Mountain View

EXECUTIVE FUNCTIONING IN THE CLASSROOM

What is Executive Functioning?

- Executive functioning (EF) is a way of describing how well we manage information and our behavior
- EF describes how well the frontal lobe is functioning, which is the last part of the brain to fully develop
- EF describes 'how' we do what we do

What do Executive Functioning Weaknesses Look Like?

Acts without thinking; interrupts others; gives up easily; overwhelmed by large assignments; talks too loudly; difficulty adapting; doesn't notice impact of behavior on others; trouble calming down; difficulty transitioning between activities; can't problem solve; low frustration tolerance; can't follow classroom routine.

Executive Functioning

- There are multiple models of executive functioning
- Provides a common language for staff, students, and parents
- Provides a framework for the assessment of students and staff

EF and Dr. Jack Naglieri

▸ Dr. Naglieri is nationally recognized expert in the field of executive functioning

▸ https://www.youtube.com/watch?v=tKrP8rkbdWk&feature=youtu.be

Executive Functioning Skills

(Dawson &Guare)

Doing Skills
(more behaviorally based)

- Response inhibition
- Emotional control
- Sustained attention
- Task initiation
- Flexibility
- Goal directed persistence

Executive Functioning Skills
(Dawson & Guare)

Thinking Skills
(involving cognition rather than behavior)

- Planning
- Organization
- Time management
- Working memory*
- Metacognition

Response Inhibition (RI)

The capacity to think before you act.

RI weaknesses can look like:
Acts without thinking; Interrupts others; Blurts out; Talks too loudly; Acts inappropriately.

Emotional Control (EC)

The ability to manage emotions in order to achieve goals, complete tasks, and direct behavior.

EC weaknesses can look like: Over/under reactions; Easily overwhelmed; Low frustration tolerance.

Flexibility (F)

The ability to adapt to changing conditions.

F weaknesses can look like:
Upset by changes; Difficulty transitioning between activities; Difficulty developing multiple solutions.

Working Memory* (WM)

The ability to hold and manipulate information in memory while performing complex tasks.

WM weaknesses can look like: Forgets directions; Gets lost in a problem; Works ineffectively.

Task Initiation (TI)

The ability to begin tasks in a timely manner.

TI weaknesses can look like:
Puts off work; Assignments turned in late; Disruptive in class.

Sustained Attention (SA)

The capacity to maintain focus in spite of distractions, fatigue, or boredom.

SA weaknesses can look like:
Work does not get done;
Completing multiple assignments at once.

Planning (P)

The ability to create a roadmap to reach a goal or complete a task.

P weaknesses can look like:
Work does not get done; Parts of assignments completed out of order; Misses steps to assignment.

Organization (O)

The ability to create and maintain a system to keep track of information.

O weaknesses can look like:

Can't find necessary materials;

Messy notebooks.

Time Management (TM)

The ability to use time effectively and have good 'time sense'.

TM weaknesses can look like:
Waste time in class; Late for class; Can't estimate time well; Doesn't meet deadlines.

Goal-Directed Persistence (GDP)

The capacity to follow through to the completion of a goal.

GDP weaknesses can look like:

Does not meet goals; Quits easily; Changes plans frequently.

Metacognition (M)

The ability to monitor, and be reflective, about their own thinking.

M weaknesses can look like:
Makes same mistakes over and over; Lacks insight; Poor problem-solving skills.

Poorly Developed EF Skills...

- Can be easily confused with 'lazy'
- Can not be developed from 'observation'
- Tend <u>not</u> to be universally underdeveloped
- Can be directly tied to difficulty learning from the past. Therefore, 'tough love' may not be effective for these students.

The Paradigm Shift

- Elementary teachers tend to assume a skill deficit
- Teachers' perceptions of struggling students shift around the middle school level
- High school teachers tend to assume a motivational deficit

The Importance of EF

- Well-developed EF skills are a better indicator of academic (and life) success than IQ

- EF promotes a growth mindset in students

- *EF skills can be learned*

The Usefulness of EF

- EF creates a common language that allows discussion of classroom performance in a value-free way
- The development of these cognitive skills will benefit the students long after they finish school

Skills Assessment

- Skill assessment is best done in the context of the classroom.

- <u>Skills in isolation may not be generalized</u>: a student demonstrating a specific skill in isolation is NOT an indication that they can apply that skill in the classroom.

Types of Assessments

▸ **Formal**
- CEFI
- BRIEF

▸ **Informal**
- Structured interviews
- Observations
- Questionnaires

Questionnaire

Executive Skills Questionnaire for Students

HOW OFTEN?	SCORE
Most of the time	1
A lot (frequently)	2
Sometimes	3
Very rarely	4
Never	5

ITEM   **SCORE**

1. I act without thinking about what I am doing.   _____
2. I get in trouble for talking in class.   _____
3. I say things without thinking.   _____

                                         SUB-SCORE   _____

4. I say "I'll do it later" and then forget about it.   _____
5. I come to class unprepared (without books, notebooks, pen etc.)   _____
6. I lose or misplace things (car keys, cell phone, notebooks, assignments etc.)   _____

