Research in Practice: SAMR, Observation, Analysis, and Action

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Boston College

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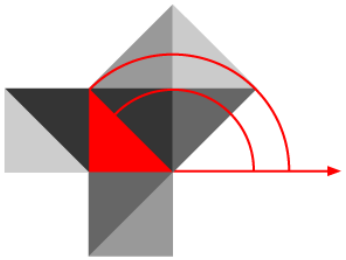
Hippasus



40TH ANNIVERSARY
FETC FUTURE of EDUCATION TECHNOLOGY® CONFERENCE

JANUARY 14 - 17, 2020
MIAMI BEACH CONVENTION CENTER
MIAMI, FLA.

1:30-3:30 Agenda

Introduction

Defining and measuring success

Leveraging educational technology and SAMR

Climbing out of complacency /SAMR ladder activity

Developing researchable questions for formative and summative feedback

Tools for reflection and research

- Surveys
- Drawings
- Classroom observations

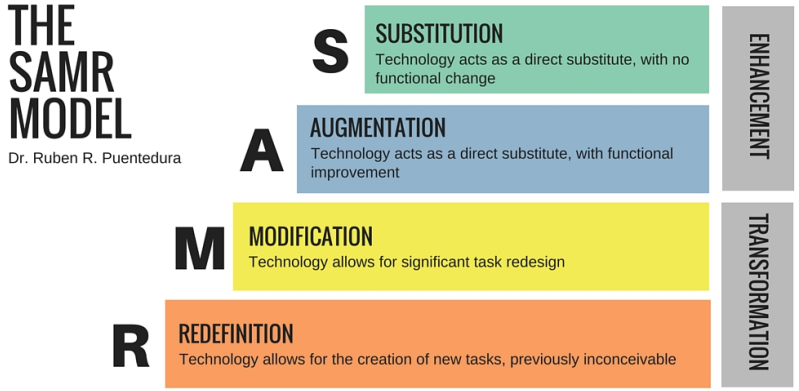
Looking forward: Data sources of the future

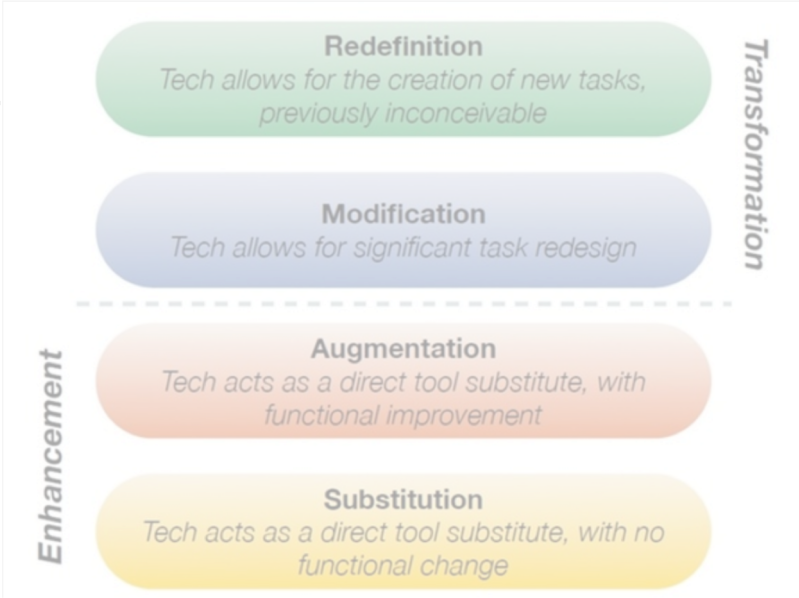
Culture of reflection

Q & A

Ruben's background and perspective

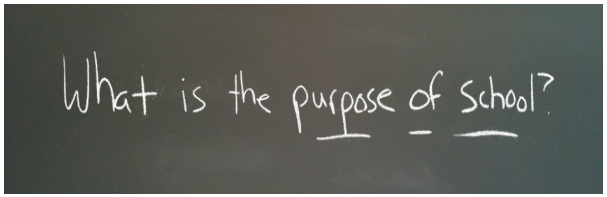
- Ph.D. (Chemistry), Science and Education Researcher
- SAMR, EdTech Quintet
- Synth maker and dragon slayer





