bruce, 2008). The potential of the informed learning approach has already been recognized for its applicability to the further development of data literacy (Carlson, 2015). In the following sections, we advance *data informed learning* as a new framework for data literacy for use in higher education.

METHODS
The aim of this project was to develop a data literacy framework for higher education that places learning about using data in the context of disciplinary learning. Our approach was modelled on prior research using the ACRL (2000) information literacy standards to frame data literacy (Carlson et al., 2011; Prado & Marzal, 2013). However, instead of using the standards, we investigated and selected an information literacy approach that emphasizes using information within disciplinary contexts. This information literacy approach was adapted to develop a data literacy framework that places learning about using data in the context of disciplinary learning. Three steps were involved in the process:

1. Analyzing existing data literacy frameworks and curricula to identify key aspects.
2. Identifying the key aspects of frameworks in which information literacy is viewed as an element within disciplinary learning contexts.
3. Adapting a select information literacy model to develop a new data literacy framework capable of

ASIST 2015, November 6-10, 2015, St. Louis, MO, USA.

Data Informed Learning

Data as Information Collected for Use – *Current Practice*

What are some ways we currently collect and use data?

- To see how registration is going.
- To determine if we have funds to purchase classroom equipment.
- To assess staff compensation.
- To assess and address a problem.
- To assess and/or monitor performance (budgets, classrooms, policies, practices, programs, staff, students, etc.).
- To gather and report required information to MDE, or other organizations (based on funding/program requirements).

Being Intentional about How We Use Data

Examples of ways we intentionally use data:

- Decision making
- Ethics, equity
- Monitoring
- Program improvement, enhancements
- Accountability or compliance
- Respond to needs, goals
- Identifying/analyzing problems, needs, etc.
- Collaborative approaches/solutions.

Understanding Your Current State of Data Collection and Use

What data do you and your staff collect?

- Who is collecting data and what is being collected?
- When is data collected? Is it ongoing?
- Why is it collected?

What data does your program collect (and manage/record)?

- Required (participant data, class data, etc.)?
- Home visiting data? School transition data? Behavioral?

How do you use, or plan to use, the data?

- Evaluation (staff, program, goals, initiative, etc.)?
- Planning?
- Compliance or monitoring?

Discussion #9: Current Data Collection

- What data do you and your staff collect?
- What data does your program collect (and manage/record)?
- How do you use, or plan to use, the data?

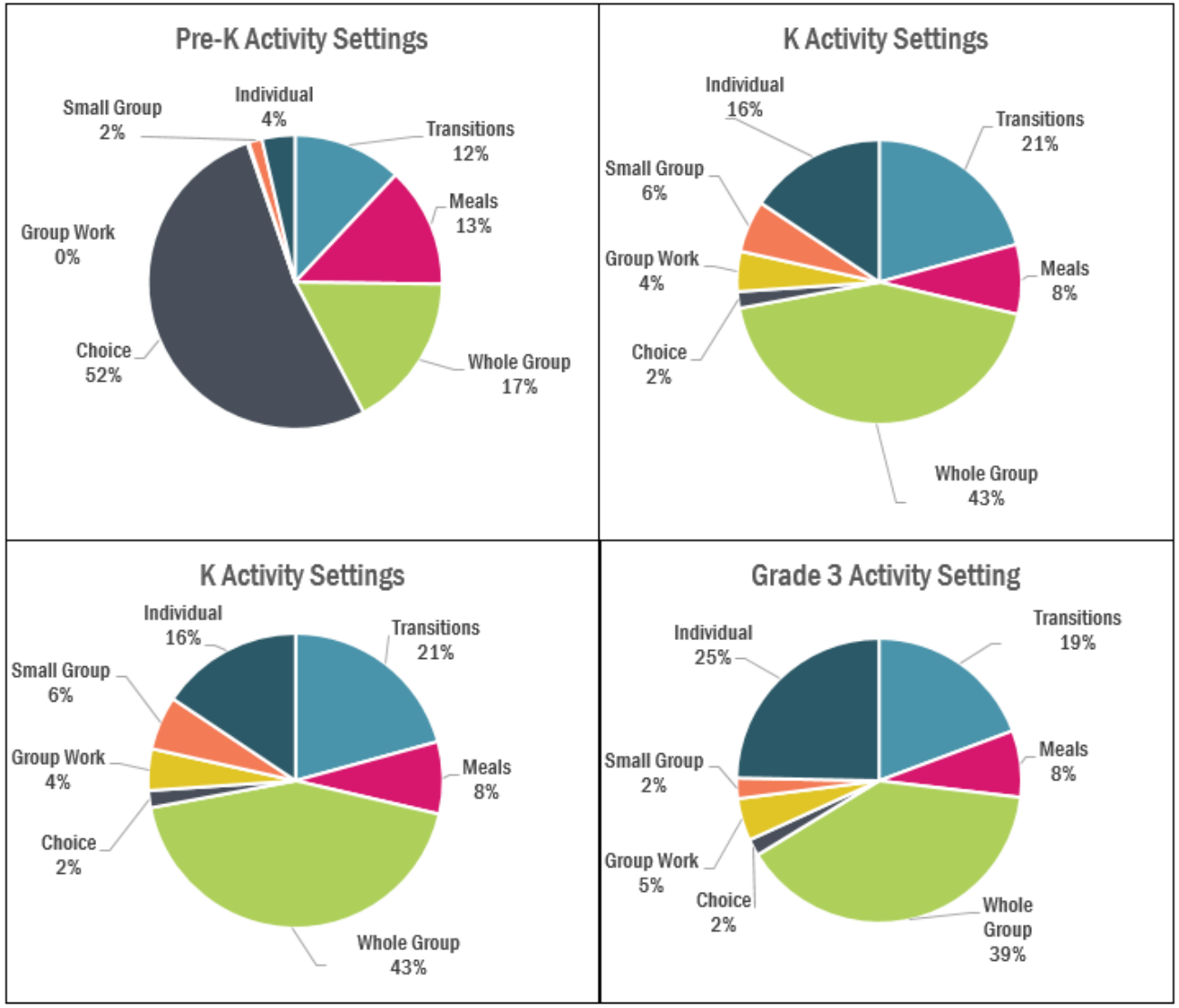
Embracing the Role of Data

1. Acknowledging and valuing data in the world of early education.
    - Developing a shared understanding about data.
    - Acknowledging ways we currently use data.
2. Deepening our engagement with data.
    - Exploring ways data helps in our work.

Moving Something from the Unknown to the Known

What are some data/information we wish we had?

- For children?
- For parents?
- For classroom teachers?
- For program supervisors/administrators?
- For district and community leaders?
- For state leaders and representatives?



What does the structure of our day look like?

EduSnap quantifies how children experience their classrooms.

Employing 25 codes, EduSnap provides an in-depth look at how children experience activity settings (e.g. *Whole Group, Small Group, Transitions*), content areas (e.g. *Literacy, Science, Math*), student learning approaches (e.g. *Collaboration, Metacognition*), and teaching approaches (e.g. *Didactic, Scaffolds*).

**The charts on the left are from Adam Holland's presentation at a P3 Principal Leadership Series session.*

How Children Experience Activity Settings - EduSnap

Identifying Various Layers/Purposes/Roles of Data

Why do we monitor registration?

- To determine if a class will run.

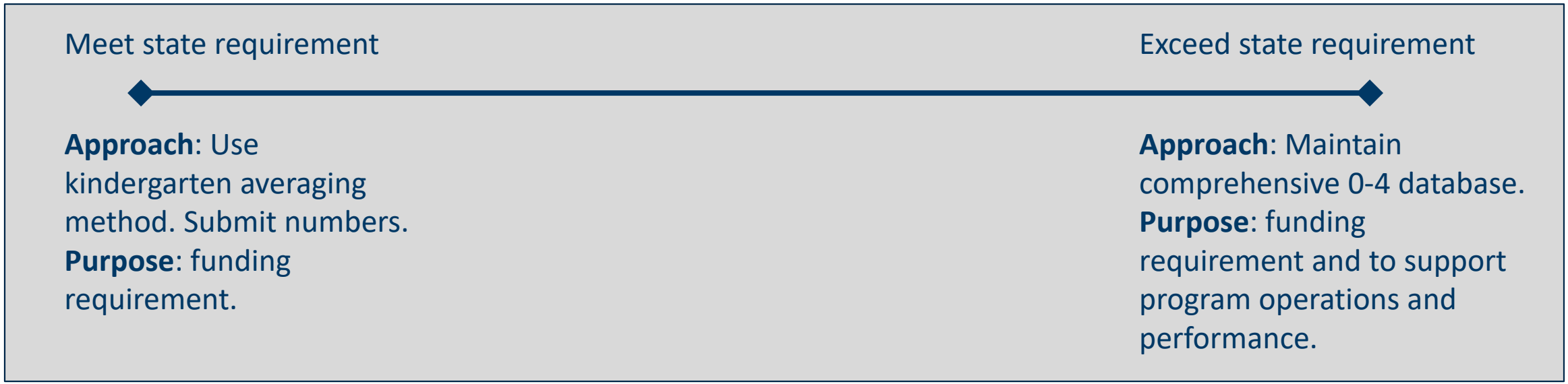
What are some additional reasons to monitor/analyze registration?

- To help make staffing decisions.
- To see who is registering for what.
- To identify gaps in registration.
- To bring awareness to a need for further exploration/analysis.

One Data Requirement, Multi-Purposed (*example*)

0-4 Census Data Reporting

Requirement: Districts are required to submit the number of children ages 0-4 as of September 1, of each year, who are residing in their district as of October 1. Reporting deadline is 11/30.

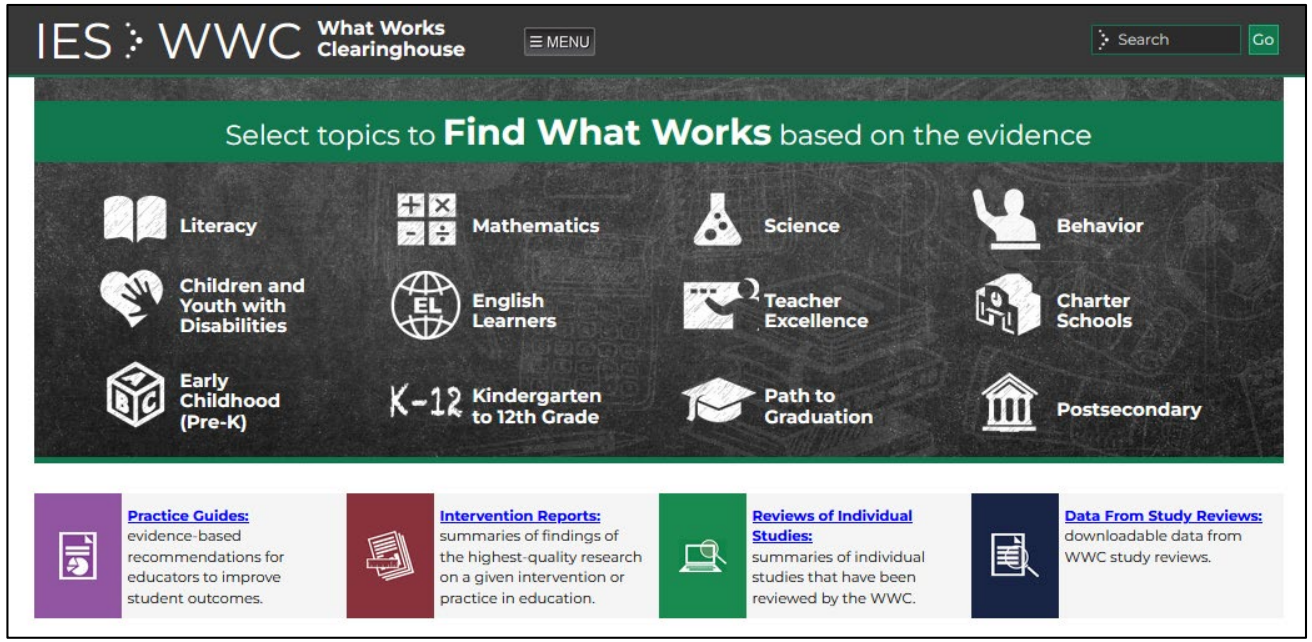


Being Intentional and Strategic – Clear Priorities

What and how do we prioritize?

- How is data connected to our values and goals?
  - Closing achievement gaps, equity, kindergarten success, family engagement, etc.?
  - Strategic plans, mission statements, yearly goals, World's Best Workforce, etc.
- What data is required (district, funding source, state, etc.)?
  - ECFE needs assessment, MCCC, 0-4 Census, Screening, VPK, funds from a grant, etc.
- How does data benefit students/participants?
- How do we balance depth and breadth of data?

Gathering and Collecting Data – Clear Processes



What Works Clearinghouse

How do you decide what data to collect?

- Is it data you are generating, accessing, adapting, etc.?

How do you determine what type of data is best suited for your needs?

- Building, assessing, informing, monitoring, problem-solving, accountability, performance, efficiency, effectiveness, etc.

How do you determine the quality of the data?

- What are reliable sources?

Who are the data experts throughout your system?

- Build the system. What can others do for you?