                                         SUB-SCORE   _____
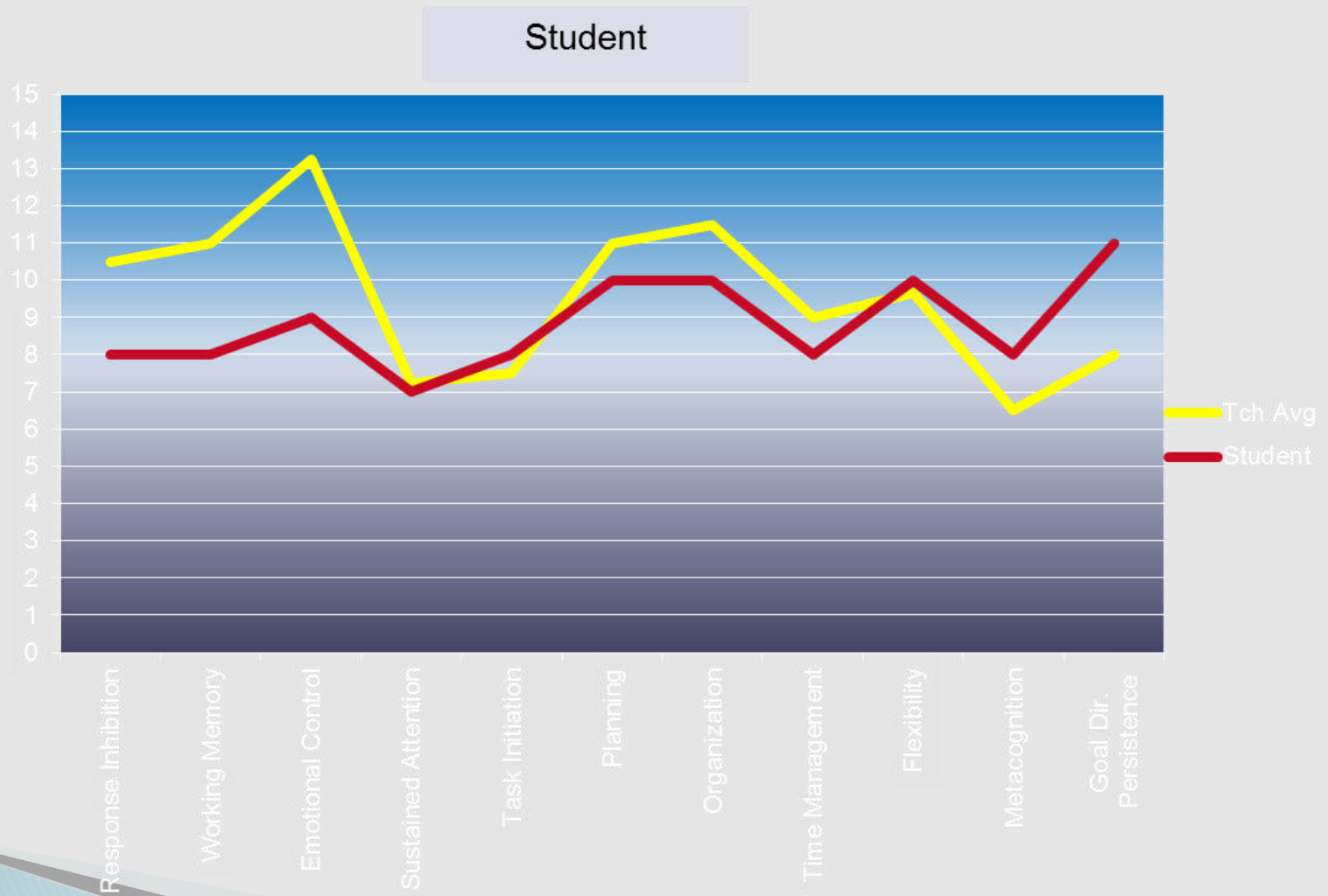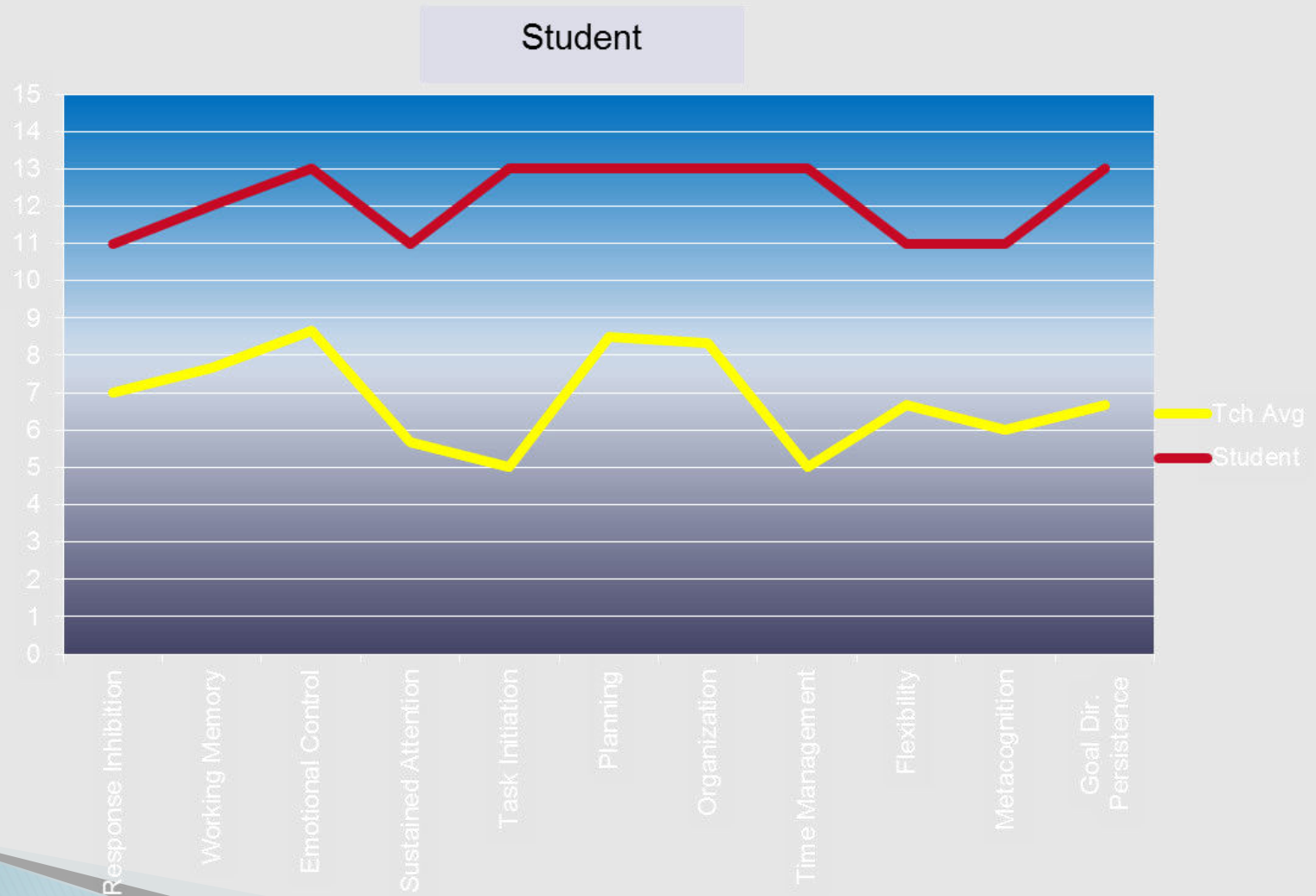
7. I get annoyed or frustrated when work is difficult or confusing.   _____
8. I get mad easily.   _____