Damian's background and perspective

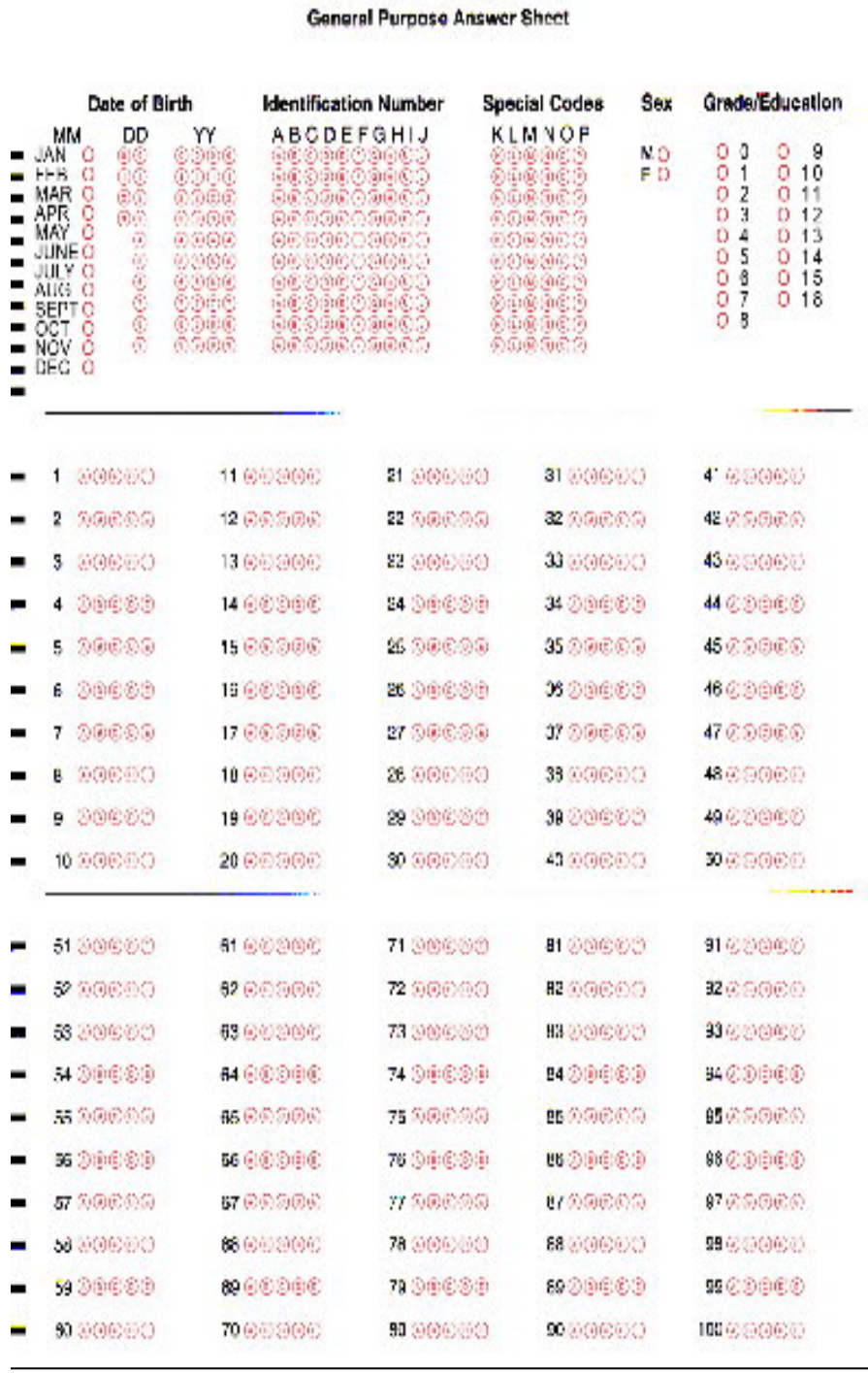
- Ph.D. in psychometrics and educational research
- 20+ years working to leverage technology to advance the state of the art in educational research, measurement, and evaluation.
- Help schools study the impact of their educational investments, particularly teacher and student technologies.



What is the single technology that drives so much of what we do in educational research and measurement today?

IBM 805 Test Scoring Machine

TICONDEROGA® Laddie®
HB


General Purpose Answer Sheet
Date of Birth
Identification Number
Special Codes
Sex
Grade/Education
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DD
YY
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K L M N O P
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MAR
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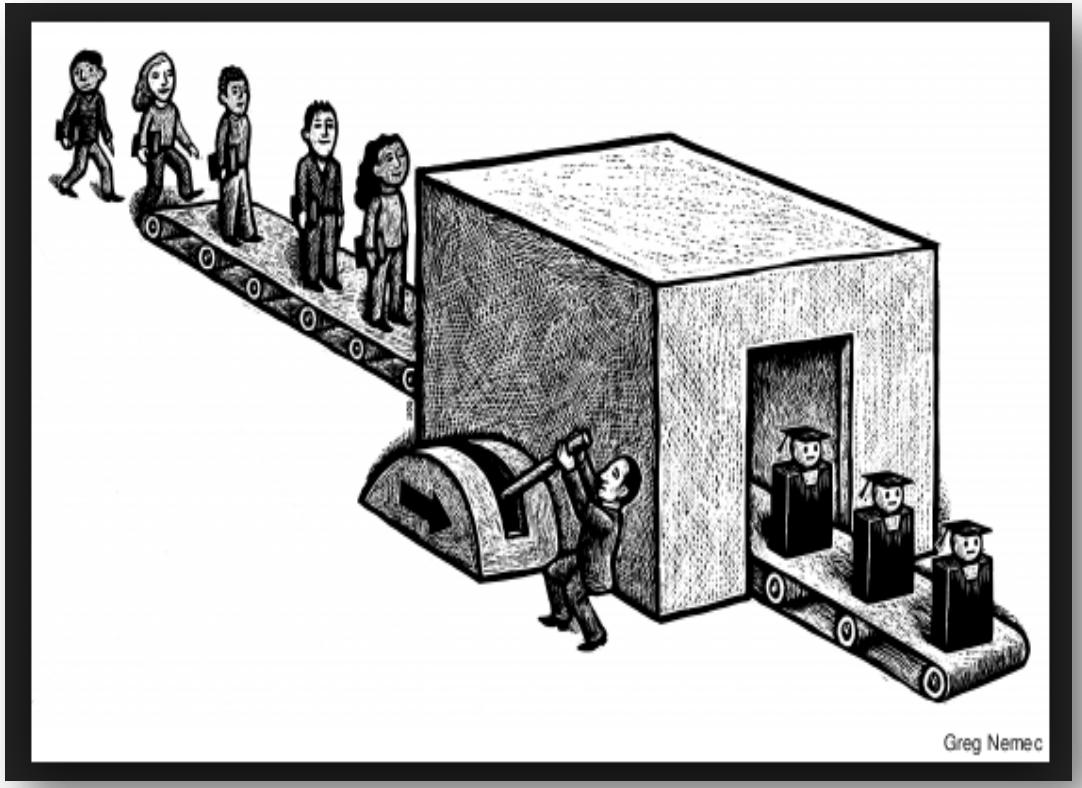
Thinking like a researcher