We Collect a Variety of Data from Various Sources

Examples of Data Types and Sources

Student Non-Academic/ Demographic Data

- Ed-Fi and MARSS entry data .
- Enrollment trends.
- Transportation.
- Attendance.
- Food security.
- Housing Security.
- Health Security.
- Program participation

Perception Data

- MDE Family Survey.
- Community Needs Assessment.
- Observations.
- Focus groups.
- Parent-Teacher conference reports.
- Local ECFE class survey

Student Academic Data

- Screening
- VPK/SRP Measuring Impact.
- School Readiness pre and post.
- Formative assessments.
- Work samples.
- MN Common Course Catalog.
- P/T Conference Reports

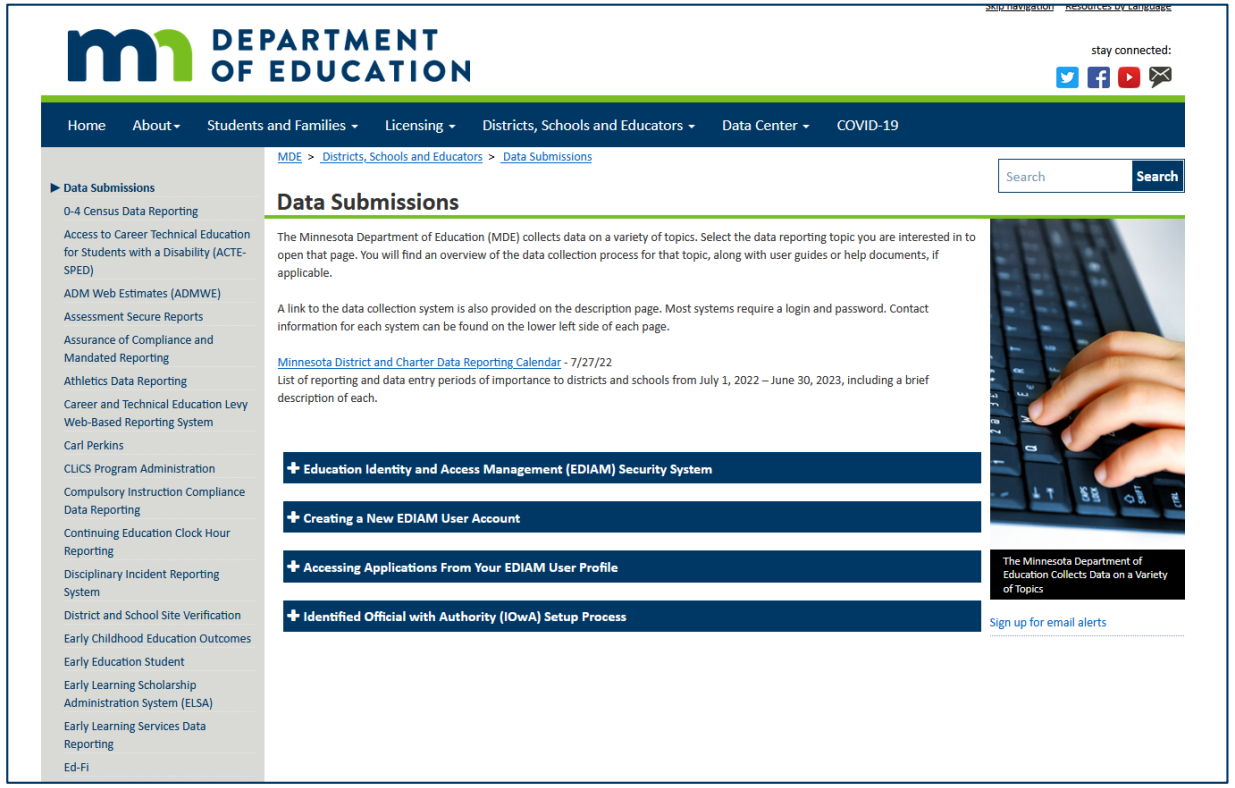
Program, Process, and Policy Data

- Community Needs Assessment.
- VPK/SRP Annual Program Survey.
- Program evaluation data.
- Leadership Capacity.
- Mapping/analyzing system continuity.
- Gap analysis.
- Policy impact

Fidelity Data

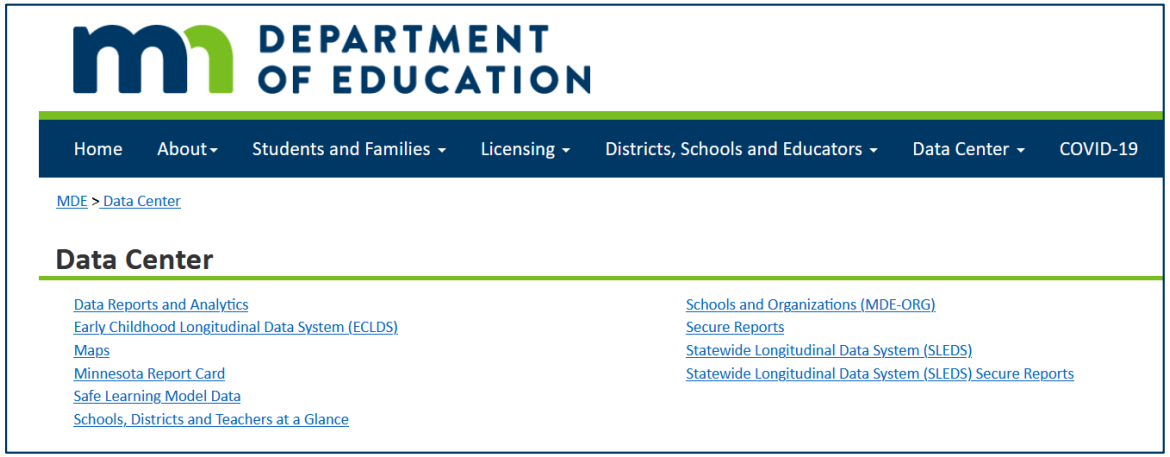
- Fidelity of implementation (self-assessed using P3 framework).
- Measures of commitment to students, families, staff, school, community and profession.

Data Submissions and Data Reports – State Level



[Data Submissions]

Reports in the [Data Center]



- Data Reports and Analytics
- Early Childhood Longitudinal Data System (ECLDS)
- Maps
- Minnesota Report Card
- Safe Learning Model Data
- Schools, Districts and Teachers at a Glance
- Schools and Organizations (MDE-ORG)
- Secure Reports
- Statewide Longitudinal Data System (SLEDS)
- Statewide Longitudinal Data System (SLEDS) Secure Reports

State Level Data – example

11/4/2022 10:34

Early Childhood Programming - Statewide Expenditure Percentages

The table below shows statewide expenditures averages. Specifically, it shows statewide averages on how much districts spent (on average over a five year period) on each Object Code as a percentage of total expenditures. For example, consider an ECFE program that spent a total of $100,000 last fiscal year. Of their total expenditures, they spent $40,000 on licensed teachers (Object Code 140); this would represent 40% of their total expenditures.

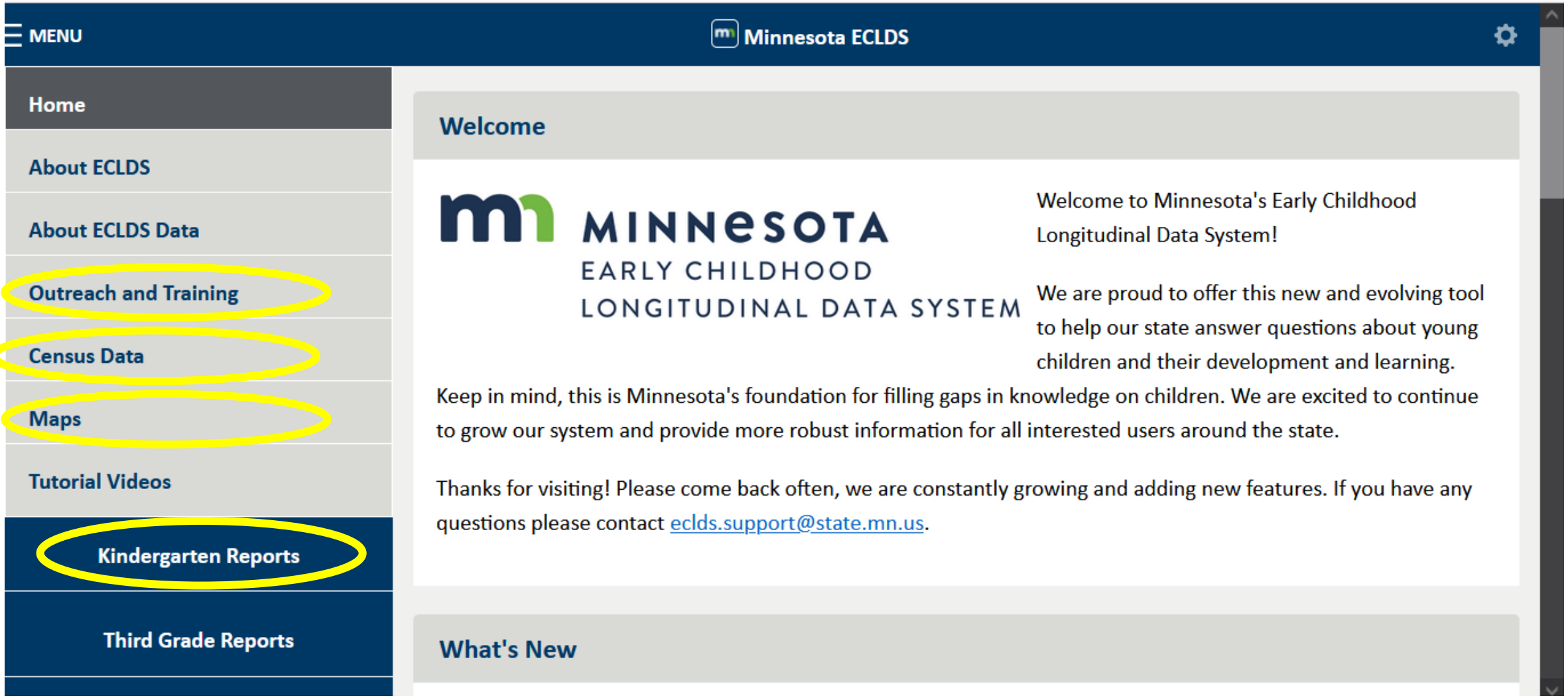
PURPOSE: The purpose of this table is to help you plan budgets. It may be helpful to consult this table as you look at expenditures in your budgets. How do your percentages compare to statewide averages? If you are above or below statewide averages, what might be the reason? Note, this does not mean your program must have percentages within these ranges. Rather, this is just a tool to help you analyze your budgets. This table can also help you compare percentages among your early childhood programs to ensure you are braiding funds accurately and fairly. For example, if your non-instruction support (Object Code 170) expenditures are a higher percentage in ECFE compared to other programs, how is the extra cost justified? Or, do you need to make changes to ensure costs are coded fairly?

OBJECT DIMENSION *Always refer to most recent UFARS manual*	**Minnesota PreK Programs and Funding Sources**							
	ECFE	**ECS**	**ELS**	**HV**	**SR**	**SR+**	**VPK**	**Notes**
UFARS Program Code	580	583		580	582	584	200	
UFARS Finance Code	325	354	337	328	344	000	000	
Salaries and Wages (100)			338				355	355 is only used with VPK funding if the district has approval for building remodel related to
110 Administration/Supervision	**1.5 to 2%**		**.75 to 1.25%**		**.6 to 1.8%**			ECFE and School Readiness have a 5% limit
120 EC Administration	**7.5 to 10%**		**1 to 2%**		**3.5 to 4.5%**			
140 Licensed Classroom Teacher	**32 to 35%**		**38 to 42%**		**34 to 40%**			ECFE and SR+ require licensed teachers
141 Non-licensed Classroom Personnel	**8 to 11%**		**14 to 16%**		**13 to 15%**			
143 Licensed Instructional Support Personnel	**1 to 2%**		**3 to 5%**		**2%**			
144 Non-Licensed Instructional Support Personnel	**<1%**		**1 to 4%**		**1 to 2%**			
145 Substitute Teacher Salaries	**<.5%**		**<.25%**		**0.50%**			
146 Substitute Non-Licensed	**<.25%**		**<.10%**		**<.25**			

Statewide, what are average expenditures in each program?

- How could this help with your budgeting process?

Early Childhood Longitudinal Data System



Awareness of the Role of Data – Chaining/Connecting

Monitoring registration involves the element of time (which can be a data element), but we want to expand our analysis to learn more.

1. Why does someone register for an ECFE class? Preschool class? Or choose a child care center?
    - What are our program goals? How does this determine the data we seek/use?
2. How do we know if a child will experience a successful/challenging transition to kindergarten?
    - What is the transition to kindergarten? Do we have information/data on transitions? Do we have supports in place for children who may struggle with this transition?

Key Points from Part I

Embracing the Role of Data

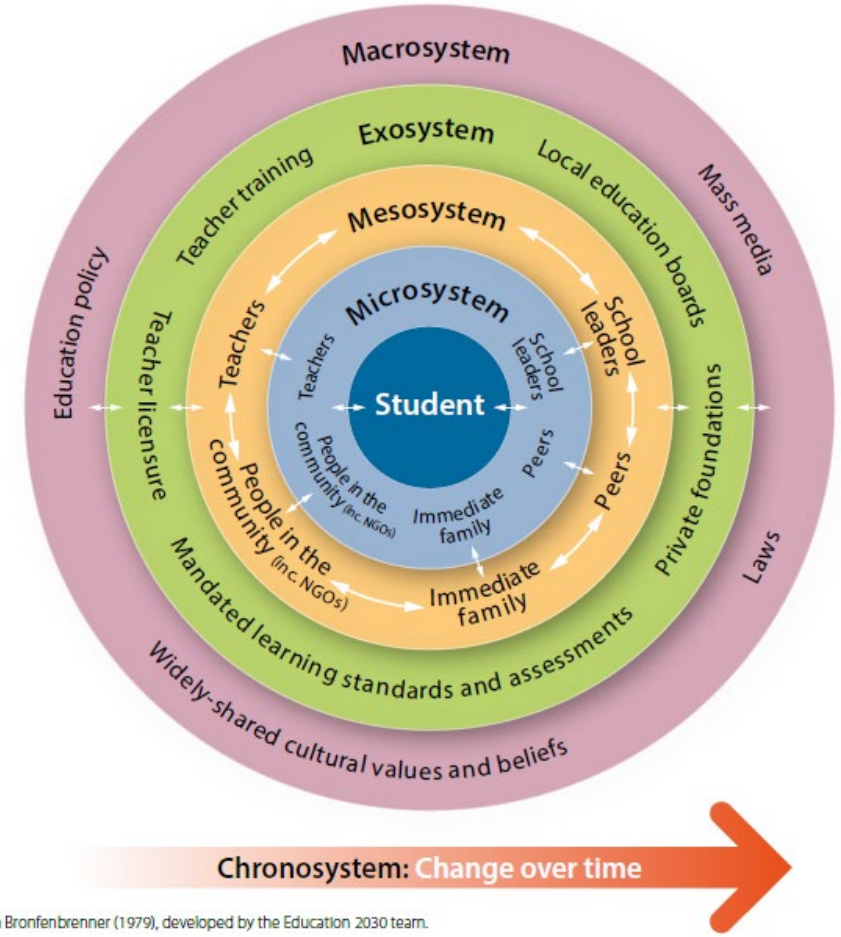
- Creating a shared understanding about data and its role.
- Valuing and prioritizing data.
- Understanding how we currently use data.
- Deepening our engagement with data.
    - Making connections

Embedding Data in Practice

1. Use the ecosystem to help organize our data explorations.
   - Seeing connections
2. Mapping and back-mapping as a foundational tool.
   - Enhancing your understanding of data systems.
3. Research to Practice: Ecosystem as a framework.