Student Data

Student

Tch Avg
Student

Response Inhibition · Working Memory · Emotional Control · Sustained Attention · Task Initiation · Planning · Organization · Time Management · Flexibility · Metacognition · Goal Dir. Persistence
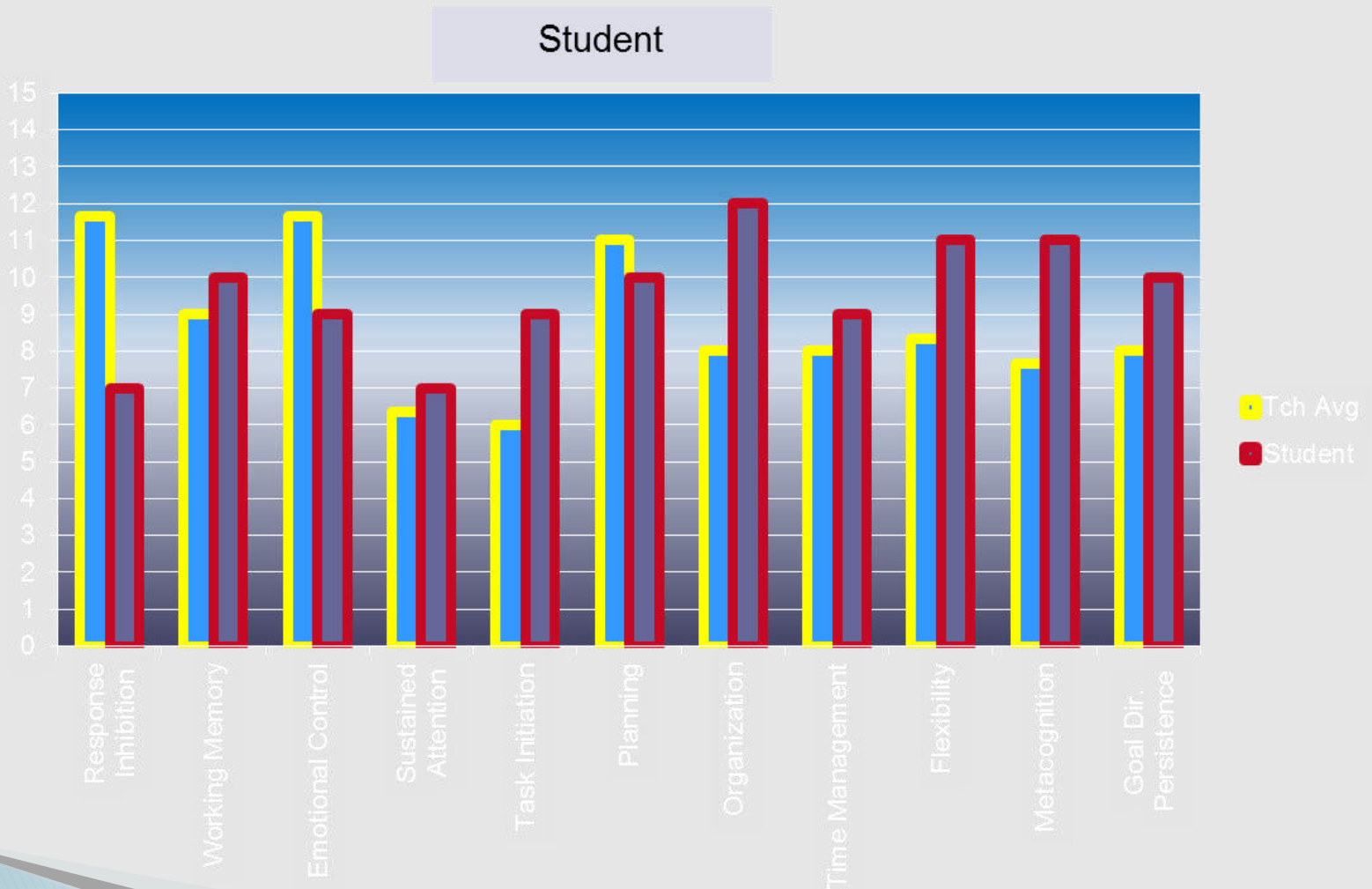
Student Data

Student Data

Intervention

- Someone must function as surrogate frontal lobe while skills are being taught
- Skills need to be explicitly taught
- Use plain language instruction
- Deficits need only be addressed if the environment requires it

Framing Individual Interventions

- Begin with Questionnaire:
  - Student
  - Teacher
- Observe with EF skills in mind
- Frame conversation with student
- Use EF vocabulary to make it concrete and specific for student (make sure they know the words)

EF at Mountain View

Task Initiation

The ability to begin a task without procrastination, in a timely fashion.

(May involve academic risk!)

Working Memory

The ability to remember information while performing complex tasks.

Metacognition
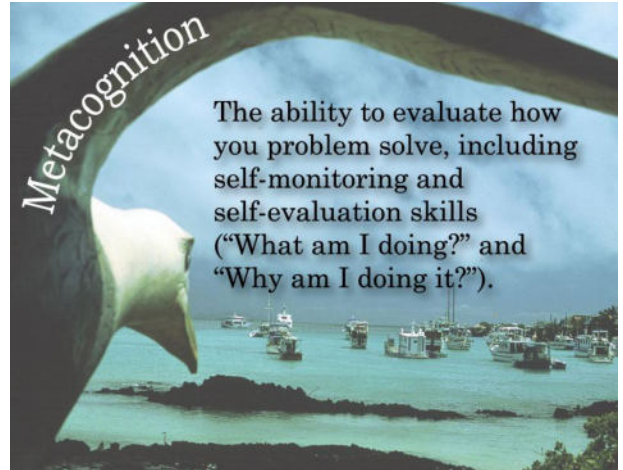
The ability to evaluate how you problem solve, including self-monitoring and self-evaluation skills ("What am I doing?" and "Why am I doing it?").

Planning

The ability to create a roadmap to reach a goal or to complete a task.

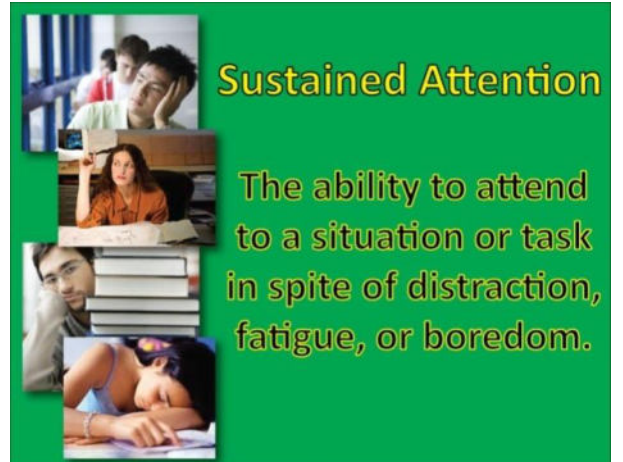It also involves being able to make decisions about what's important and what's not important.

Sustained Attention

The ability to attend to a situation or task in spite of distraction, fatigue, or boredom.

31

Executive Functioning at MV

- Initiated by cadre of teachers
- Educated ourselves
- Introduced a common language & purpose
- Assessed role of EF in the classroom
- Recognized need for on-going reflection
- Invited others to participate

