

Planning Play and Project Work to Promote Higher Order Thinking

Meeting Street Academy In-Service Day
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Goals, Key Questions & Agenda

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Workshop Goals for Today

- Explore how indoor and outdoor center activities and project-based investigations can promote higher order thinking (executive functioning).
- Explore opportunities in your own classrooms to encourage “tools of the mind” (Bodrova & Leong, 2007) essential to executive functioning:
 - Organization, prioritizing, & planning
 - Focus & persistence
 - Memory & recall
 - Self-regulated intentional action
 - Resilience
 - Effort & pacing

Key Questions

- What is executive functioning and why is it so important?
- How can we reasonably expect young children to develop higher-order thinking skills?
- What is the role of play in early learning?
- What is the proper balance between teacher-directed and child-initiated activity?
- How can we be sure we are meeting standards without relying on teacher-directed activities [i.e. “lessons”]?
- How can we communicate with other stakeholders about the importance of developmentally appropriate practices?

Agenda

- Introductions
- The goal: executive functioning
- Play as a primary mediator (self-reflection & environmental assessment)
- Center-based activities that support complex play & desired skills (visual examples)
- Using Creative Curriculum to promote self-regulation through the interest areas (small group work)
- Using Creative Curriculum to start on a path towards project-based learning, or “emergent curriculum” (planning work)
- Documenting children’s work and play as evidence of learning (visual examples)



Executive Functioning & Play

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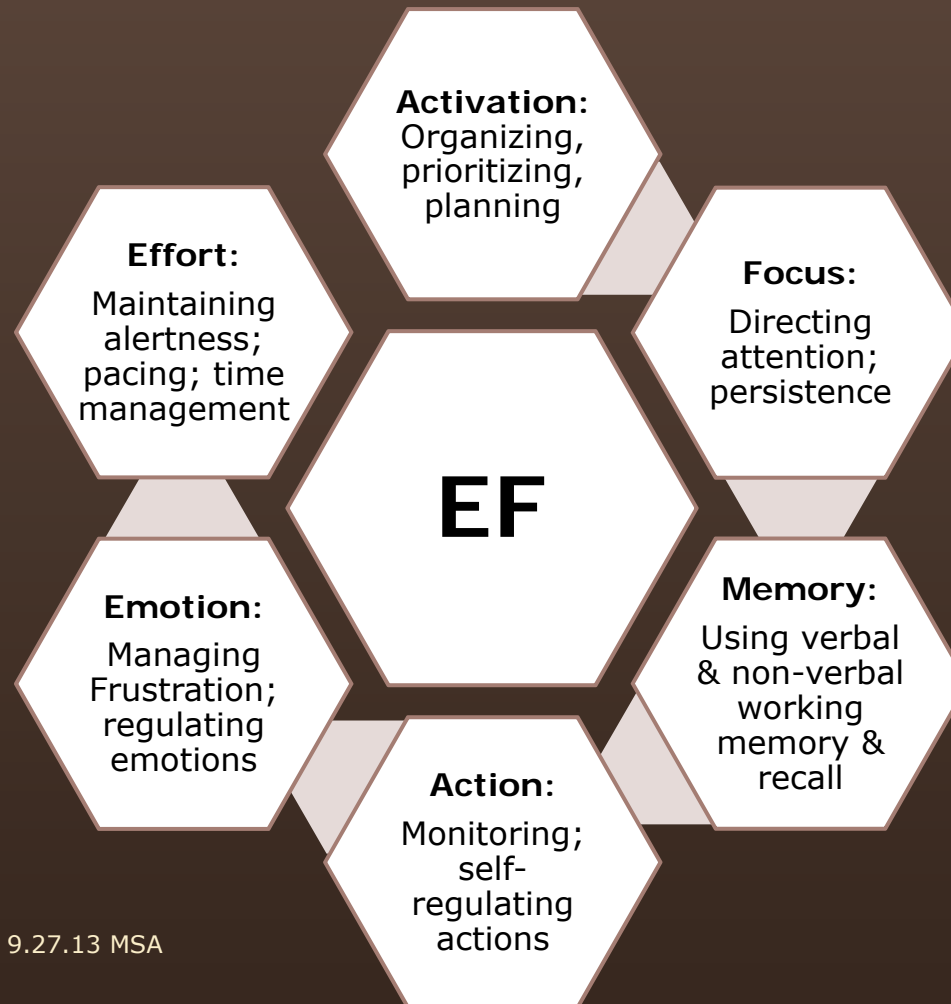
What is executive functioning & why is it so important?