Using the Ecosystem Approach as a Guide

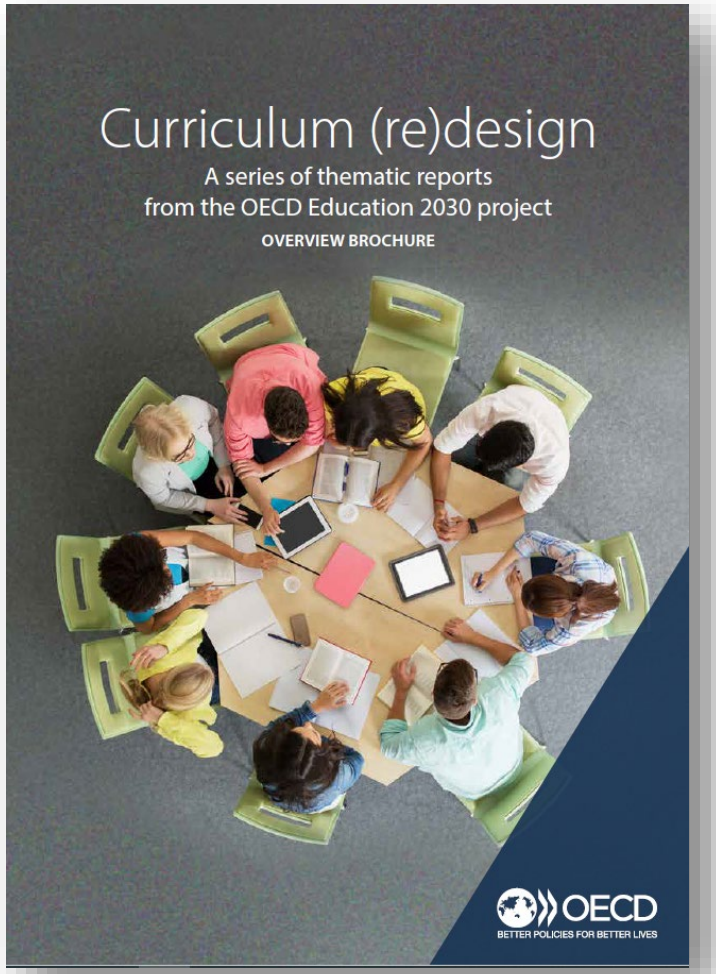
Figure 4. **The Education 2030 ecosystem approach – multiple nested systems**



Source: Adapted from Bronfenbrenner (1979), developed by the Education 2030 team.

The OECD Education 2030 ecosystem approach to curriculum analysis reflects the scope and complexity of systems that interact, build upon and influence one another, which have an impact on an individual's development through life. The model recognizes the **interactions between system levels, the students and their environments, and how these affect student learning**. At the broadest macro-level, cultural and societal beliefs about the purpose of education are overarching influences that have an impact on curriculum design, implementation and student learning.

Curriculum (re)design – Example of Organizing Information



What kinds of knowledge, skills, attitudes and values are necessary to understand, engage with and shape a changing world towards a better future in 2030?

How can policies and practices be transformed effectively to support young people's learning and well-being in the context of changing societies and economies?

Curriculum (re)design, OECD

Learning Ecosystem

What Is a Learning Ecosystem?

December 11, 2019 **21 CLEO**

An ecosystem for understanding learning. The idea of the ecosystem has been taken up within the social sciences and learning as a way to understand how the many pieces of the human experience fit together.

More recently, the term learning ecosystem has been used as a way to describe how different components interact within a learning environment.

[EdTech Center, World Education]

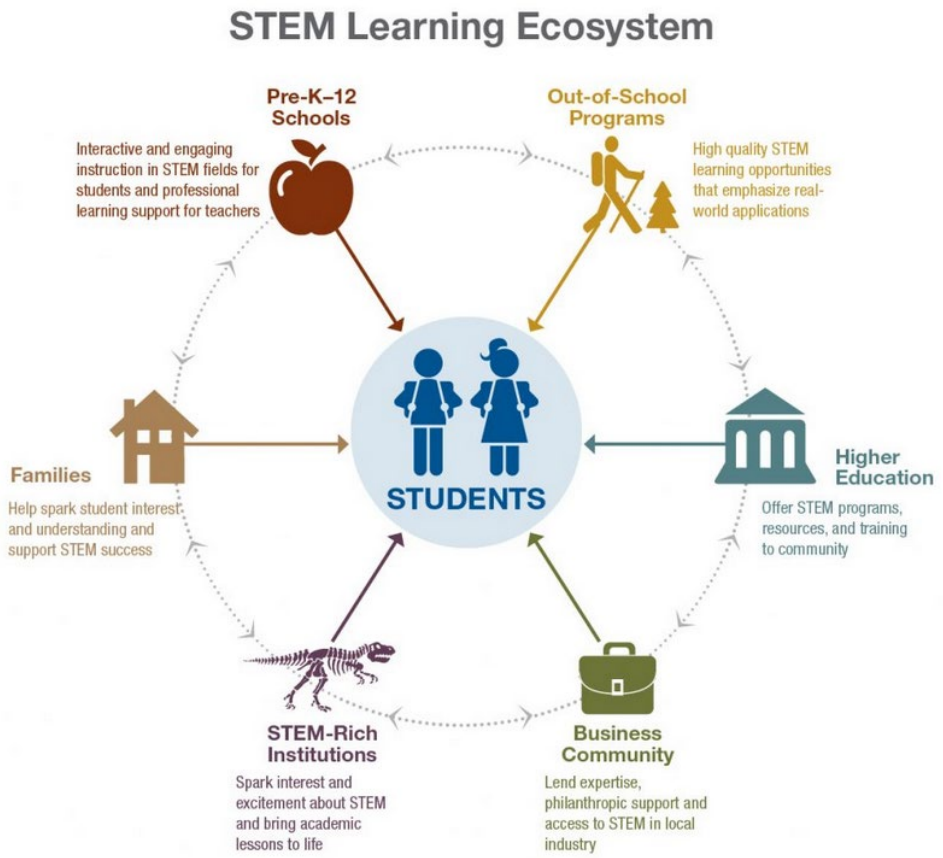
Examples of Living Components in a Learning Ecosystem

- Teachers
- Learners
- Employers and supervisors
- Human resource specialists
- Workforce professionals
- Co-workers
- Friends and family

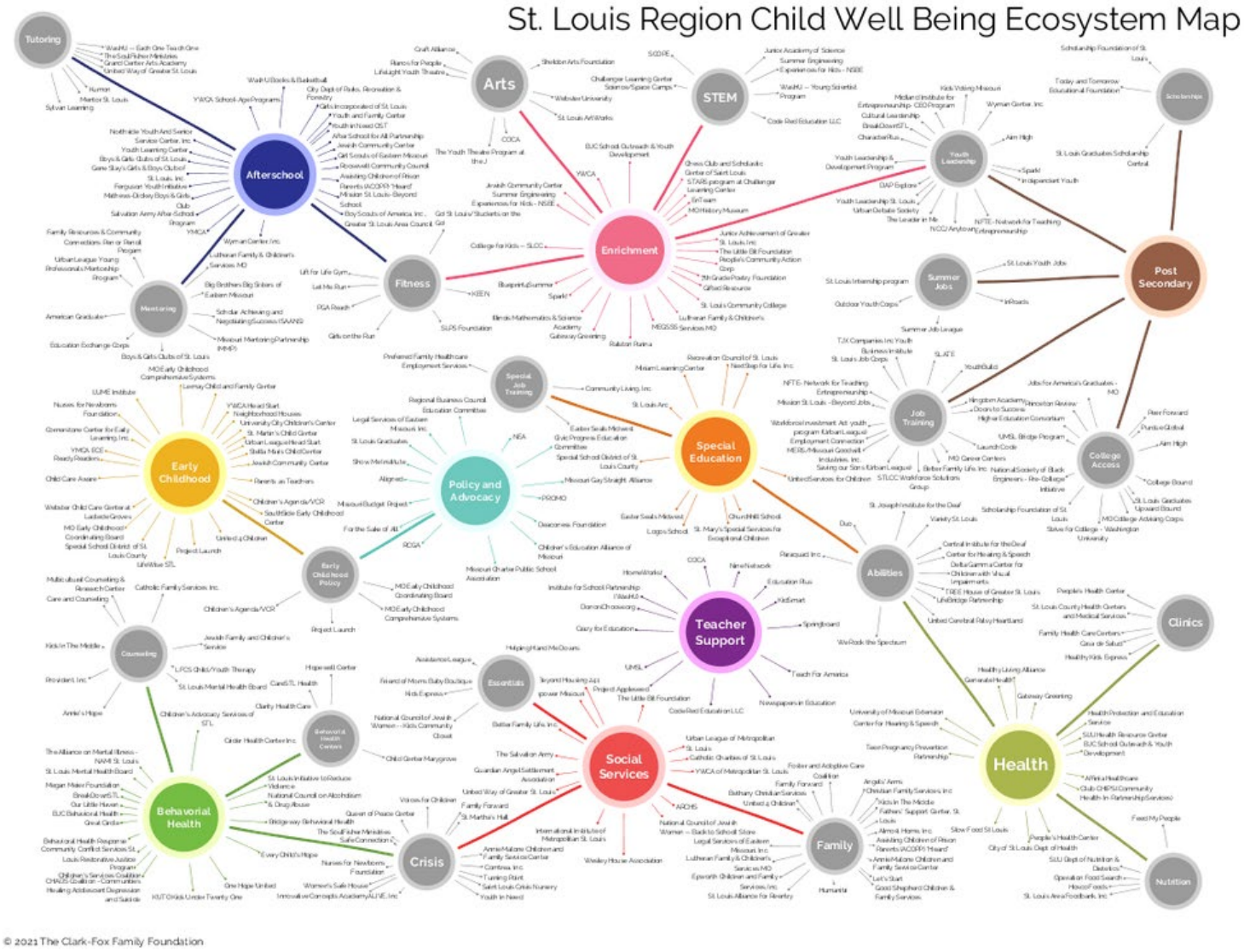
Examples of Non-Living Components in a Learning Ecosystem

- Curriculum or content
- Learning resources
- Digital learning tools
- The internet
- Access to the internet
- Policy
- Devices such as computer, tablet, or smartphone
- Accessible space

STEM Learning Ecosystem



[Office of Elementary and Secondary Education]



[Clark-Fox Family Foundation]

St. Louis Ecosystem Map

Embedding Data in Practice

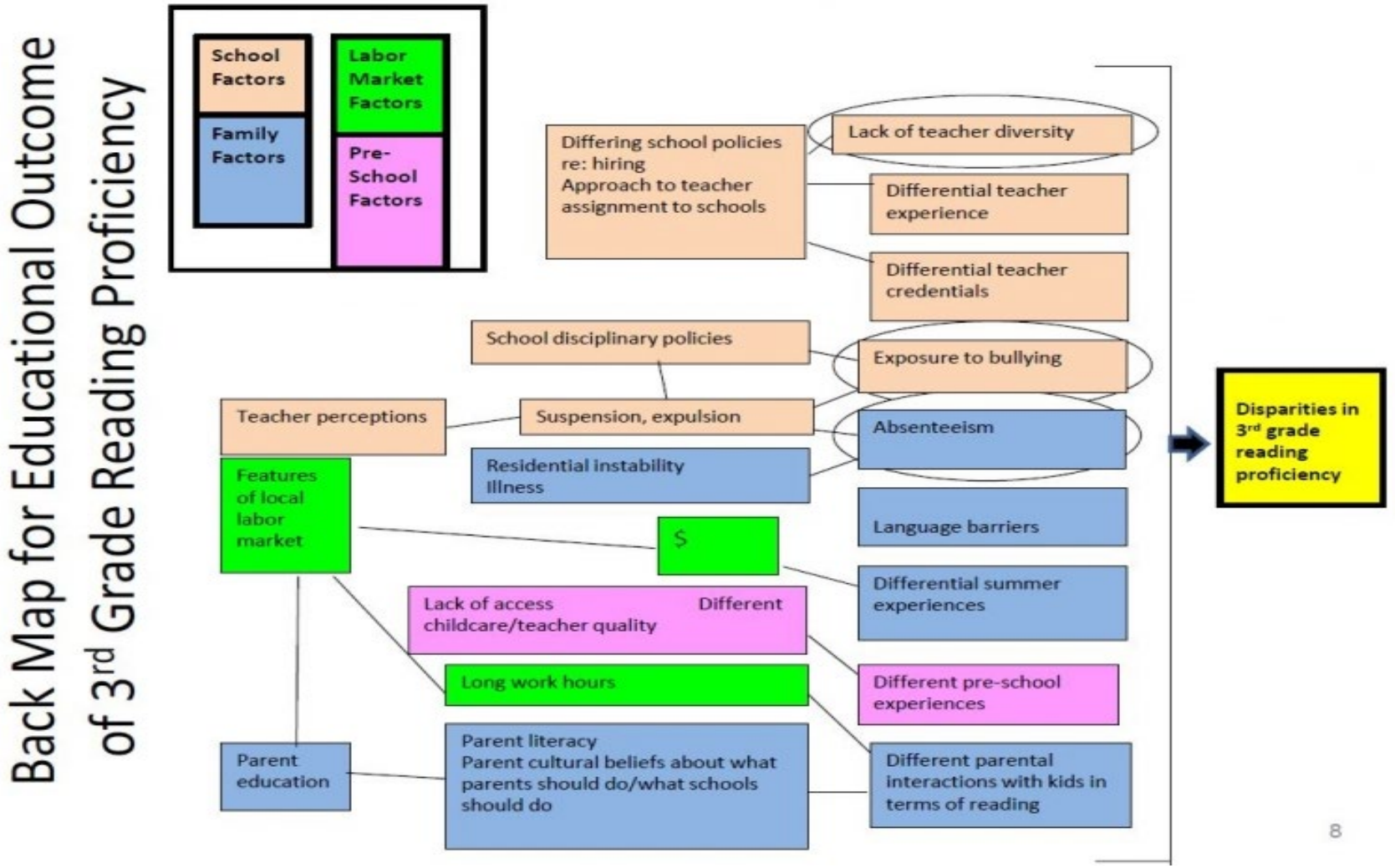
1. Use the ecosystem to help organize our data explorations.
2. Mapping and back-mapping as a foundational tool.
   - Enhancing your understanding of data systems.
3. Research to Practice: Ecosystem as a framework.