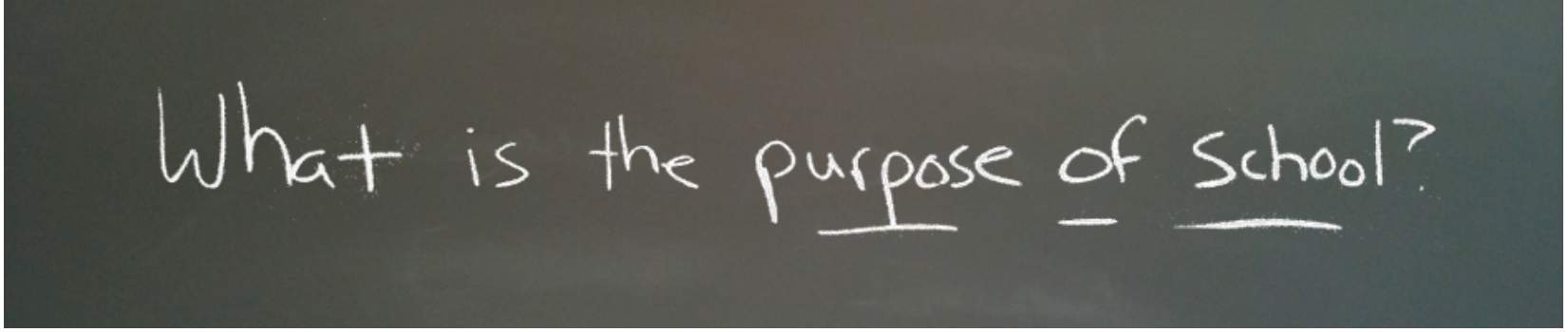
- How do you define and quantify the changes happening in your classrooms?
- How to study the impact of educational technology (and other educational investments and reforms)?
- How can we leverage data for formative and summative success?

Why invest in 1:1 computing devices for students?

Improved Pedagogy
Student Achievement
Aspirations
Increased learning opportunities
Global or local awareness
Wider Curricular Offerings
Student Engagement
Creativity
Communication
Spiritual Development
Equity and Equality
Community Partnerships/Outreach
PERSONALIZED LEARNING
Collaboration
Increased 21st century skills

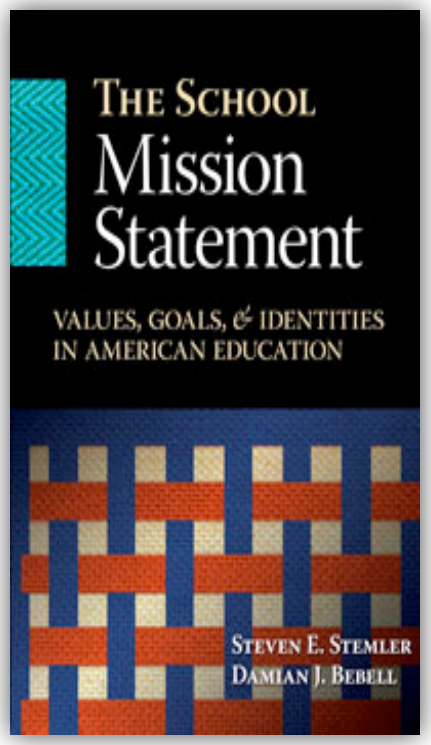
What is the purpose of school?





Categorize and quantify the wide spectrum of reasons we have schooling in the US. Use content analyses to focus is on the perspective of schools themselves. Mission statements are a common "data" point for most schools.

- Constitutional perspective
- Legal perspective
- Business leaders perspective
- Parent perspective



What about school's perspective?

www.purposeofschool.org

How US schools have described their own purpose/goal:

Cognitive/Academic Development

Social Development

Emotional Development

Civic Development

Physical Development

Vocational/Career Development

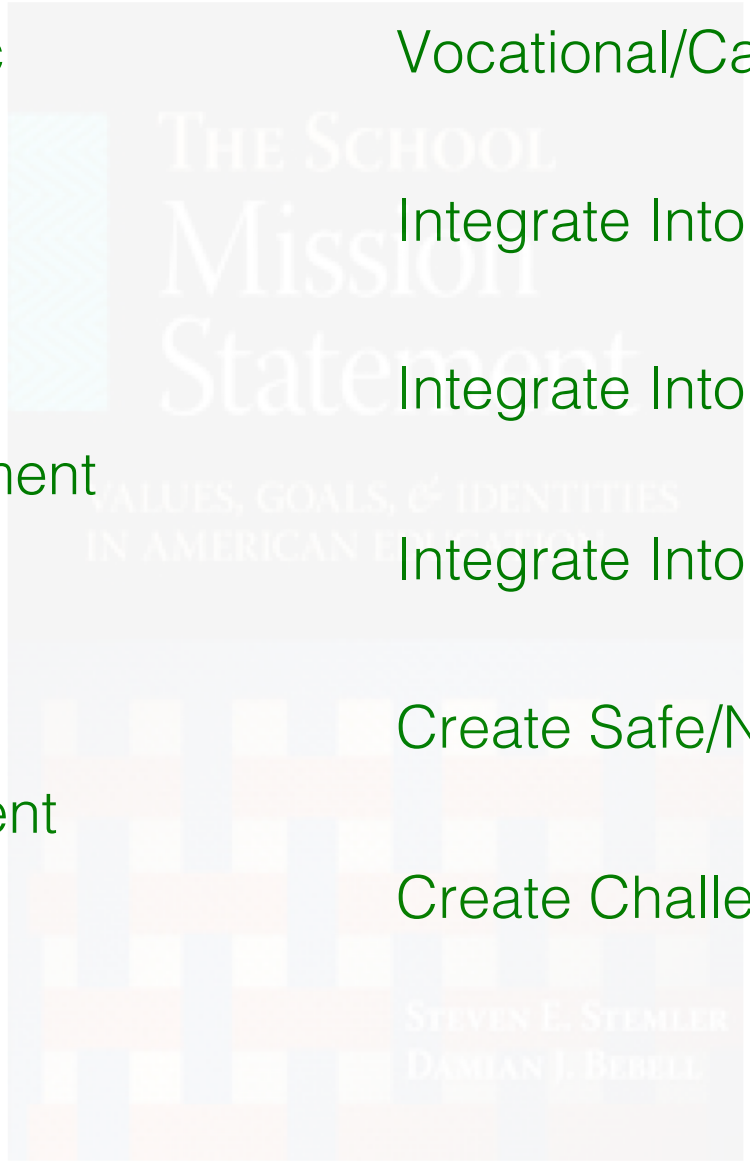
Integrate Into Local Community

Integrate Into Global Community

Integrate Into Spiritual Community

Create Safe/Nurturing Environment

Create Challenging Environment



www.purposeofschool.org

Mission Statement/School purpose and outcome identifier:

A = COGNITIVE/ACADEMIC DEVELOPMENT
- 0 = Misc.
- 1 = foster cognitive development
- 2 = problem solving
- 3 = creativity
- 4 = effective communication
- 5 = critical thinking
- 6 = literacy
- 7 = acquire knowledge
- 8 = participate in the arts
- 9 = improve student achievement/test scores
- 10 = intellectual curiosity
- 11 = personalized learning

B = SOCIAL DEVELOPMENT
- 0 = Misc.
- 1 = social interaction
- 2 = become effective parents
- 3 = help others
- 4 = teamwork
- 5 = collaborate

C = EMOTIONAL DEVELOMPENT
- 0 = Misc.
- 1 = positive attitudes
- 2 = ethical morality
- 3 = joy for learning
- 4 = life-long learning
- 5 = self-sufficient
- 6 = self-discipline
- 7 = reach potential
- 8 = emotional skills
- 9 = promote confidence
- 10 = spiritual development
- 11 = respect for others
- 12 = risk-taking
- 13 = personally meaningful success
- 14 = mental health of students
- 15 = responsible person

D = CIVIC DEVELOPMENT
- 0 = Misc.
- 1 = productive
- 2 = responsible citizen
- 3 = public service
- 4 = contributing member of society
- 5 = leadership
- 6 = model democratic practices

E = PHYSICAL DEVELOPMENT
- 0 = Misc.
- 1 = Physical development

F = CAREER PREPARATION
- 0 = Misc.
- 1 = competitive in the workforce
- 2 = marketable skills
- 3 = apply skills

G = SAFE/NURTURING ENVIRONMENT
- 0 = Misc.
- 1 = safe environment
- 2 = provide nurturing environment
- 3 = person-centered
- 4 = collaborative environment
- 5 = equitable environment
- 6 = inclusive environment

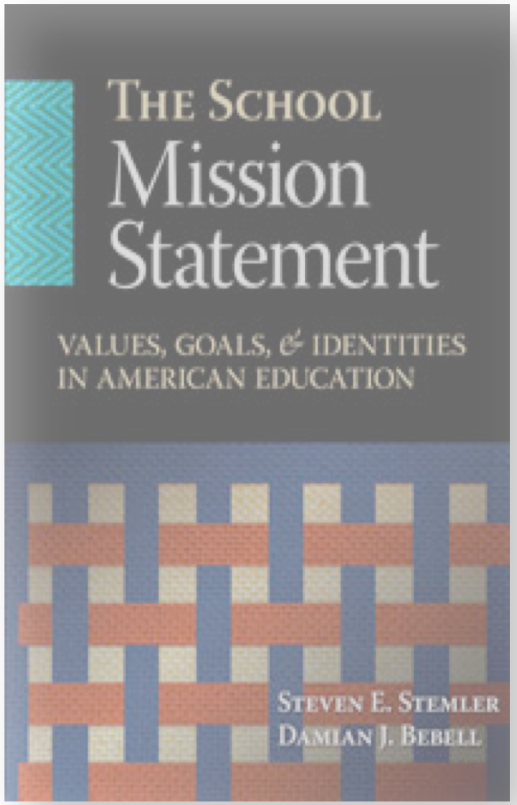
H = CHALLENGING ENVIRONMENT
- 0 = Misc.
- 1 = provide challenging environment
- 2 = provide engaging work
- 3 = highly qualified faculty
- 4 = rigorous curriculum

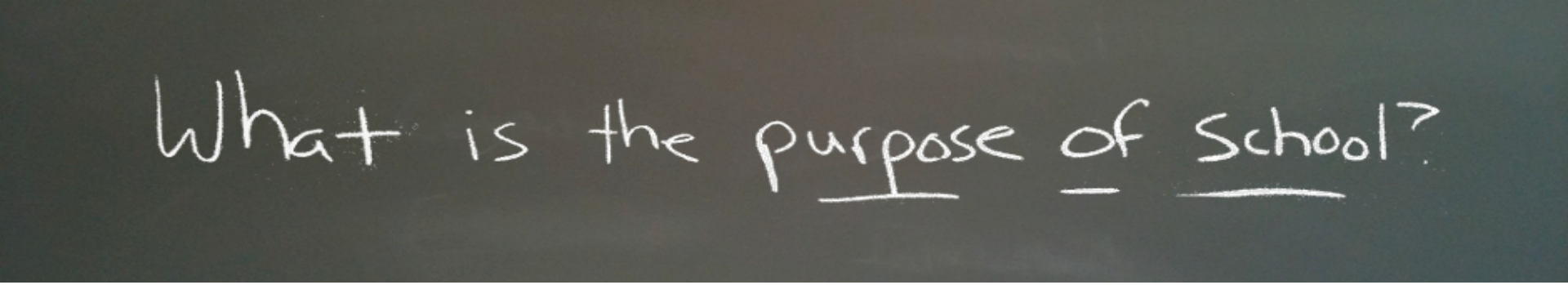
I = DATA AND TECHNOLOGY ENVIRONMENT
- 0 = Misc.
- 1 = Technologically competent
- 2 = Creative use of technology
- 3 = Technologically advanced
- 4 = Data-driven decision making

J = INTEGRATE INTO LOCAL COMMUNITY
- 0 = Misc.
- 1 = promote community
- 2 = community partnerships
- 3 = diverse student body
- 4 = community service

K = INTEGRATE INTO GLOBAL COMMUNITY
- 0 = Misc.
- 1 = appreciate diversity
- 2 = global awareness
- 3 = adaptive students
- 4 = cultural awareness