Guiding Principles
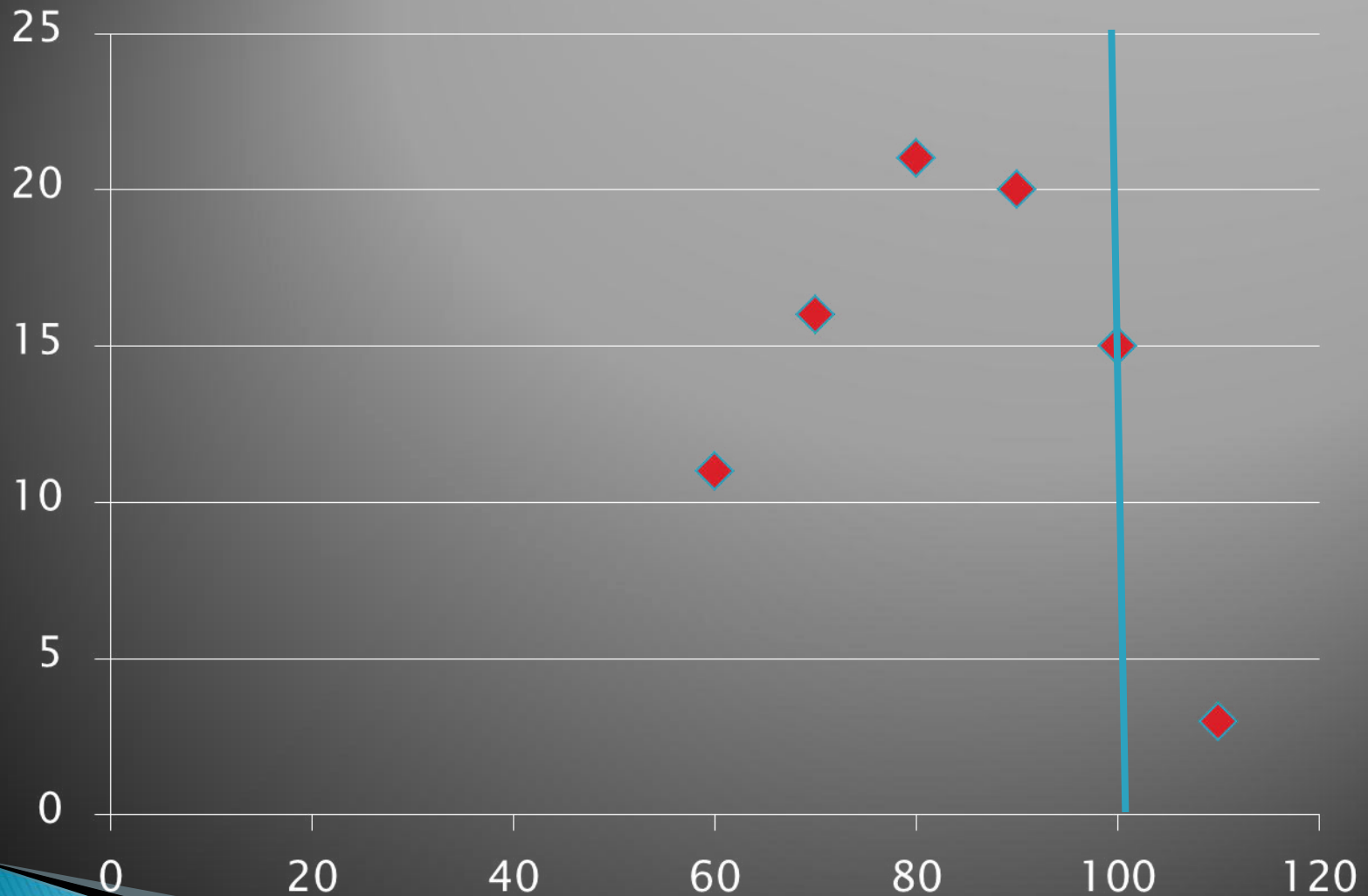
- Integrate and systematically teach EF skills in the context of the curriculum
- Demonstrate to students the impact of EF on classroom performance
- Provide opportunities for student reflection
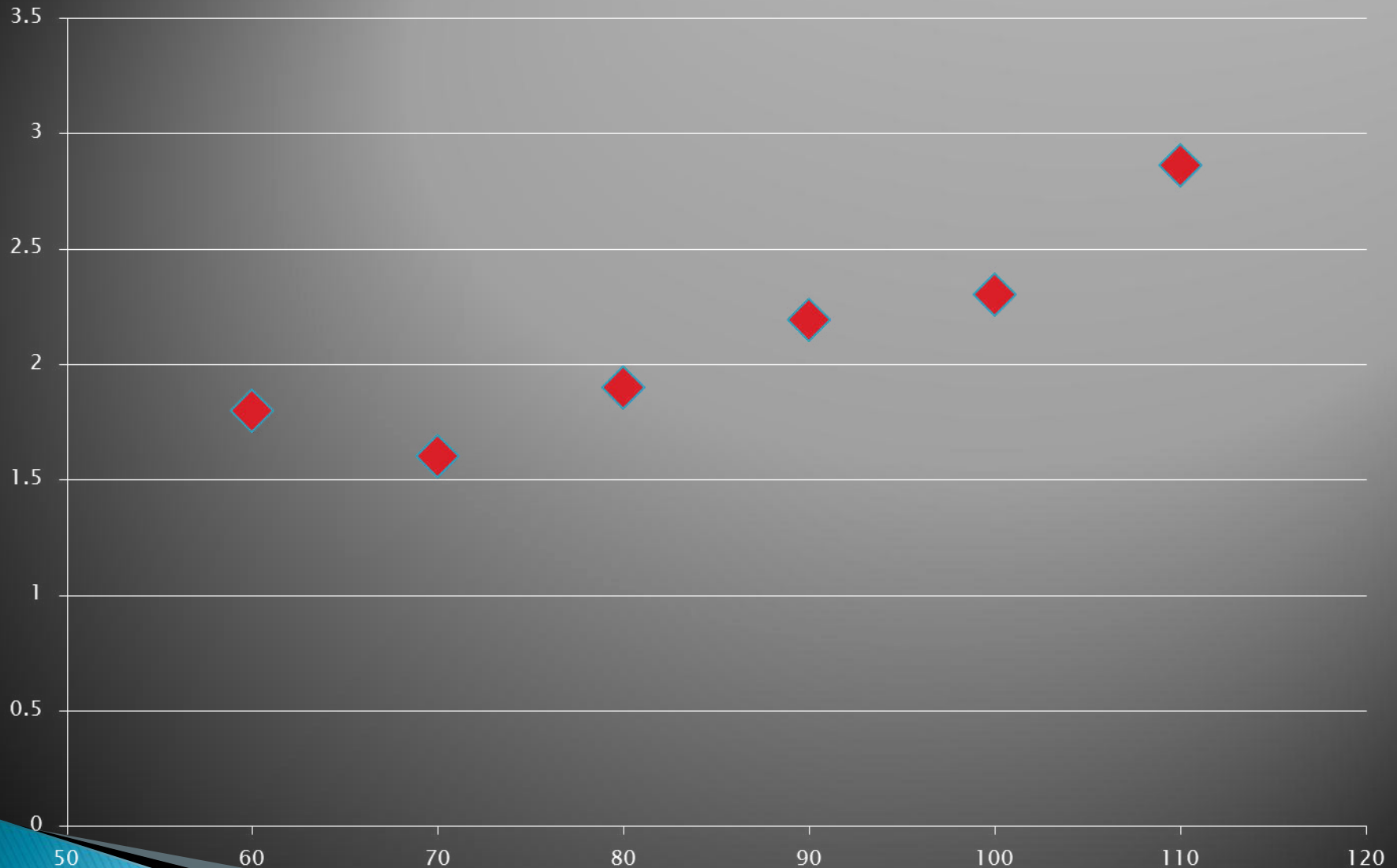- Assume skill deficit, not motivational deficit

Guiding Principles

- Develop curriculum that can be integrated into *any* classroom
- Reach out to all possible resources
- Share with anyone who is interested
- Understand mistakes will be made

- Asking questions more important than answering them

Mountain View CEFI Data (2014)

TEACHERS RATINGS:

	FL_SS	AT_SS	ER_SS	FX_SS	IC_SS	IT_SS	OG_SS	PL_SS	SM_SS	WM_SS
	Full Scale	Attention	Emotion Regulation	Flexibility	Inhibitory Control	Initiation	Organization	Planning	Self-Monitoring	Working Memory
mean	86.7	87.2	92.7	85.3	90.0	86.5	87.7	85.6	86.1	86.8
sd	14.2	14.0	17.8	12.5	14.5	15.6	11.8	13.3	14.5	14.7
min	52	61	50	55	50	52	60	52	50	50
max	115	115	126	119	117	116	118	113	116	115
count	88	88	88	88	88	88	88	88	88	88
N < 86	42	43	25	49	35	42	41	46	44	41
% w low EF	48%									