Mapping and backmapping as a tool

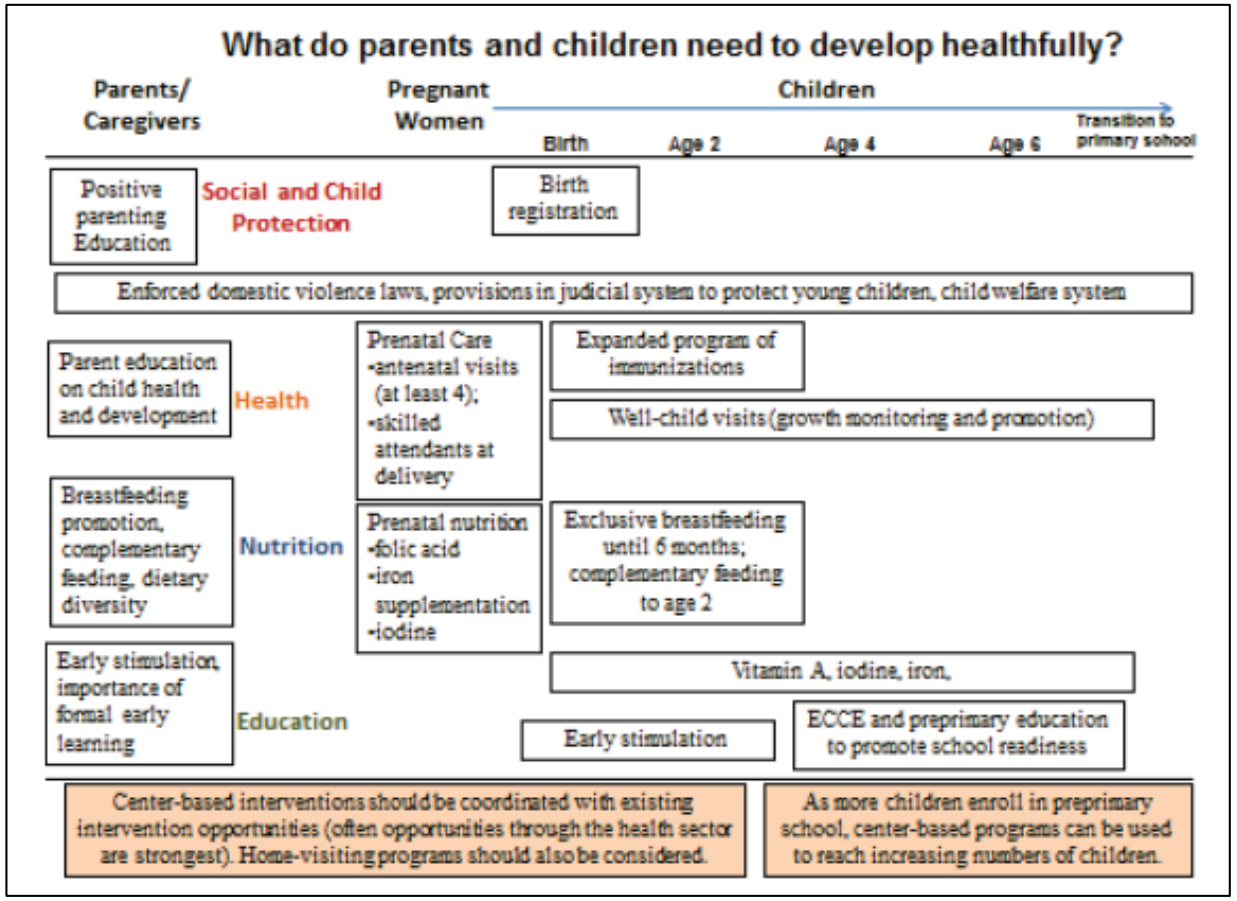
- Backmapping, Backward Design, and Understanding by Design are similar.
- Traditionally, we use forward design:
  - How to teach the content (consider learning activities) → assessments developed around learning activity → draw connections to the learning goals of course.
  - Start with learning goals
- Root Cause Analysis: Root cause analysis (RCA) is the process of discovering the root causes of problems in order to identify appropriate solutions. RCA assumes that it is much more effective to systematically prevent and solve for underlying issues rather than just treating ad hoc symptoms and putting out fires.

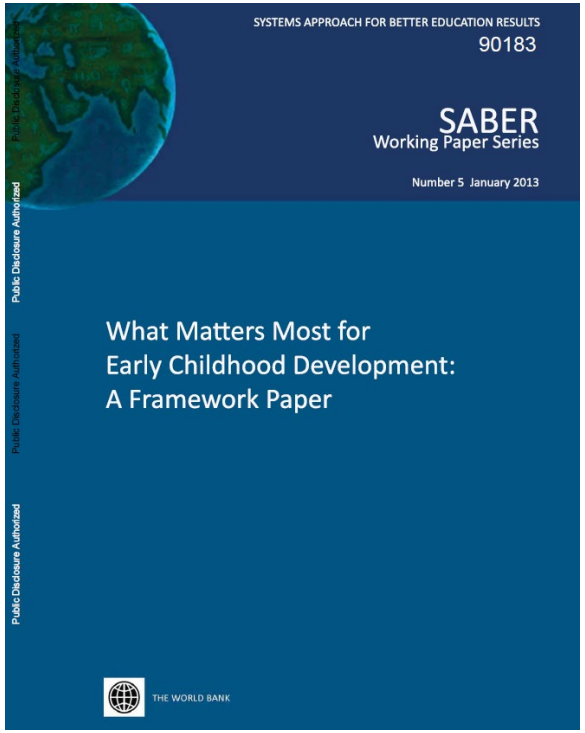
  - from Tableau

Prioritizing – Backmapping using District Goal



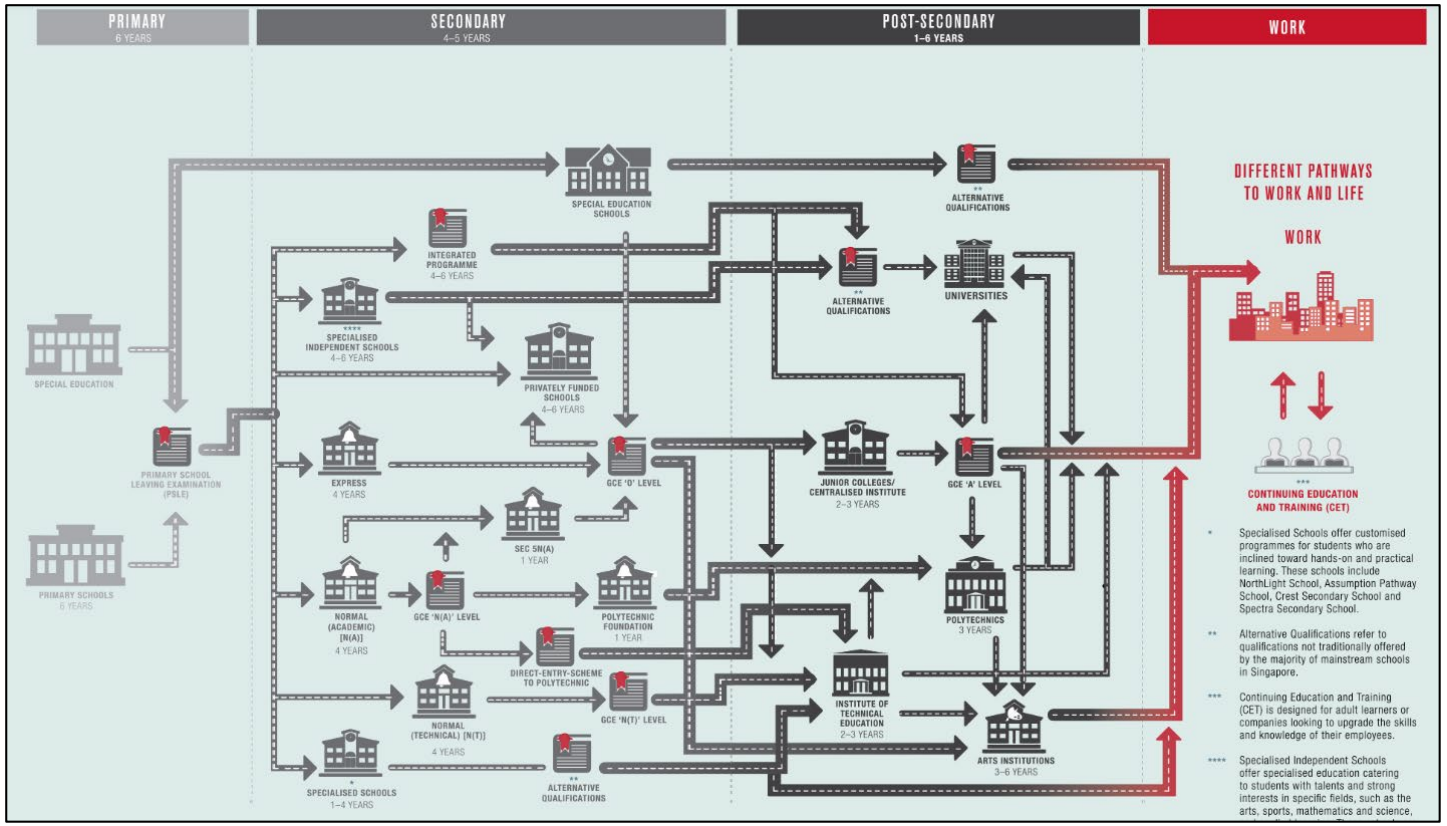
Systems Approach for Better Education Results (SABER)

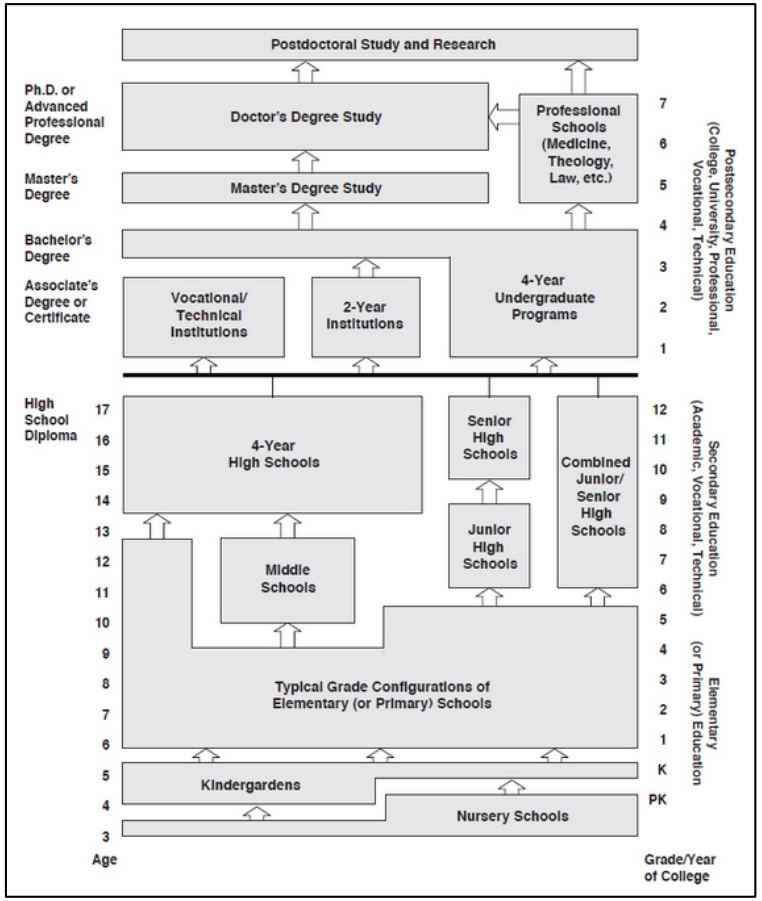




What Matters Most for Early Childhood Development: A Framework Paper, The World Bank, Systems Approach for Better Education Results (SABER)

Mapping Examples – "*A picture is worth…*"