L = INTEGRATE INTO SPIRITUAL COMMUNITY
- 0 = Misc.
- 1 = religious education/environment





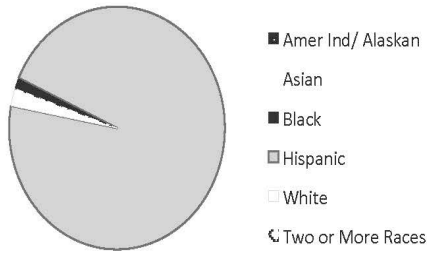
Washington Elementary School
El Centro, CA

Mission Statement:

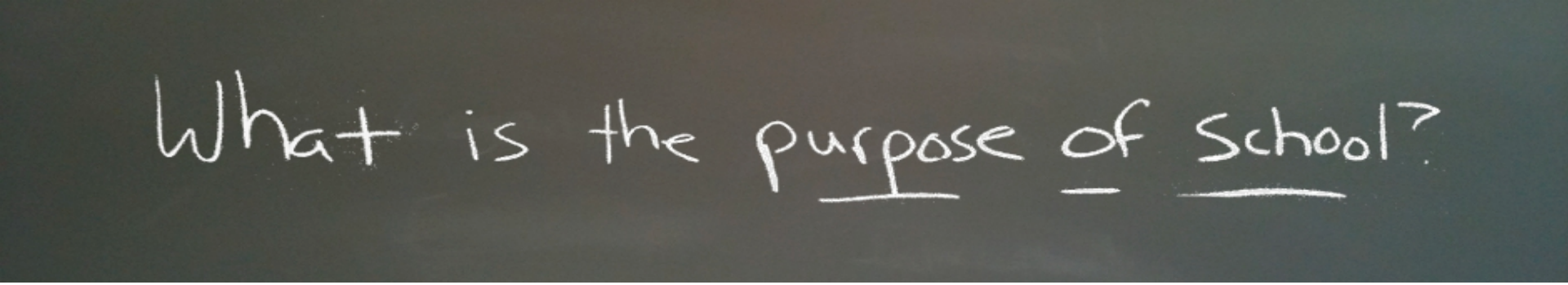
The mission of B.T. Washington School is to create and maintain an environment that assures that our students reach a high level of academic achievement as measured by state assessments. We commit to a comprehensive system of support to ensure this outcome.

School Characteristics:
Grade Levels: KG-6
Locale: City- small

Total Students: 470
Male/Female Ratio: 48:52
Student/Teacher Ratio: N/A
Free Lunch Eligible: 90%
Reduced-Price Lunch Eligible: 7.4%



General Information
223 South First St.
El Centro, CA 92243
(760) 352-6611
http://www.ecsd.k12.ca.us/education/school/school.p



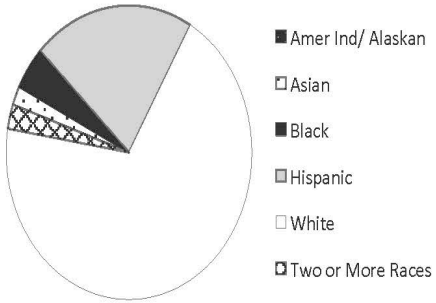
Bates Elementary School
Salem, MA

Mission Statement:

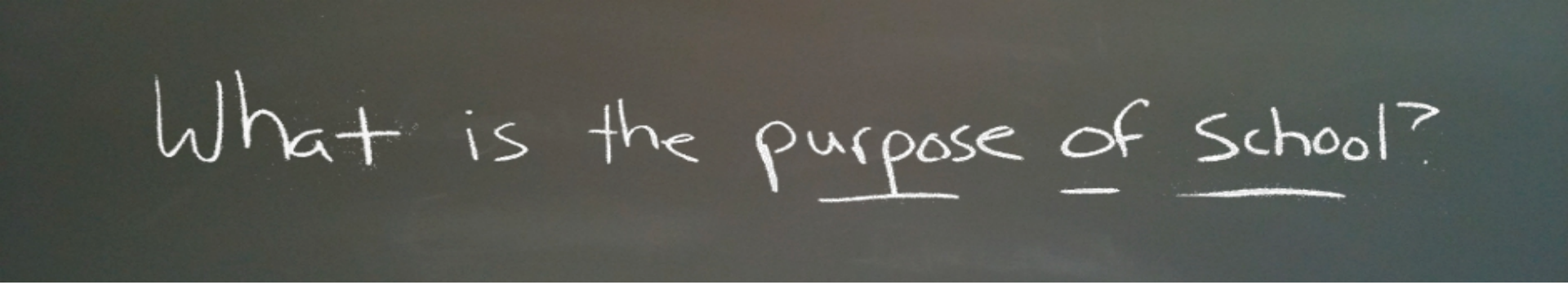
By focusing on the enhancement of the arts, by building a foundation for literacy and maximizing the potential of the whole child, the Bates Elementary School strives to guide our students beyond their creative horizons, surrounded by a safe, friendly, and child-centered community.

School Characteristics:
Grade Levels: KG-5
Locale: Suburb- large

Total Students: 335
Male/Female Ratio: 48:52
Student/Teacher Ratio: 10.8:1
Free Lunch Eligible: 53%
Reduced-Price Lunch Eligible: 6.9%