STUDENT RATINGS

	Full Scale	Attention	Emotion Regulation	Flexibility	Inhibitory Control	Initiation	Organization	Planning	Self-Monitoring	Working Memory
mean	95.9	93.3	95.0	101.9	97.9	97.7	94.7	96.3	100.5	94.1
sd	16.3	16.4	18.3	15.7	16.3	15.4	14.7	16.4	16.0	16.1
min	69	60	62	64	59	66	65	66	65	64
max	137	133	141	143	137	139	136	138	138	134
count	88	88	88	88	88	88	88	88	88	88
N < 86	26	33	31	14	20	19	21	30	10	29
% w low EF	30%									

MV EF Standard Scores

MV GPA and EF Standard Scores

Bringing EF into the classroom

Based on data collected, there is a clear need for EF instruction in the classroom.

Format of Lessons

- Thirty minute mini-lesson on Monday
- Focus for the week*
- Friday re-visit
- 12/13 weeks for all lessons

EF Lessons

Optional Introductory Lesson

Purpose for viewing:
As you watch the video, imagine if Apollo Robbins had taught the audience the skills he uses during this performance:

- what to look for and when to look for it; when to relax and when to be vigilant; etc.

How would the audiences' experience have been different?

Mindset Lesson
"Is that a growth mindset?"

◦ Give Measure of Mindset assessment

◦ Growth vs Fixed Mindset

◦ Self-Efficacy

Sustained Attention
"Where is your focus?"

Discussion Questions:

- Why do you think you were tricked by this video?

- How do you decide what to pay attention to, and what not to, in this class?

- What are you biggest distractions in class? What will you have the hardest time ignoring?

Task Initiation
"Have you started?"

Discussion Questions:

◦ What things help you get started on something you don't want to do?

◦ What does being ready to learn look like?

◦ As a class, what do we think getting started on time means?

Planning
"What is your plan?"

Discussion Questions:

- What had to happen so that the people could dance together in this video?

- What are the parts of a good plan?

- How do we use planning in this class?

Organization
"Do you have what you need?"

Discussion Questions:

- ◦ Are you more like the first person or more like the second?

- ◦ Do you take the time to organize your work?

- ◦ Are you satisfied with your level of organization in this class? Why?

Time Management
"Are you managing time, or is it managing you?"

Discussion Questions:

- ◦ Students often say that they are not wasting time, but teachers disagree. What are the things we disagree about? Where is the disagreement?

- ◦ How much of each class do you spend on non-class related activities?

- ◦ Do you think this is slowing you down, and do you care?

Flexibility
"Are you stuck on the escalator?"

Discussion Questions:

- What is the message of this video?

- Why do you think people get stuck like the man and woman in the video?
- Do you have a situation in which you typically 'get stuck'?

- What do you do to get 'unstuck'?

Emotional Control
"Are you in control?"

Discussion Questions:

◦ What is good about what he did?

◦ What is bad about what he did?

◦ How do you know if someone is overreacting?

◦ How do you know if someone is underreacting?

◦ What is our class plan for when we get upset?

Response Inhibition
"Are you waiting for second marshmallow?"

Discussion Questions:

- Which of the kids reminds you of you and why?

- When do you need to think before you act?

- When do <u>not</u> need to think before you act?

- When is a small immediate reward better than a big long term reward?

- What should be our question of the week?

Working Memory
"Is your memory *working*?"

Discussion Questions:

- In order to complete the game, you needed to use Working Memory. How did you group the words?

- Do you 'feel' this part of your brain working when doing the work in this class?

- When is it too much to remember? What do you do when its too much to remember?

- What gets in your way? What can you do to help you remember and think things for this class? How do you 'think smart' when you have to remember.

Metacognition
"Are you thinking about your thinking?"

Discussion Questions:

- Why was the teacher frustrated in the video?

- What could the students in the video have done differently?

- Why was it so hard for the students to think about history?

- Do you think about how you're doing your work *while* you are actually doing it?

Goal Directed Persistence
"Are you sticking with it?"

Discussion Questions:

- When do you give up too easily?

- When do you stick with a task until it is done regardless of how long it takes?

- What helps you stay with a task until it is finished?

- What makes you give up before you reach your goal?

Making the Connection

EF Skills:

▸ Metacognition

▸ Working Memory

▸ Goal Directed Persistence

$$V = \frac{1}{3}\pi r^2 h$$

$$V = \frac{1}{3}\pi (\ )^2(\ )$$

$a^2 + b^2 = c^2$

$4^2 + x^2 = 5^2$

$x = 3$
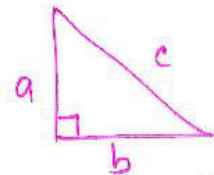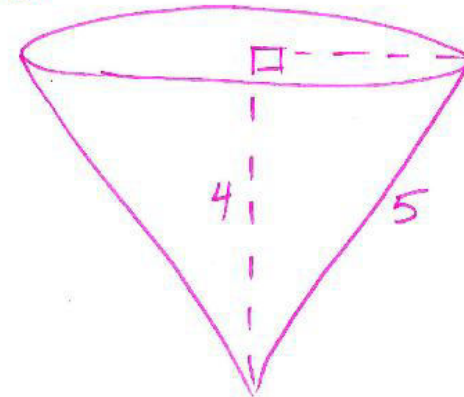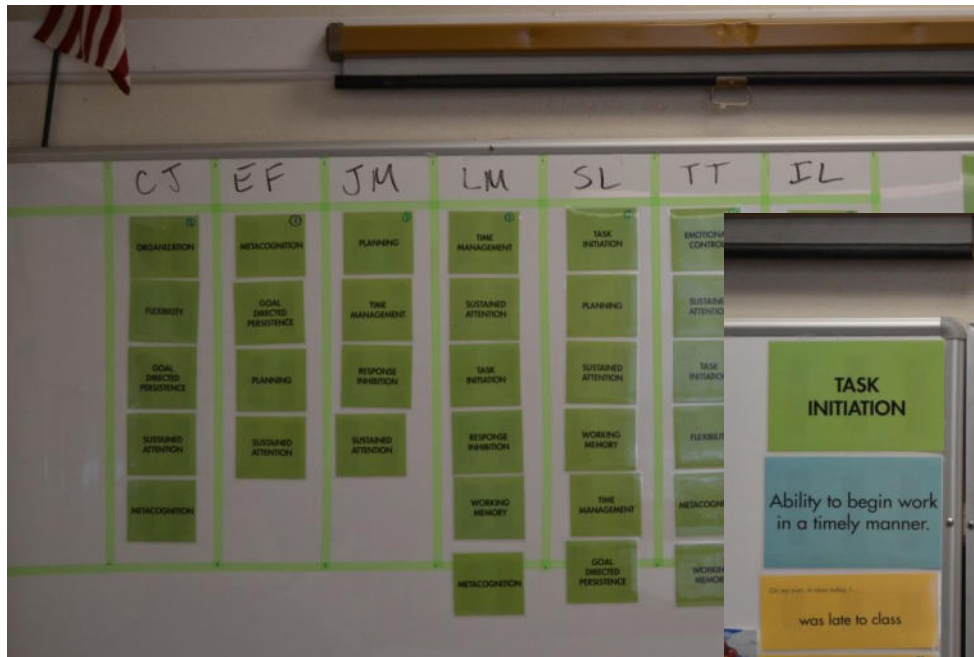
Hoffman Algebra 2
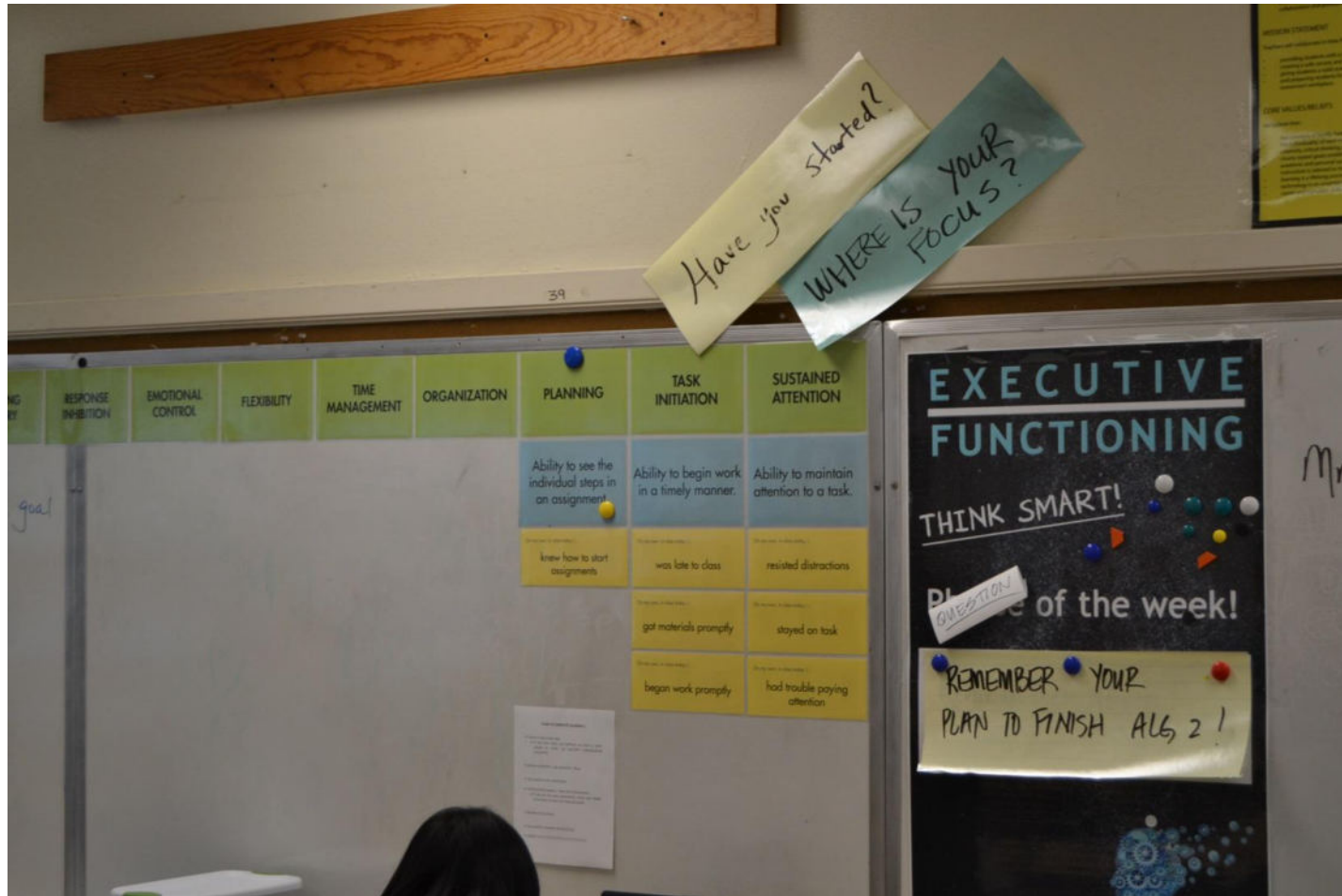