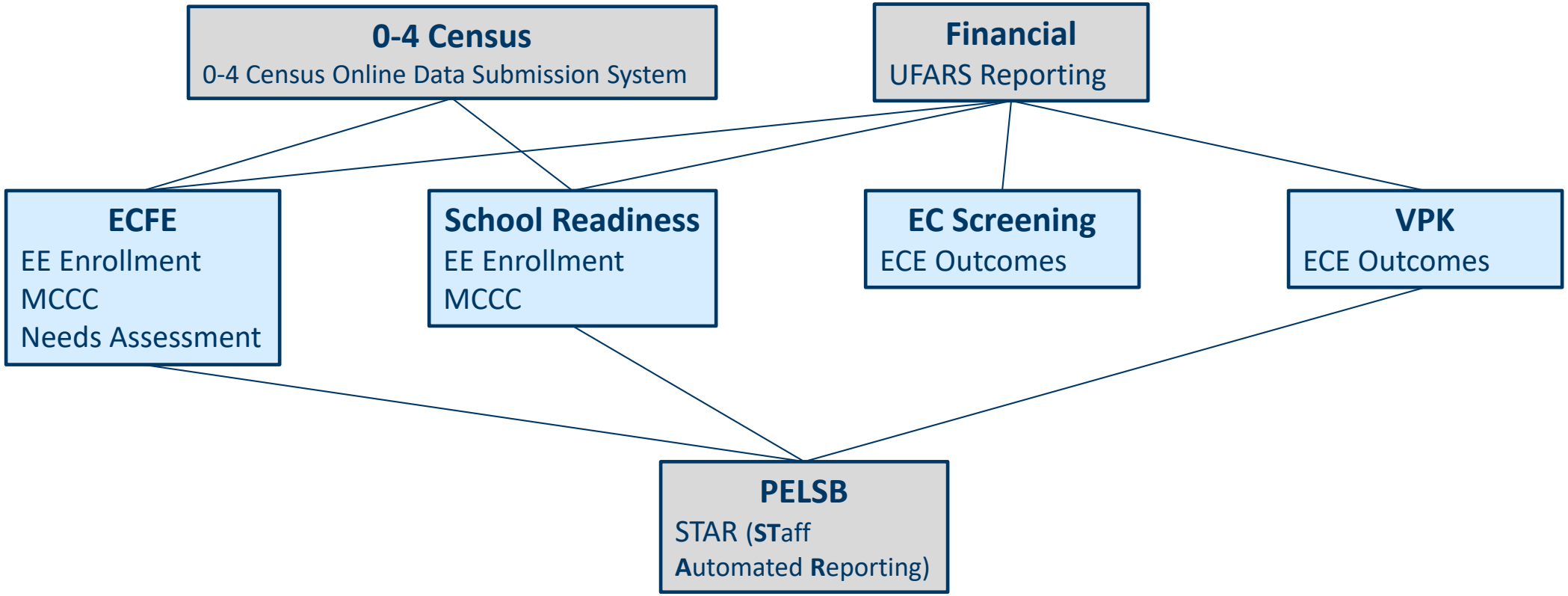




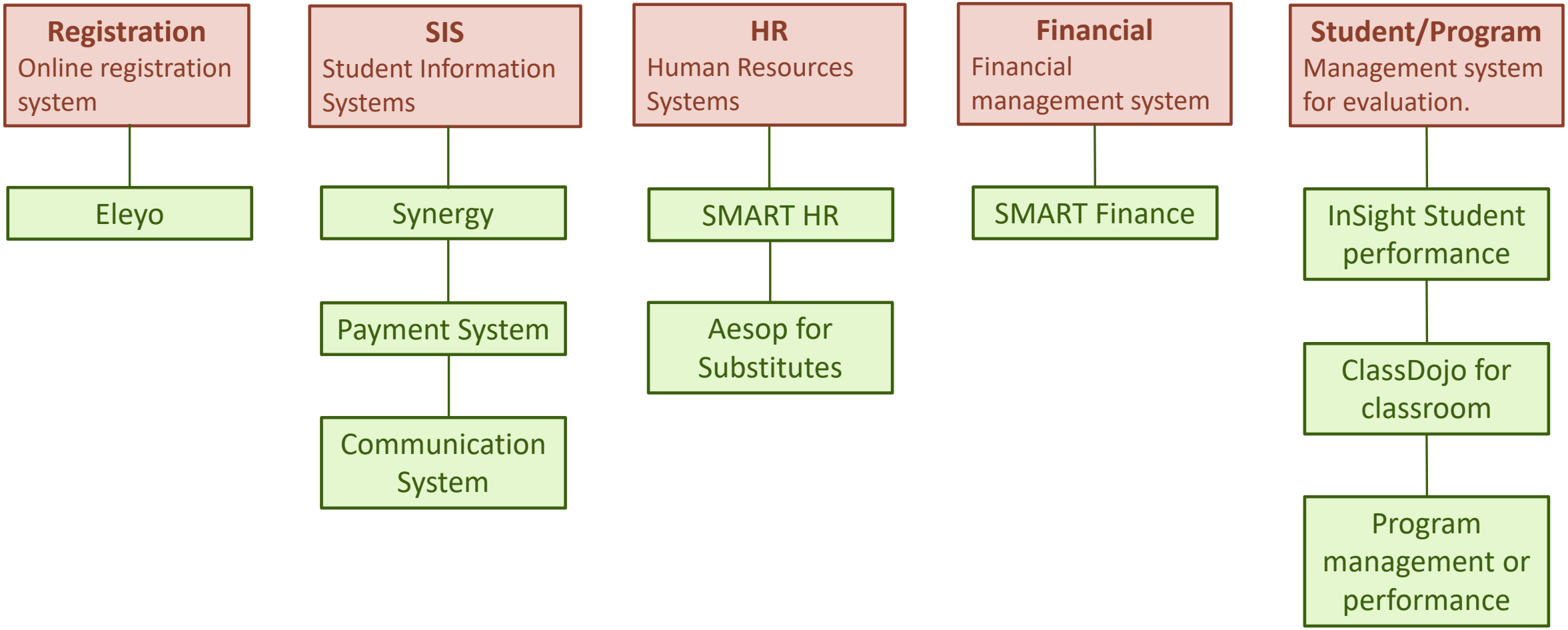
Investing in Our People - Singapore

U.S. Education System – Basic Structure

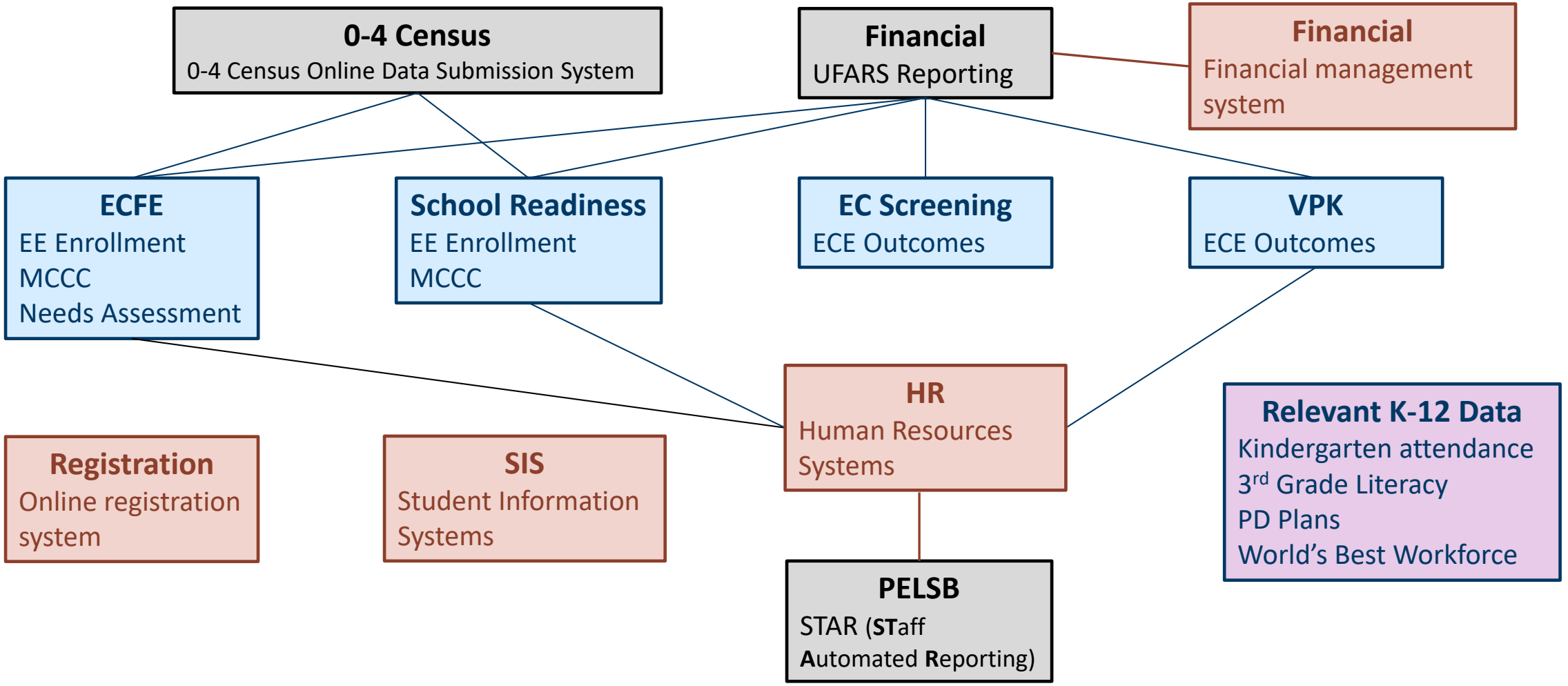
Mapping State Reporting (*examples*)



How is Data Managed in My Organization? *Example*



Mapping Data Flows and Processes in Your District



Embedding Data in Practice

1. Use the ecosystem to help organize our data explorations.
2. Mapping and back-mapping as a foundational tool.
   - Enhancing your understanding of data systems.
3. Research to Practice: Ecosystem as a framework.

Chronic Absenteeism and Ecosystem

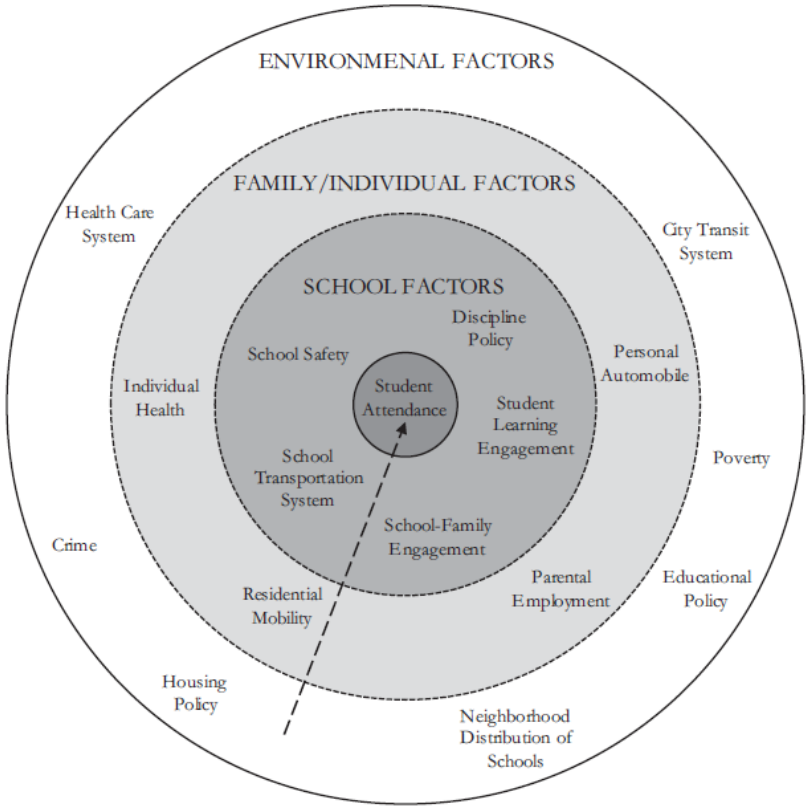


Figure 1. Conceptual Framework of Factors Influencing Chronic Absenteeism. This Figure Depicts The Direct and Indirect Relationships Between Examples of Environmental, Family/Individual, And School Factors That May Affect The Likelihood of a Student Attending School on a Regular Basis.

JOURNAL OF EDUCATION FOR STUDENTS PLACED AT RISK (JESPAR)
2018, VOL. 23, NOS. 1–2, 153–169
https://doi.org/10.1080/10824669.2018.1434656

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School Organizational Effectiveness and Chronic Absenteeism: Implications for Accountability

Sarah Winchell Lenhoff and Ben Pogodzinski

Wayne State University, College of Education

ABSTRACT

Chronic absenteeism in K-12 schools is strongly associated with critical educational outcomes such as student achievement and graduation. Yet, the causes of chronic absenteeism are complex, with environmental, family/individual, and school factors all affecting the likelihood of a student attending school regularly. This exploratory study examines whether school organizational effectiveness has the potential to moderate external influences on chronic absenteeism. Using school-level scores from the 5Essentials surveys, we find that, in traditional public schools, schools that are organized for effectiveness have lower rates of chronic absenteeism, while controlling for student demographics and grade level. In particular, schools with higher scores for "involved families" have lower chronic absenteeism. While charter schools in Detroit have significantly lower rates of chronic absenteeism than traditional public schools, we did not find an association between organizational effectiveness and chronic absenteeism in charter schools. This suggests that student sorting by school type may produce variation in chronic absenteeism rates that is not moderated by school actions. These findings have important implications for practice and policy, as educators seek to reduce chronic absenteeism in response to pressures from high-stakes accountability systems.