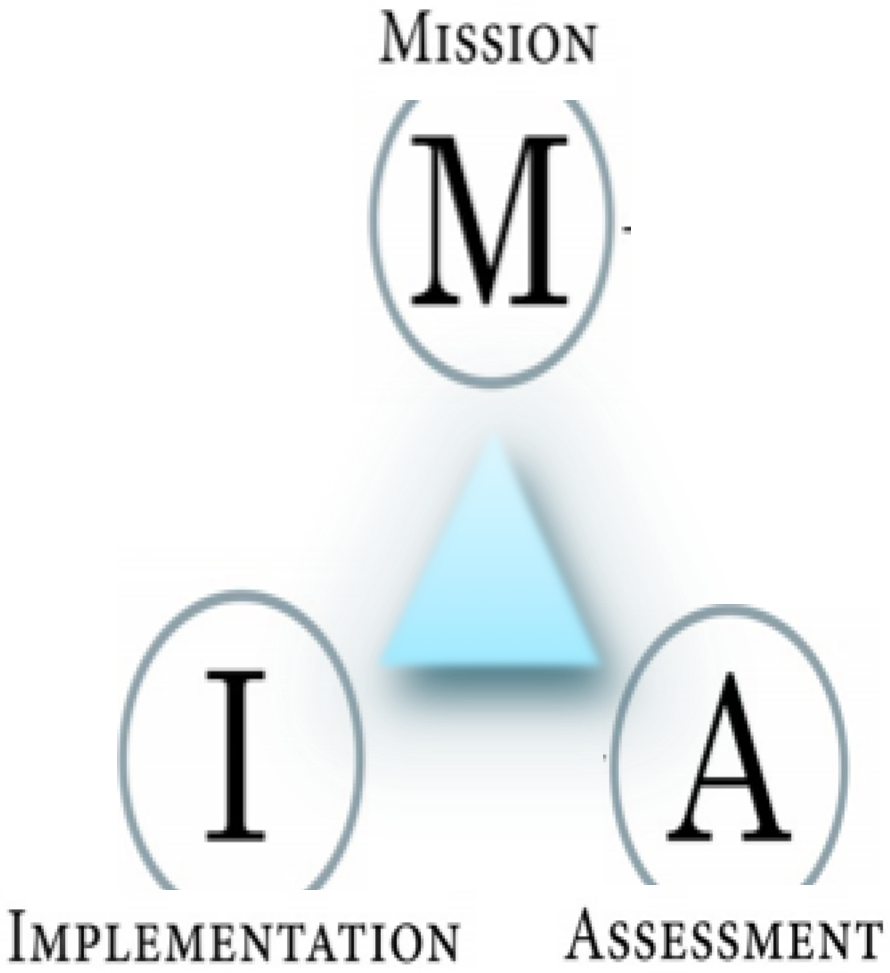
General Information
53 Liberty Hill Avenue
Salem, MA 01970
(978) 740-1250
http://spsbates.salemk12.org/



What are the components in your mission statement?

www.purposeofschool.org

Mission, Implementation, & Assessment



Implementation

Consider Implementation areas (resources, practices, and initiatives…educational technology) in your classroom/school that are:

- Congruent with one or more aspects of your mission.
- Non-congruent with one or more aspect of your mission.

Assessment

Consider your student, teacher and school outcomes (scores, data, performance reviews) that are:

- Congruent with one or more aspects of your mission.
- Non-congruent with one or more aspect of your mission.

www.purposeofschool.org

Discussion

How does <u>your school</u> define the success of your students, teachers, and programs?

How does <u>you</u> define the success of your students, teachers, and programs?

What data or information is <u>currently</u> used to represent this?

Sharing

How congruent are the components of your school mission with your classroom and school-wide implementation and assessment efforts?

How does your school define the success of your students, teachers, and programs?

What data is used to represent these competencies?

Developing researchable questions

What are your needs?
Who is your audience?

- What is the purpose of your program?
- What are the results you would most like to be able to share from your school/program?

Prioritize when planning and get multiple perspectives from various stakeholders

- Broader perspective
- Stakeholder buy-in

Developing researchable questions

What makes ideal research questions, outcomes, and goals?

Some goals and outcomes are nearly impossible to measure.

Some goals and outcomes are easy to measure.