Jones
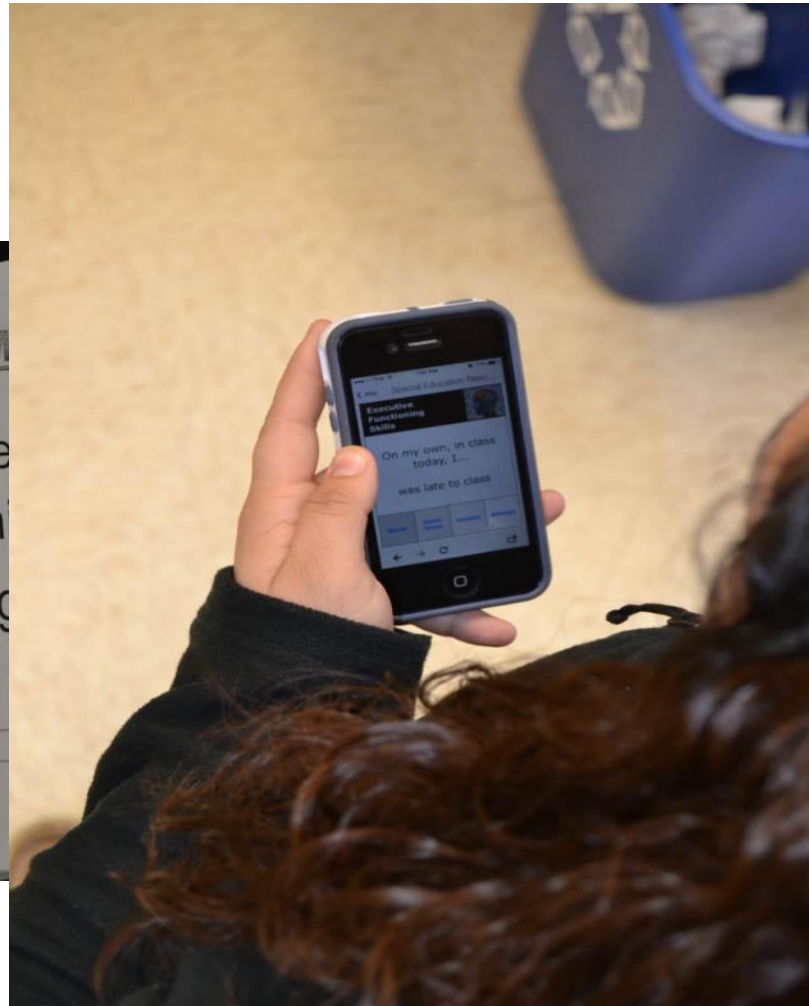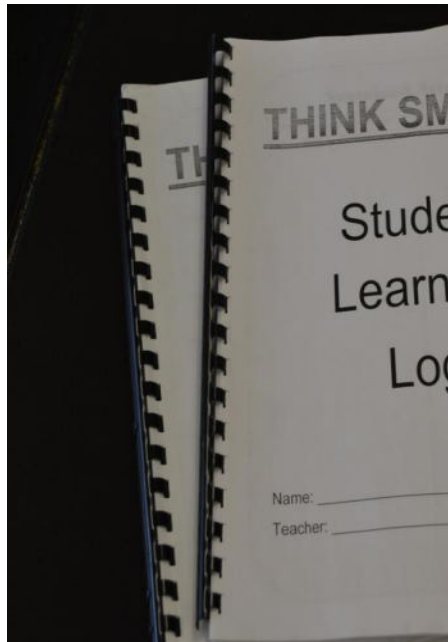# Active Physics
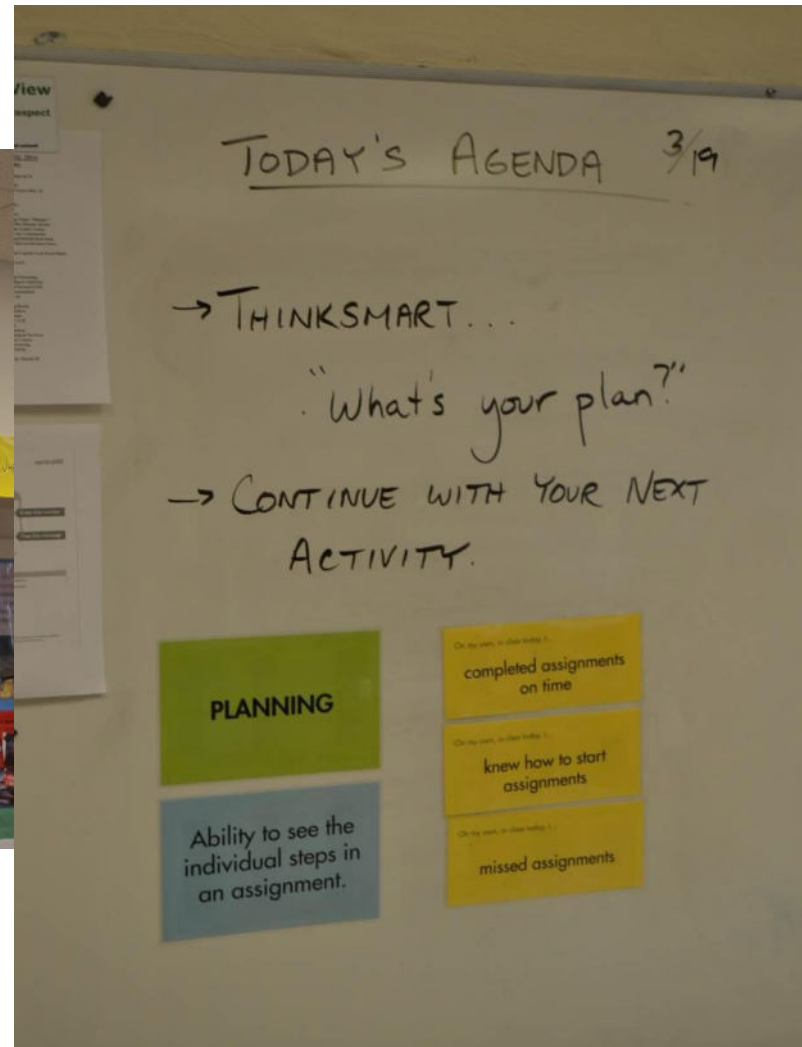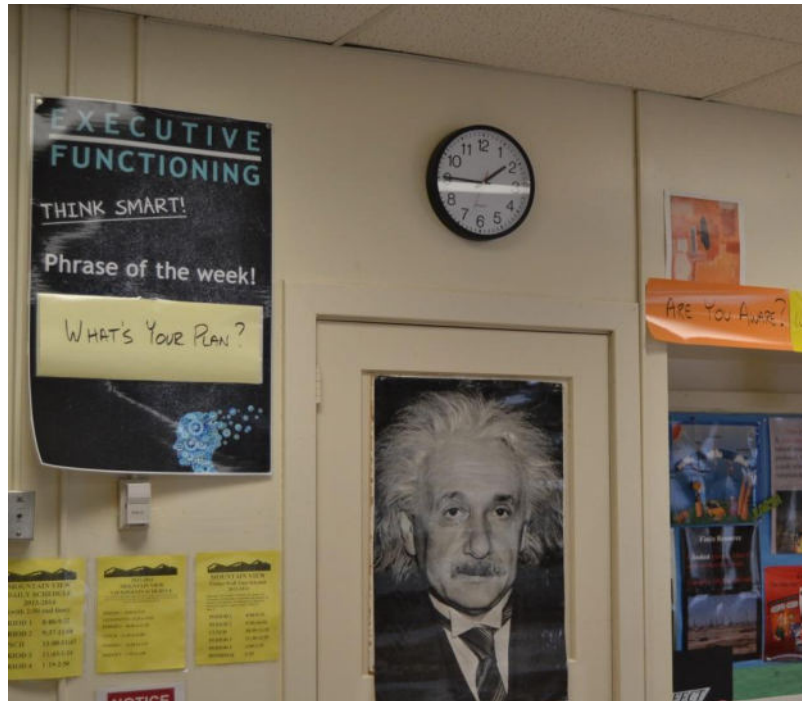
Ohanian ESOL
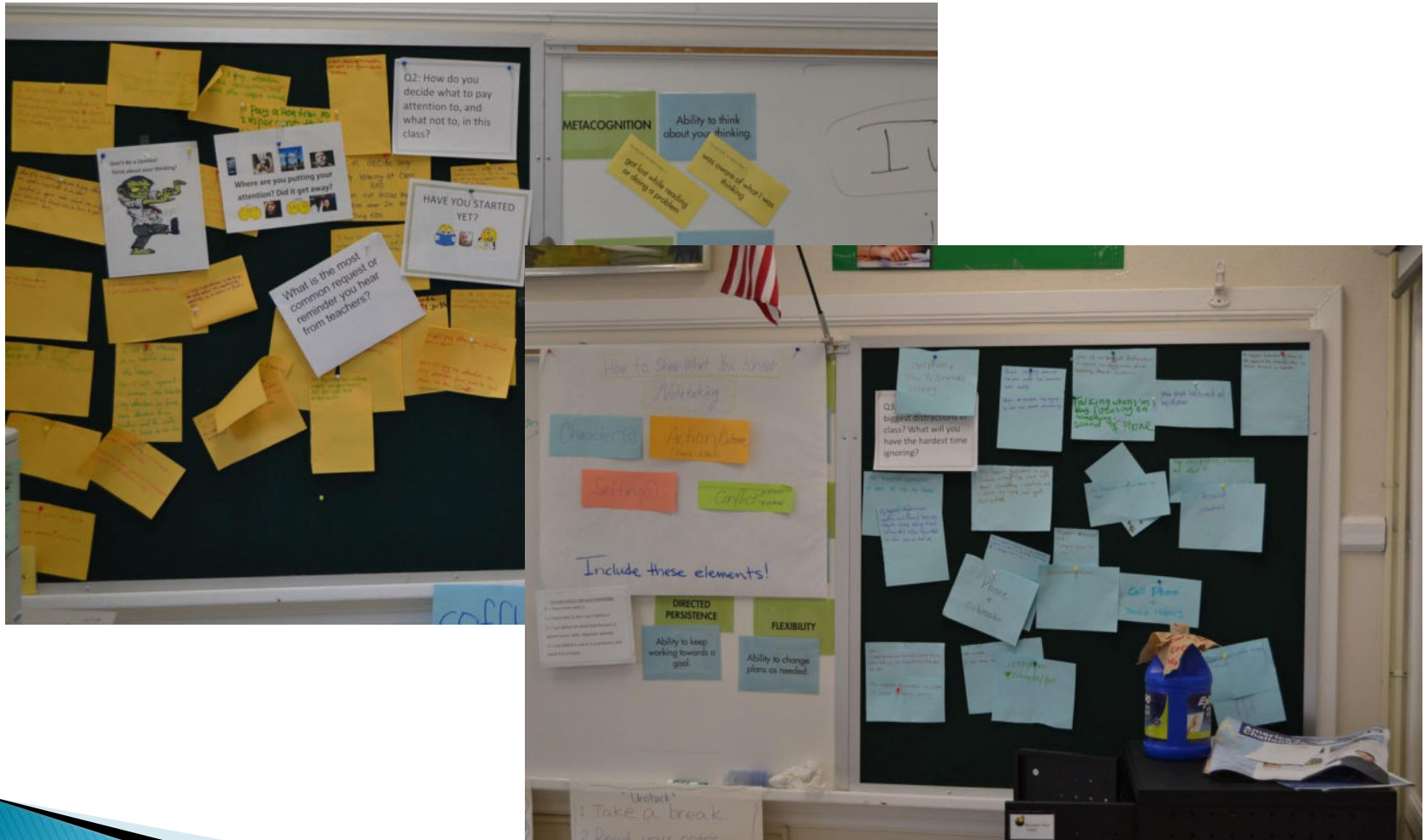
Flatley
Special Education
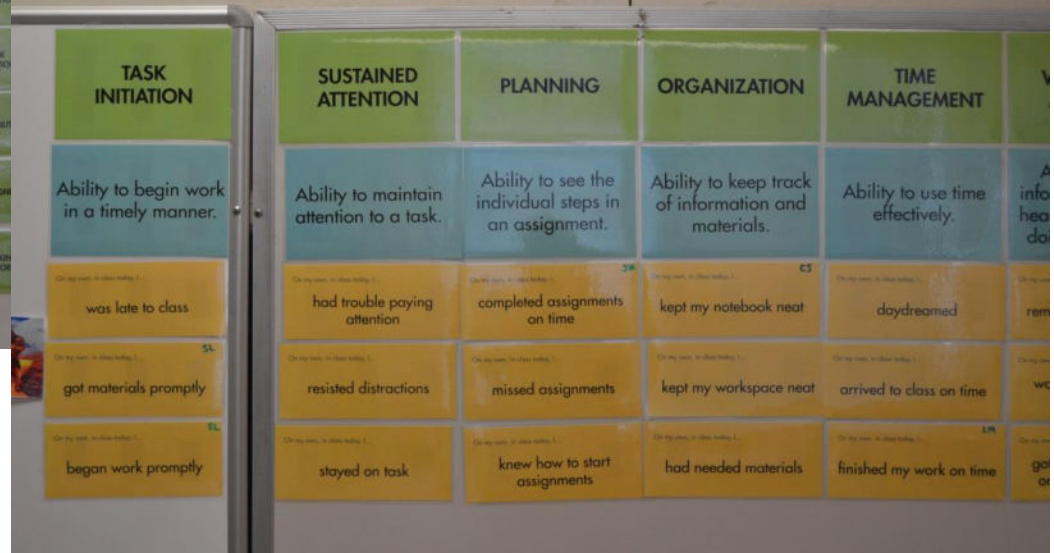
Garvey Government