A growing national interest in chronic absenteeism was solidified in federal law with the 2015 Every Student Succeeds Act (ESSA), which required that states report on chronic absenteeism and allowed states to use it as a non-academic indicator of school quality in their school accountability systems. Nearly all U.S. states have proposed using chronic absenteeism as a supplementary measure of school success in their new accountability plans (Jordan & Miller, 2017). Chronic absenteeism, defined by Attendance Works as missing 10% or more days of school for any reason ("Chronic absence," 2017), is a potentially useful measure of school performance, as it has a documented relationship with student achievement and can be improved with school-based decisions. However, to the extent that chronic absenteeism is related to factors outside of schools' control, accountability systems may inappropriately assign schools scores, sanctions, and resources that do not improve student outcomes. In addition, if certain types of schools have significantly different chronic absenteeism rates, despite similar student populations and school-based characteristics, accountability systems based on that measure may become delegitimized, as has occurred to test-based accountability systems under No Child Left

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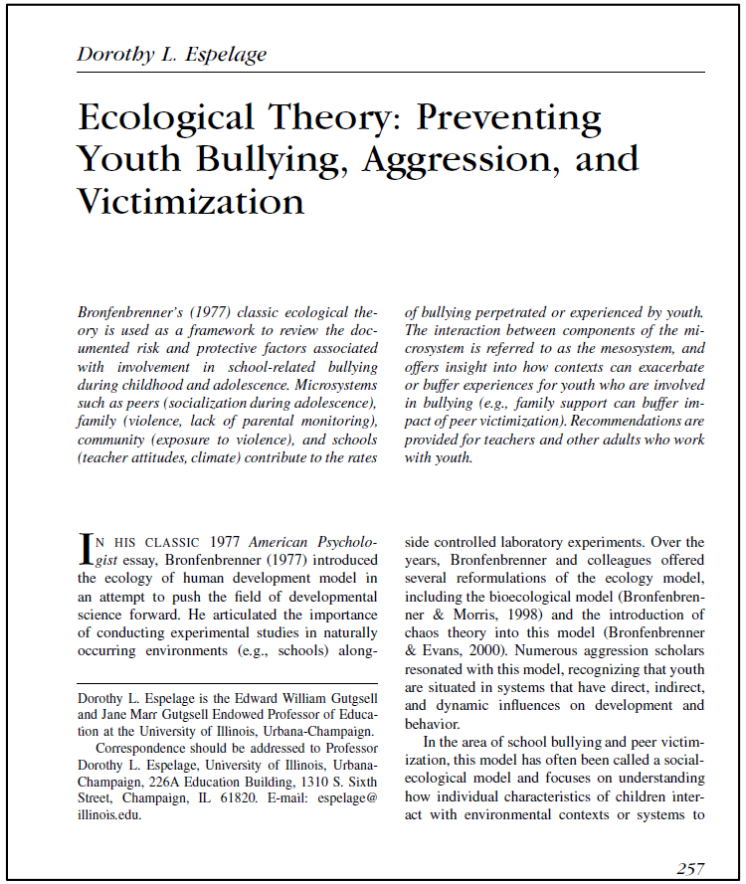
The research presented here uses data supplied by Excellent Schools Detroit. We gratefully acknowledge the receipt of these data, and we wish to thank Walter Cook for his assistance. We also wish to thank Stacy Ehrlich and an anonymous reviewer for their helpful comments. Finally, we wish to thank the leadership of Detroit Public Schools Community District for their support of our research-practice partnership and encouragement of this study. Responsibility for any and all errors rests solely with the authors.

[Organizational Effectiveness and Chronic Absenteeism]

Bullying Prevention as an Example



Dorothy L. Espelage

Ecological Theory: Preventing Youth Bullying, Aggression, and Victimization

Bronfenbrenner's (1977) classic ecological theory is used as a framework to review the documented risk and protective factors associated with involvement in school-related bullying during childhood and adolescence. Microsystems such as peers (socialization during adolescence), family (violence, lack of parental monitoring), community (exposure to violence), and schools (teacher attitudes, climate) contribute to the rates of bullying perpetrated or experienced by youth. The interaction between components of the microsystem is referred to as the mesosystem, and offers insight into how contexts can exacerbate or buffer experiences for youth who are involved in bullying (e.g., family support can buffer impact of peer victimization). Recommendations are provided for teachers and other adults who work with youth.

IN HIS CLASSIC 1977 *American Psychologist* essay, Bronfenbrenner (1977) introduced the ecology of human development model in an attempt to push the field of developmental science forward. He articulated the importance of conducting experimental studies in naturally occurring environments (e.g., schools) alongside controlled laboratory experiments. Over the years, Bronfenbrenner and colleagues offered several reformulations of the ecology model, including the bioecological model (Bronfenbrenner & Morris, 1998) and the introduction of chaos theory into this model (Bronfenbrenner & Evans, 2000). Numerous aggression scholars resonated with this model, recognizing that youth are situated in systems that have direct, indirect, and dynamic influences on development and behavior.

In the area of school bullying and peer victimization, this model has often been called a social-ecological model and focuses on understanding how individual characteristics of children interact with environmental contexts or systems to

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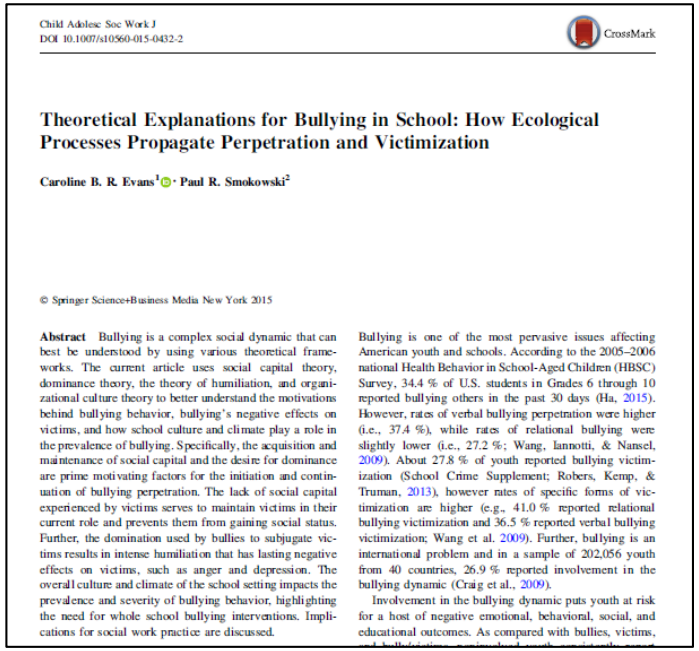
Ecological Theory: Preventing Bullying



Child Adolesc Soc Work J
DOI 10.1007/s10560-015-0432-2

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Theoretical Explanations for Bullying in School: How Ecological Processes Propagate Perpetration and Victimization

Caroline B. R. Evans[1] · Paul R. Smokowski[2]

Abstract Bullying is a complex social dynamic that can best be understood by using various theoretical frameworks. The current article uses social capital theory, dominance theory, the theory of humiliation, and organizational culture theory to better understand the motivations behind bullying behavior, bullying's negative effects on victims, and how school culture and climate play a role in the prevalence of bullying. Specifically, the acquisition and maintenance of social capital and the desire for dominance are prime motivating factors for the initiation and continuation of bullying perpetration. The lack of social capital experienced by victims serves to maintain victims in their current role and prevents them from gaining social status. Further, the domination used by bullies to subjugate victims results in intense humiliation that has lasting negative effects on victims, such as anger and depression. The overall culture and climate of the school setting impacts the prevalence and severity of bullying behavior, highlighting the need for whole school bullying interventions. Implications for social work practice are discussed.

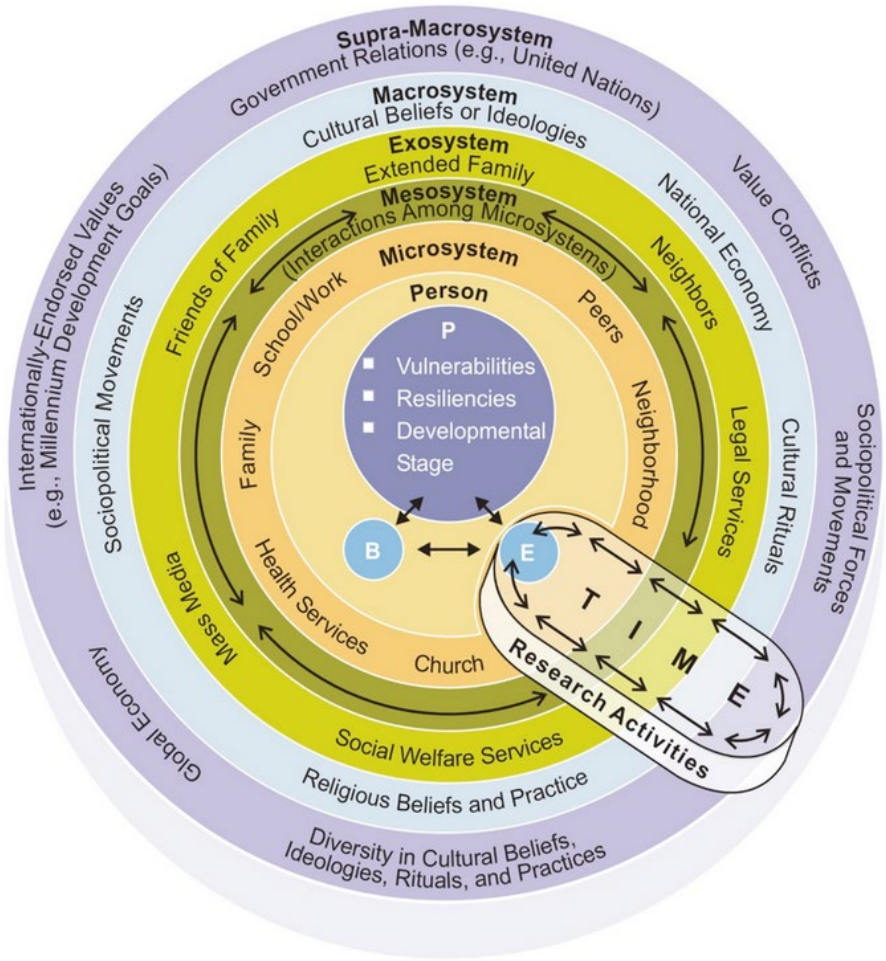
Bullying is one of the most pervasive issues affecting American youth and schools. According to the 2005–2006 national Health Behavior in School-Aged Children (HBSC) Survey, 34.4 % of U.S. students in Grades 6 through 10 reported bullying others in the past 30 days (Ha, 2015). However, rates of verbal bullying perpetration were higher (i.e., 37.4 %), while rates of relational bullying were slightly lower (i.e., 27.2 %; Wang, Iannotti, & Nansel, 2009). About 27.8 % of youth reported bullying victimization (School Crime Supplement; Robers, Kemp, & Truman, 2013), however rates of specific forms of victimization are higher (e.g., 41.0 % reported relational bullying victimization and 36.5 % reported verbal bullying victimization; Wang et al. 2009). Further, bullying is an international problem and in a sample of 202,056 youth from 40 countries, 26.9 % reported involvement in the bullying dynamic (Craig et al., 2009).

Involvement in the bullying dynamic puts youth at risk for a host of negative emotional, behavioral, social, and educational outcomes. As compared with bullies, victims,

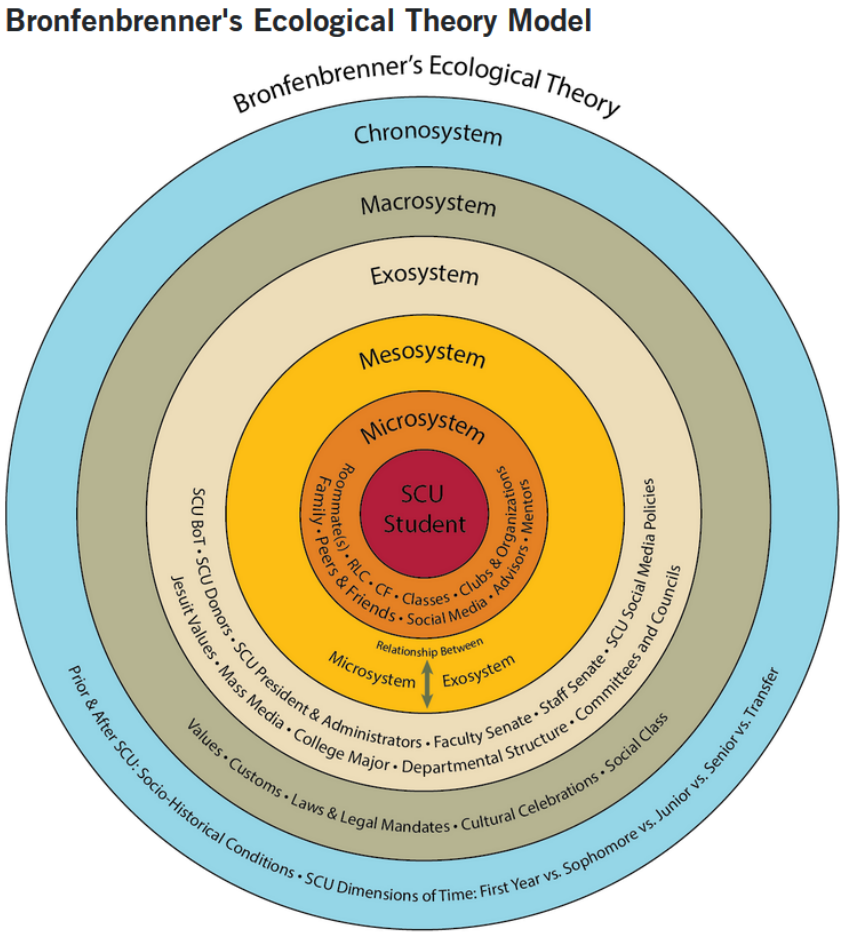
Theoretical Explanation for Bullying

To impact bullying behavior, the entire school organization—students, teachers, staff, administrators, parents, and the community—must be committed to the anti-bullying mission. Further, the school organization must be committed to changing the existing organizational culture of a school in order to achieve the anti-bullying mission.

P3 is Systems Work – We Must Change Our Approach



[Ecological Systems Model]



[Santa Clara University's Application of Ecological Model]

Key Points from Part II

Embedding Data in Practice

- Use the ecosystem to help organize our data explorations.
- Rely on mapping and other strategies to continually increase your understanding of data systems.
  - This helps you be more intentional about data (efficiency, enhancements, utility, etc.).
- Use these strategies not only for organizing and managing your data, but also for data use.

Embedding Data in Practice

1. Making your data speak, conveying information.
   - Achieving clarity throughout (goals, approach, strategies, tools, reporting, etc.)
2. Ethical responsibilities and preserving data.
3. Equity

Be Clear about Your Approach – Communicate to Audience

The Six Core Principles of Improvement

1. Make the work problem-specific and user-centered.

It starts with a single question: "What specifically is the problem we are trying to solve?" It enlivens a co-development orientation: engage key participants early and often.

2. Variation in performance is the core problem to address.

The critical issue is not what works, but rather what works, for whom and under what set of conditions. Aim to advance efficacy reliably at scale.

3. See the system that produces the current outcomes.

It is hard to improve what you do not fully understand. Go and see how local conditions shape work processes. Make your hypotheses for change public and clear.

4. We cannot improve at scale what we cannot measure.

Embed measures of key outcomes and processes to track if change is an improvement. We intervene in complex organizations. Anticipate unintended consequences and measure these too.

5. Anchor practice improvement in disciplined inquiry.

Engage rapid cycles of Plan, Do, Study, Act (PDSA) to learn fast, fail fast, and improve quickly. That failures may occur is not the problem; that we fail to learn from them is.