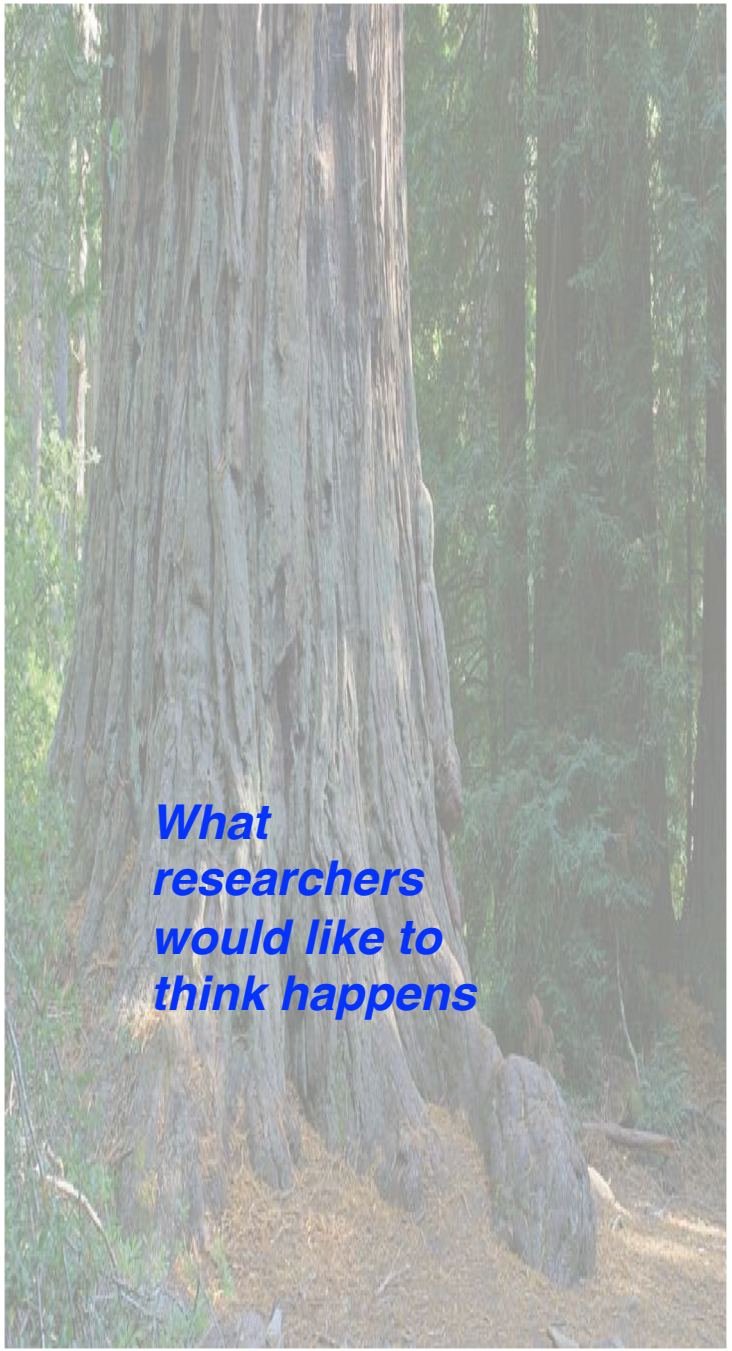
Developing researchable questions

- Don't be too ambitious!
- Don't be too ambitious (really).
- Don't start with the methodology (The questions you ask should drive the methods you use).
- It's easier to measure tangible and definable outcomes.
- If appropriate, include indicators of success.
- Have justification/rationale for asking your questions.

Using the data you collect to tell your story:

- Don’t lose site of the forest through the trees
- Define, articulate, and communicate!
- How do we extract a meaningful story from data?