BYOD Student Reflection

Mindset & Kathleen Kryza

- Kathleen Kryza works nationally and internationally training teachers about mindset and executive functioning

- https://www.youtube.com/watch?v=6s2VM6PshIM&feature=youtu.be

You may be thinking...

This looks awesome but how do we do this in *our* building?

Who is involved?

- Invested and persistent teacher leader committed to learning about EF
- Core group of reflective practitioners and representative of the school/all content areas
- Parents and families (EF skills extend beyond classroom)
- Mountain View teachers as a support and resource

What are you doing?

- Integrating and highlighting the role of EF skills into your daily instruction
- Creating a common language
- Encouraging students to become reflective learners
- Making thinking visible
- Improving life skills
- Increasing self-awareness
- Improving school skills

Where are you doing this?

- Grade level team
- One teacher per subject area
- Subject area team

- Suggestions/thoughts for implementation in your building
- Think vertical articulation

How are you doing this?

- Educate your team
  - <u>Executive Skills in Children and Adolescents</u> by Peg Dawson & Richard Guare
- Use the language with students, parents, staff
- Be committed
- Adapt lessons for your school
- Reflect and collaborate
- Seek out supports and resources

Why are you doing this???

- Promotes a growth mindset in students
- Creates reflective/independent learners
- Improves student/teacher relationships
- Life-long skills for students

Why are you doing this?

- Encourages reflective practice
- Shifts teacher mindset
- Improves teacher/student relationships

Common Concerns

- Taking a professional risk
- Learning about EF
- Seeing the role of EF in the classroom
- Integrating EF into my content area
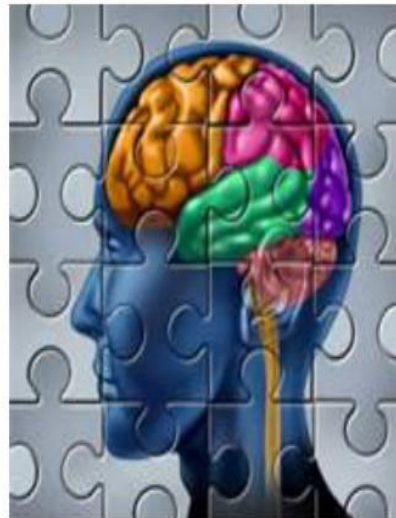
www.efintheclassroom.net

EF IN THE CLASSROOM

Executive Functioning in the Classroom

Home

Lesson Design

EF Skill Areas

Student Comments

WELCOME!

This web site was created by a group of teachers from two different high schools and a professor from the University of Virginia as a way to reflect and collaborate as we begin implementing a series of lessons designed to illustrate the importance of executive functioning in the classroom. We do not intend it to be a resource on executive functioning itself, but rather a place for us, and any visitors to the site, to discuss the importance of executive functioning in the classroom and the effectiveness of the lessons we have created. We will be implementing these lessons in the fall of 2013. We will be evaluating the effectiveness of the lessons as we go, and we will be using a pre and post assessment to measure the overall effectiveness of the lessons.

As we present each lesson (see the "EF Skill Areas" button to the left) we will be posting our thoughts and reflections.

www.efintheclassroom.net

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