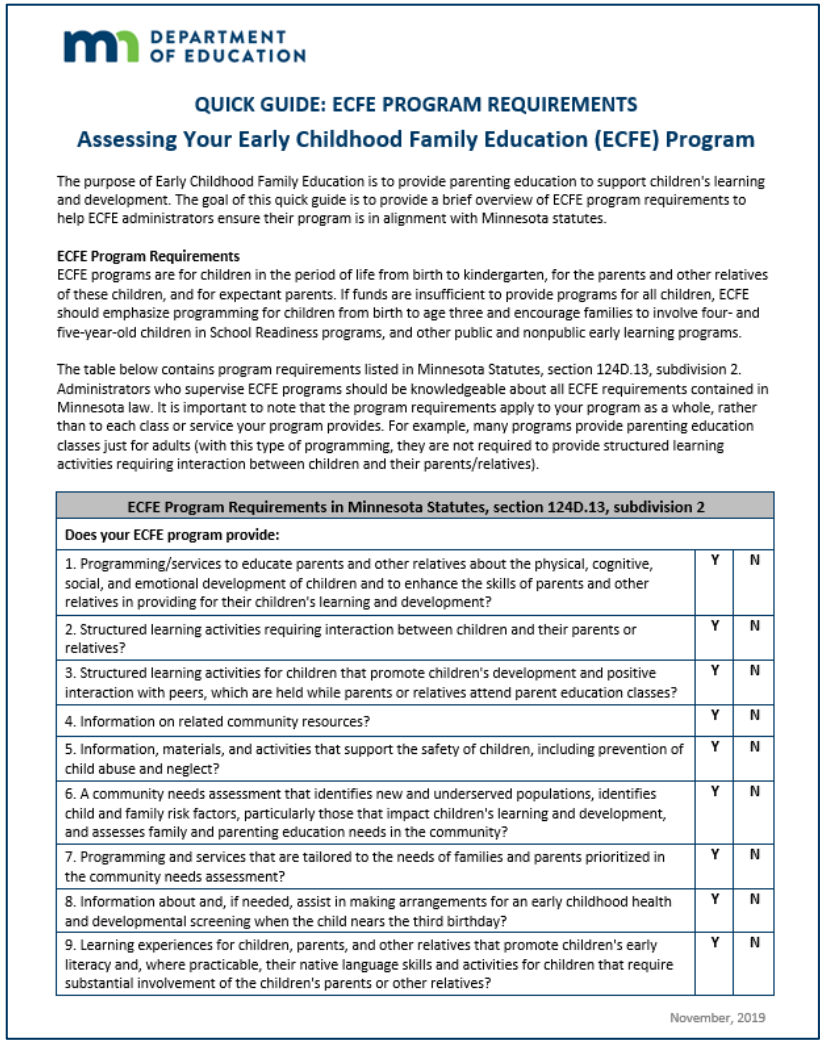
6. Accelerate improvements through networked communities.

Embrace the wisdom of crowds. We can accomplish more together than even the best of us can accomplish alone.

Carnegie Foundation
for the Advancement of Teaching

Six Core Principles

Building a Library of Tools, Strategies, and Resources



DEPARTMENT OF EDUCATION

QUICK GUIDE: ECFE PROGRAM REQUIREMENTS

Assessing Your Early Childhood Family Education (ECFE) Program

The purpose of Early Childhood Family Education is to provide parenting education to support children's learning and development. The goal of this quick guide is to provide a brief overview of ECFE program requirements to help ECFE administrators ensure their program is in alignment with Minnesota statutes.

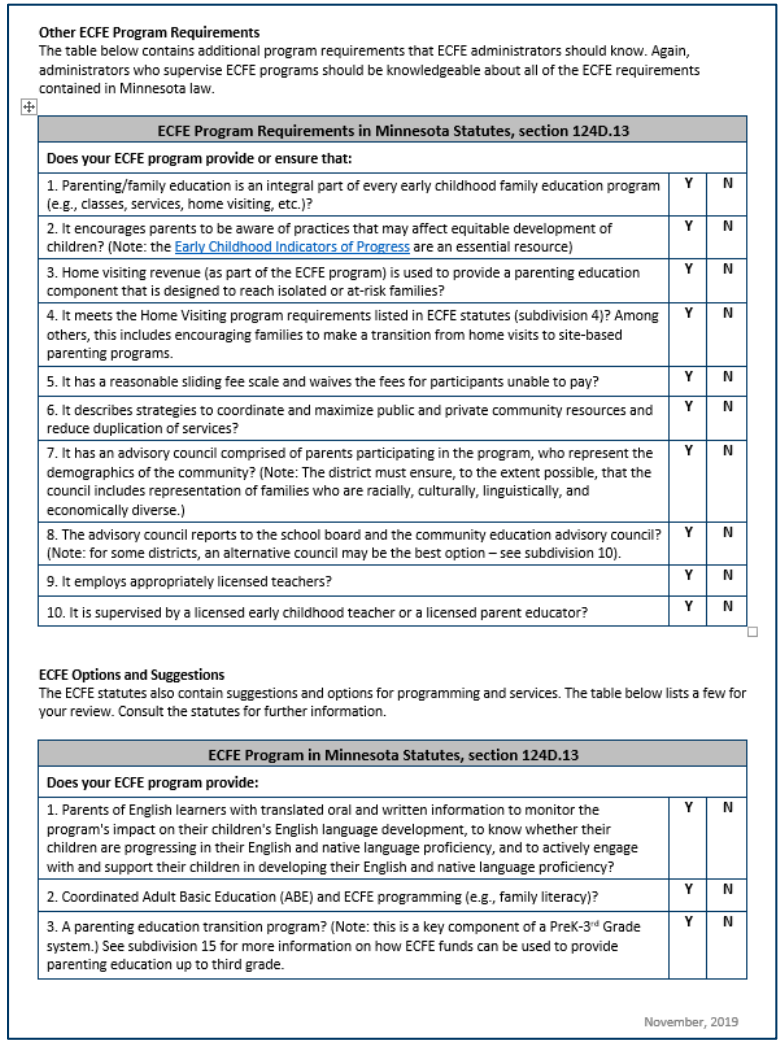
ECFE Program Requirements

ECFE programs are for children in the period of life from birth to kindergarten, for the parents and other relatives of these children, and for expectant parents. If funds are insufficient to provide programs for all children, ECFE should emphasize programming for children from birth to age three and encourage families to involve four- and five-year-old children in School Readiness programs, and other public and nonpublic early learning programs.

The table below contains program requirements listed in Minnesota Statutes, section 124D.13, subdivision 2. Administrators who supervise ECFE programs should be knowledgeable about all ECFE requirements contained in Minnesota law. It is important to note that the program requirements apply to your program as a whole, rather than to each class or service your program provides. For example, many programs provide parenting education classes just for adults (with this type of programming, they are not required to provide structured learning activities requiring interaction between children and their parents/relatives).

ECFE Program Requirements in Minnesota Statutes, section 124D.13, subdivision 2		
Does your ECFE program provide:		
1. Programming/services to educate parents and other relatives about the physical, cognitive, social, and emotional development of children and to enhance the skills of parents and other relatives in providing for their children's learning and development?	Y	N
2. Structured learning activities requiring interaction between children and their parents or relatives?	Y	N
3. Structured learning activities for children that promote children's development and positive interaction with peers, which are held while parents or relatives attend parent education classes?	Y	N
4. Information on related community resources?	Y	N
5. Information, materials, and activities that support the safety of children, including prevention of child abuse and neglect?	Y	N
6. A community needs assessment that identifies new and underserved populations, identifies child and family risk factors, particularly those that impact children's learning and development, and assesses family and parenting education needs in the community?	Y	N
7. Programming and services that are tailored to the needs of families and parents prioritized in the community needs assessment?	Y	N
8. Information about and, if needed, assist in making arrangements for an early childhood health and developmental screening when the child nears the third birthday?	Y	N
9. Learning experiences for children, parents, and other relatives that promote children's early literacy and, where practicable, their native language skills and activities for children that require substantial involvement of the children's parents or other relatives?	Y	N

November, 2019



Other ECFE Program Requirements

The table below contains additional program requirements that ECFE administrators should know. Again, administrators who supervise ECFE programs should be knowledgeable about all of the ECFE requirements contained in Minnesota law.

ECFE Program Requirements in Minnesota Statutes, section 124D.13		
Does your ECFE program provide or ensure that:		
1. Parenting/family education is an integral part of every early childhood family education program (e.g., classes, services, home visiting, etc.)?	Y	N
2. It encourages parents to be aware of practices that may affect equitable development of children? (Note: the Early Childhood Indicators of Progress are an essential resource)	Y	N
3. Home visiting revenue (as part of the ECFE program) is used to provide a parenting education component that is designed to reach isolated or at-risk families?	Y	N
4. It meets the Home Visiting program requirements listed in ECFE statutes (subdivision 4)? Among others, this includes encouraging families to make a transition from home visits to site-based parenting programs.	Y	N
5. It has a reasonable sliding fee scale and waives the fees for participants unable to pay?	Y	N
6. It describes strategies to coordinate and maximize public and private community resources and reduce duplication of services?	Y	N
7. It has an advisory council comprised of parents participating in the program, who represent the demographics of the community? (Note: The district must ensure, to the extent possible, that the council includes representation of families who are racially, culturally, linguistically, and economically diverse.)	Y	N
8. The advisory council reports to the school board and the community education advisory council? (Note: for some districts, an alternative council may be the best option – see subdivision 10).	Y	N
9. It employs appropriately licensed teachers?	Y	N
10. It is supervised by a licensed early childhood teacher or a licensed parent educator?	Y	N

ECFE Options and Suggestions

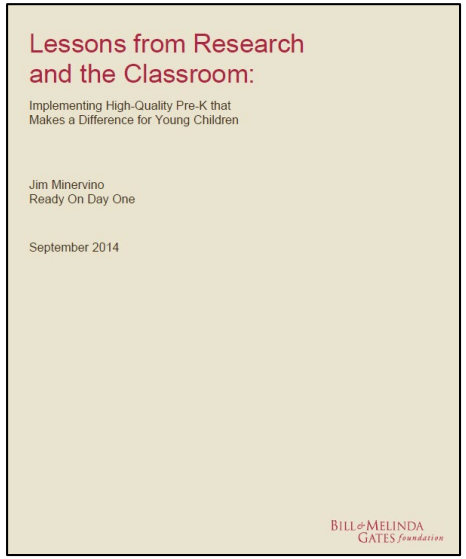
The ECFE statutes also contain suggestions and options for programming and services. The table below lists a few for your review. Consult the statutes for further information.

ECFE Program in Minnesota Statutes, section 124D.13		
Does your ECFE program provide:		
1. Parents of English learners with translated oral and written information to monitor the program's impact on their children's English language development, to know whether their children are progressing in their English and native language proficiency, and to actively engage with and support their children in developing their English and native language proficiency?	Y	N
2. Coordinated Adult Basic Education (ABE) and ECFE programming (e.g., family literacy)?	Y	N
3. A parenting education transition program? (Note: this is a key component of a PreK-3rd Grade system.) See subdivision 15 for more information on how ECFE funds can be used to provide parenting education up to third grade.	Y	N

November, 2019

How would you approach ECFE program evaluation?

Communicate Goals and Processes



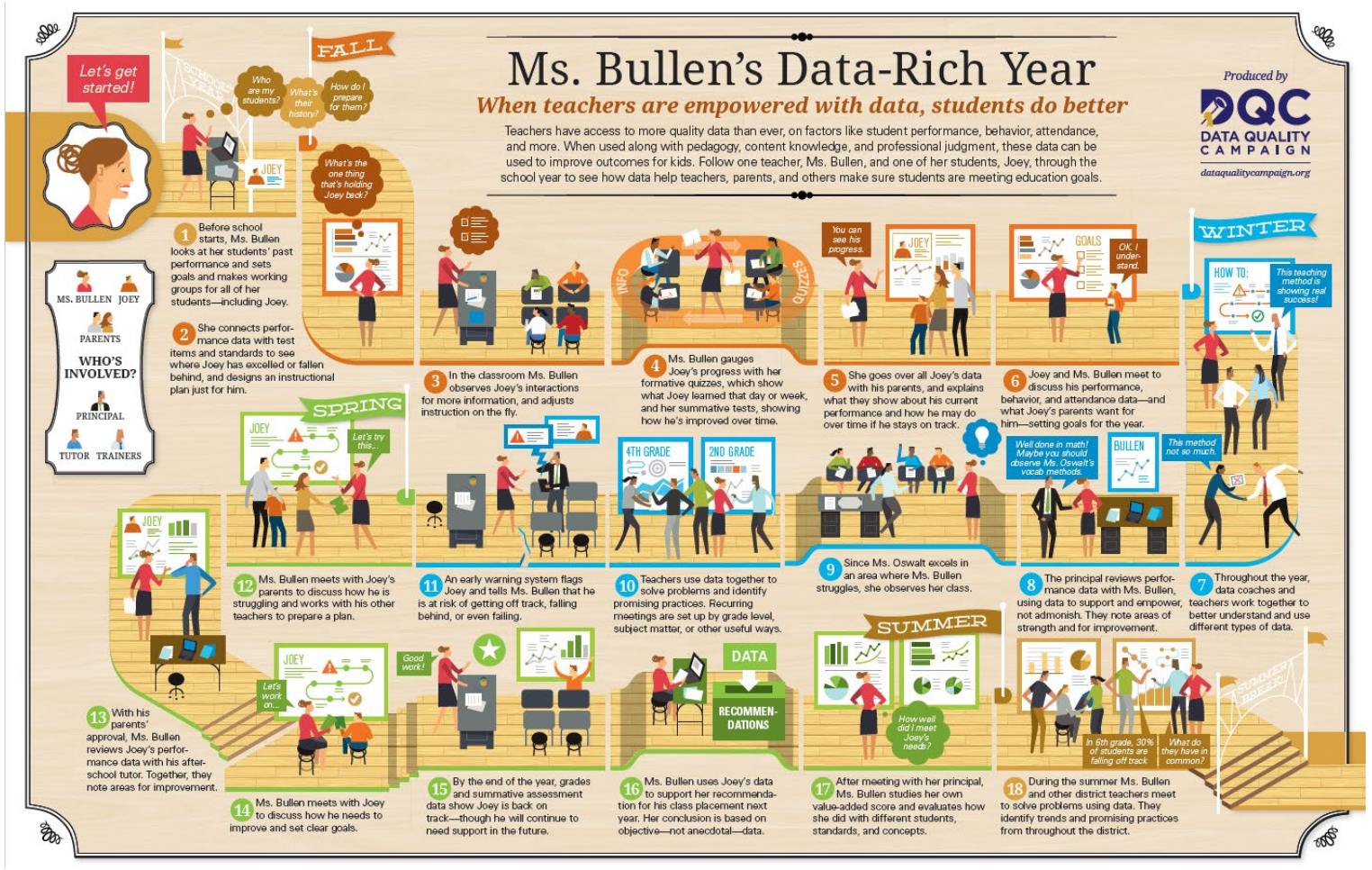
Implementing High-Quality Pre-K

15 Essential Elements For High Quality PreK Systems

Enabling Environment		Rigorous, Articulated Early Learning Policies								Strong Program Practices				
Political Will	Strong Leaders	BA + comp	Class size	Two Adults	Hours/ Dosage	EL Standards	Effective Curriculum	Special Ed	DLL support	High Quality Teaching	Professional Development	Child Assessments	Data Driven	Integrated System