Data → Results → Findings → Sharing Your Story

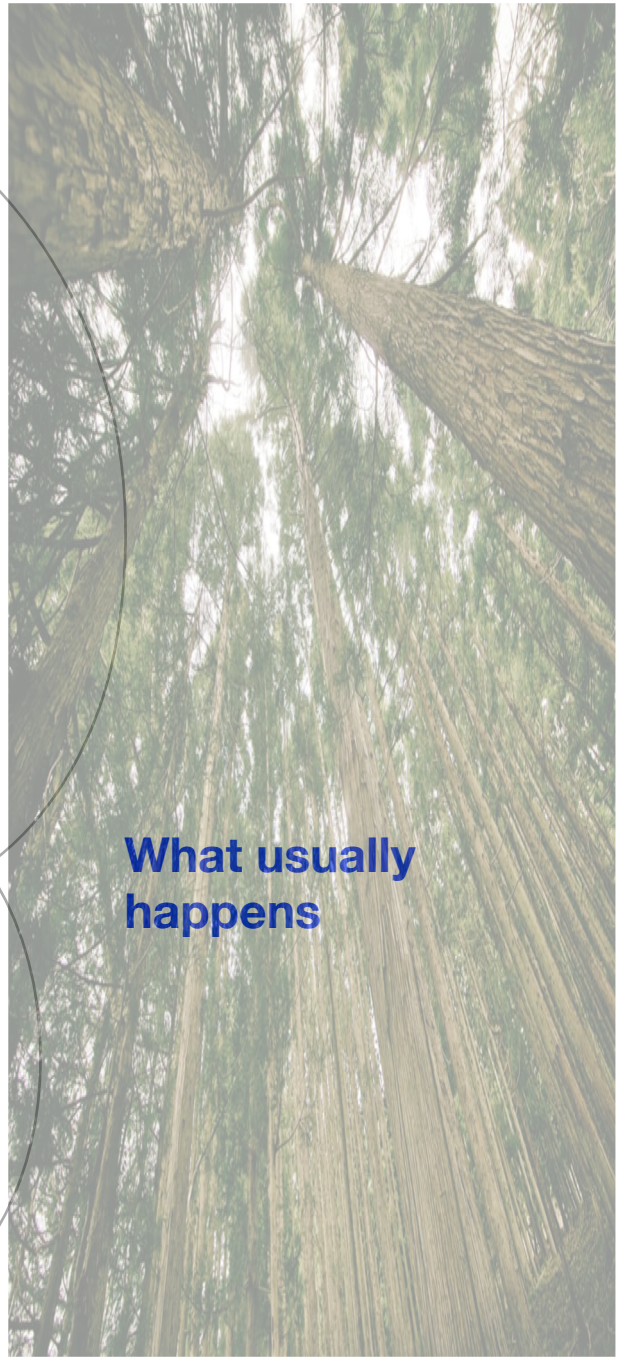


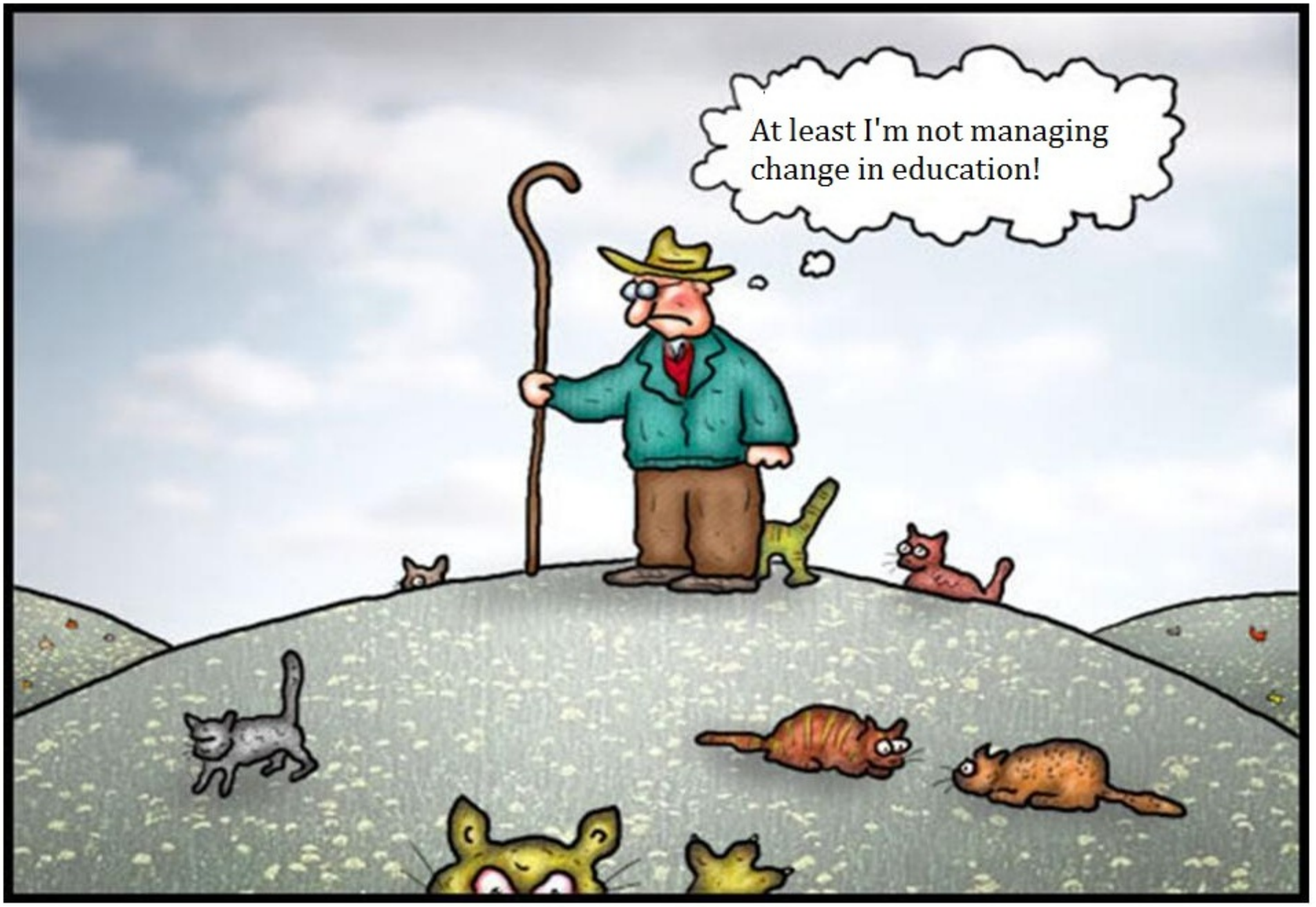
Data

Results

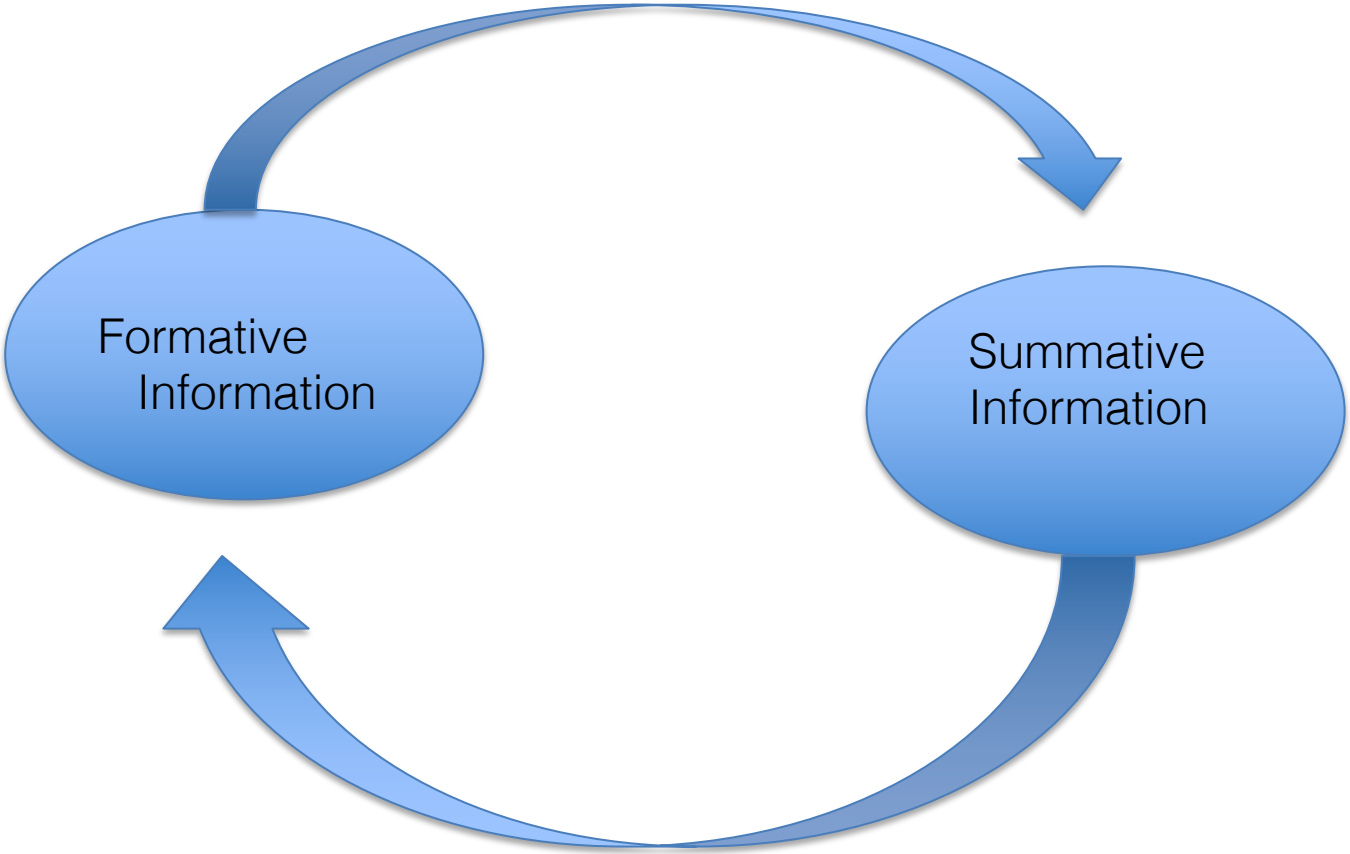
Findings

Sharing Your Story




At least I'm not managing change in education!

Formative and summative data/assessment



The information you collect about your program can inform your day-to-day operations and decisions (formative information) which over time provides evidence of success/goals met (summative information).