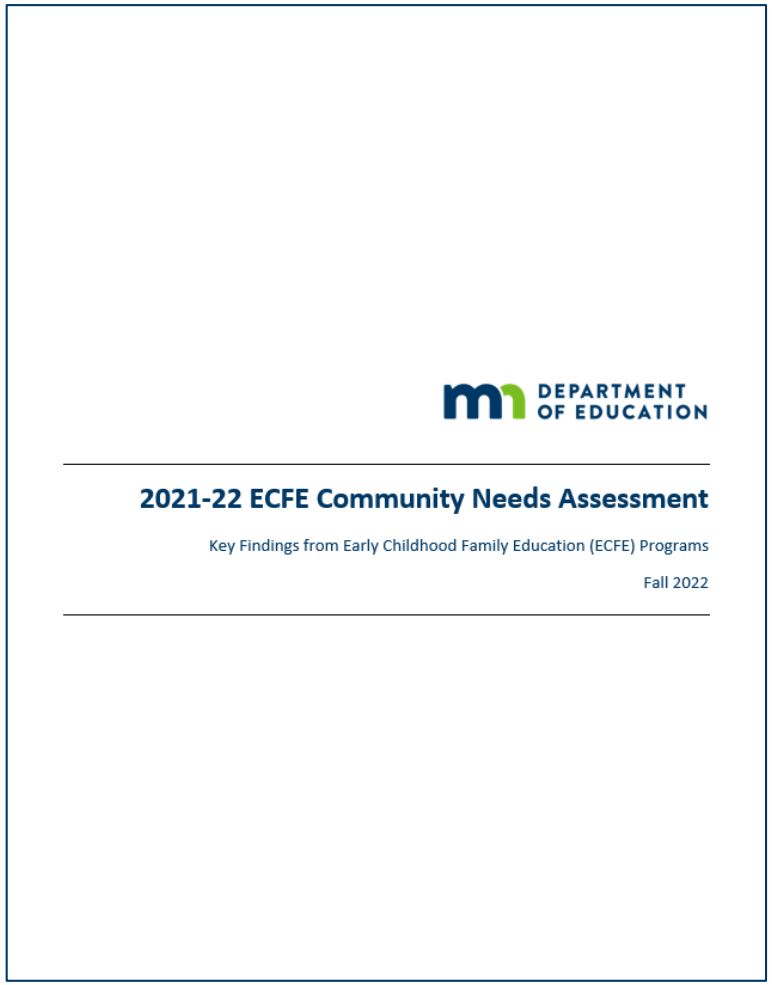
For example:
“We are enhancing School Readiness program quality by using the 15 Essential Elements as a guide.”

See the System - Visualizing Data in the Classroom



[Ms. Bullen's Data-Rich Year]

Reporting Your Data – Local Use

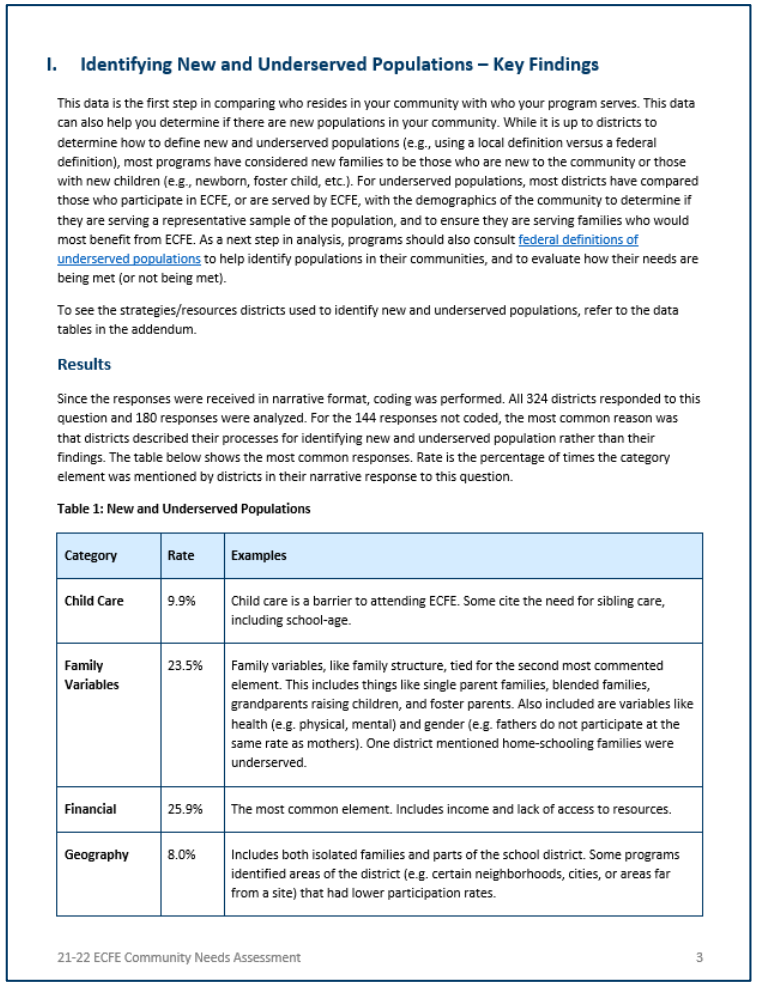


DEPARTMENT OF EDUCATION

2021-22 ECFE Community Needs Assessment

Key Findings from Early Childhood Family Education (ECFE) Programs

Fall 2022



I. Identifying New and Underserved Populations – Key Findings

This data is the first step in comparing who resides in your community with who your program serves. This data can also help you determine if there are new populations in your community. While it is up to districts to determine how to define new and underserved populations (e.g., using a local definition versus a federal definition), most programs have considered new families to be those who are new to the community or those with new children (e.g., newborn, foster child, etc.). For underserved populations, most districts have compared those who participate in ECFE, or are served by ECFE, with the demographics of the community to determine if they are serving a representative sample of the population, and to ensure they are serving families who would most benefit from ECFE. As a next step in analysis, programs should also consult federal definitions of underserved populations to help identify populations in their communities, and to evaluate how their needs are being met (or not being met).

To see the strategies/resources districts used to identify new and underserved populations, refer to the data tables in the addendum.

Results

Since the responses were received in narrative format, coding was performed. All 324 districts responded to this question and 180 responses were analyzed. For the 144 responses not coded, the most common reason was that districts described their processes for identifying new and underserved population rather than their findings. The table below shows the most common responses. Rate is the percentage of times the category element was mentioned by districts in their narrative response to this question.

Table 1: New and Underserved Populations

Category	Rate	Examples
Child Care	9.9%	Child care is a barrier to attending ECFE. Some cite the need for sibling care, including school-age.
Family Variables	23.5%	Family variables, like family structure, tied for the second most commented element. This includes things like single parent families, blended families, grandparents raising children, and foster parents. Also included are variables like health (e.g. physical, mental) and gender (e.g. fathers do not participate at the same rate as mothers). One district mentioned home-schooling families were underserved.
Financial	25.9%	The most common element. Includes income and lack of access to resources.
Geography	8.0%	Includes both isolated families and parts of the school district. Some programs identified areas of the district (e.g. certain neighborhoods, cities, or areas far from a site) that had lower participation rates.

21-22 ECFE Community Needs Assessment 3

Embedding Data in Practice

1. Making your data speak, conveying information.
   - Achieving clarity throughout (goals, approach, strategies, tools, reporting, etc.)
2. Ethical responsibilities and preserving data.
3. Equity

Storing and Preserving Data

What sensitive or private data do you collect and possess?

- Student/participant data
- Financial data (parent)
- Family data
- Data retention policies

Discussion #10: Data Practices & Policies

- What sensitive or private data do you collect?
- What permissions do you need to have in order to collect or access private data?
- How do you store/maintain private data?
- What are your districts data protection and retention policies?

Embedding Data in Practice

1. Making your data speak, conveying information.
   - Achieving clarity throughout (goals, approach, strategies, tools, reporting, etc.)
2. Ethical responsibilities and preserving data.
3. Equity

Strategies for Centering Equity

Five Strategies for Centering Equity

1. Ground the work in data and context, and target solutions.
2. Focus on systems change, in addition to programs and services.
3. Shift power within the collaborative.
4. Listen to and act with community.
5. Build equity leadership and accountability.

Centering Equity in Collective Impact

By John Kania, Junious Williams, Paul Schmitz, Sheri Brady, Mark Kramer & Jennifer Splansky Juster

Illustration by Julia Schwarz

A decade of applying the collective impact approach to address social problems has taught us that equity is central to the work.

In 2011, two of us, John Kania and Mark Kramer, published an article in *Stanford Social Innovation Review* entitled "Collective Impact." It quickly became the most downloaded article in the magazine's history. To date, it has garnered more than one million downloads and 2,400 academic citations. More important, it encouraged many thousands of people around the world to apply the collective impact approach to a broad range of social and environmental problems. Independent evaluations have confirmed that the approach can contribute to large-scale impact,[1] and a global field of collective impact practitioners has emerged. Their efforts have immeasurably deepened our understanding of the many factors that can foster or stymie collective impact's success.

In the original article, we defined collective impact as "the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem." We further identified a structured process with five essential conditions that distinguish collective impact from other types of collaboration:

1. ***A common agenda***, shaped by collectively defining the problem and creating a shared vision to solve it;
2. ***Shared measurement***, based on an agreement among all participants to track and share progress in the same way, which allows for continuous learning, improvement, and accountability;
3. ***Mutually reinforcing activities***, integrating the participants' many different activities to maximize the end result;
4. ***Continuous communication***, which helps to build trust and forge new relationships;
5. ***A "backbone" team***, dedicated to aligning and coordinating the work of the group.

We also noted that these core elements would need to be adapted to the specific circumstances of each initiative.

Over subsequent years, many practitioners and collective impact networks[2] have refined and expanded on these five original conditions in helpful ways.[3] In 2016, together with the Collective Impact Forum—an initiative of FSG and the Aspen Institute Forum for Community Solutions to support practitioners of collective impact—we published eight additional principles of practice for implementing collective impact, which, importantly, included engaging community members and placing a priority on equity.

Reflecting on the past 10 years, we have observed through our own personal and professional journeys and the experience of others that the single greatest reason why collective impact efforts fall short is a failure to center equity. Thus, we believe that we must redefine collective impact to include centering equity as a prerequisite. In this vein, we propose a revised definition of the concept: *Collective impact is a network of community members, organizations, and institutions that advance equity by learning together, aligning, and integrating their actions to achieve population and systems-level change.* To center equity, collective impact efforts must commit to a set of actions that we will explore in this article.

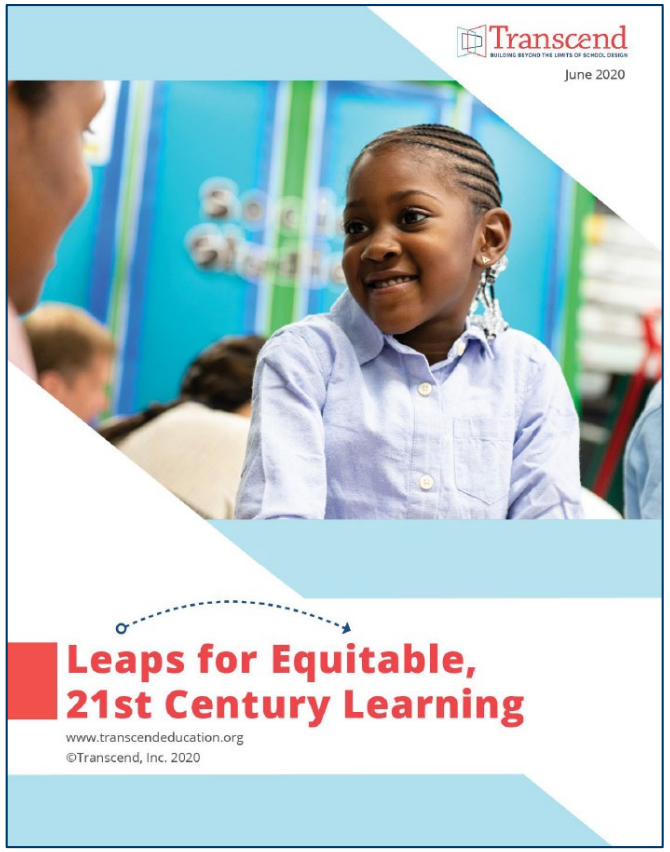
What Is Equity?

In committing to centering equity, we first confront the problem of inconsistent understandings of what equity means. Among many alternative definitions, each with its own virtues, the one we have found most helpful comes from the research and advocacy organization Urban Strategies Council: *Equity is fairness and justice achieved through systematically assessing disparities in opportuni-*

Centering Equity

Establishing an Equity Lens

[Equity Systems Indicators]



[Leaps for Equitable Learning]

Thank you!

Mike Brown, *mike.p.brown@state.mn.us*

Avisia Whiteman, *avisia.whiteman@state.mn.us*