- EF is set of mental processes that allow the brain to work effectively to solve problems
- Connects past experience with present actions
- Better predictor of school success than IQ (Berk, 2001)
- Frontal lobe is the “command center”
- Brain builds neurons & connections as it processes stimuli
- 100 billion neurons by age five – EC period is massively important!!!
- Use it or lose it! (neurons can die from disuse)
- Stronger connections = better memory



Executive Functioning

Key Components (Brown, 2005)



Self-regulation in particular is ECE priority because....

- “Self-regulation predicts effective development in virtually every domain” (Laura Berk, 2001)
- We have seen evidence in high quality preschool programs that children can acquire higher order thinking skills, even though their abstract thinking capacity is not what it will become later (Bodrova & Leong, 2007)
- SC ELS (3-5) emphasize EF skills in Approaches to Learning & Social/Emotional sections



SC ELS Prioritize Dimensions of Executive Functioning

Approaches to Learning:

- AL 1. Children engage in play as a means to develop their individual approaches to learning.
- AL 2. Children show curiosity, eagerness and satisfaction as a learner.
- AL 3. Children demonstrate initiative, engagement, and persistence in learning.
- AL 4. Children demonstrate an increasing ability to envision a goal and to accomplish it.
- AL 5. Children extend their learning through the use of memory, reasoning, and problem-solving skills.

Social/Emotional Development:

- SE1. Children will demonstrate a positive sense of self.
- SE2. Children will demonstrate self control, respect and responsibility.
- SE3. Children express feelings and show concern for others.
- SE4. Children will form healthy social relationships.

Core Standards & EF

Mathematical Practices: (Grade 3 outcomes)

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

Language Arts: characteristics of graduates who have met Core Stds

- Demonstrate independence.
- Build strong content knowledge.
- Respond to the varying demands of audience, task, purpose, and discipline.
- Comprehend as well as critique
- Value evidence
- Use technology and digital media strategically and capably
- Understand other perspectives and cultures

Why is play so important?

Sticky Notes Activity

- Think about how you played as a child.
- Use sticky notes to write down one experience you recall (per note)
- Free-associate and write down whatever comes to mind
- Don't try to organize them in any way till we are done. (@ 5 minutes)

For Example:

- Using blankets and sheets to make "hotel" tents in the backyard
- Stomping down blackberry bushes in the vacant lot behind our house to make "forts"
- Talent shows
- Lemonade/koolaid stands
- Evening games – Red Rover, Mother May I, etc.
- Catching fireflies
- Writing on the sidewalk with chalk
- Making clover chains

What did you learn from play as a child?

- Look at each note and organize/assign to one or more of the six elements of executive functioning (on the charts around the room). What do you notice?
- Think about your play experiences and identify one thing that would be missing from your life today without them.
- Think about your play experiences and identify one thing that you do today that is “descended” from your play as a child
- How do you [currently] promote and/or facilitate play in your classrooms?



Assessing Play Environments

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What occurs in the play environment?

- Indoors, activity centers or interest areas provide for or require open-ended, child-directed activity, planning & decision-making, collaboration, levels of complexity, self-control, and accountability
- Block play develops mathematical & scientific thinking
- Sand and water play develops concepts about physical properties and conservation
- Complex dramatic play acts as a vehicle for the development of language, literacy skills & problem-solving (Bodrova & Leong, 2007)
- A variety of media provide outlets for children's creativity, as well as a means for expressing themselves ("100 languages of children")
- Children acquire experiences, concepts, and vocabulary [that provide the "fuel" for the brain to grow & develop EF skills]
- Outdoor play connects children with the natural environment and provides for "bigger" play than what is possible indoors.

How can we determine the quality of the play environment?

- Most available informal assessments focus primarily on what happens in the environment, rather than the environment itself - mainly complexity of play and the child's experience
- NAEYC accreditation materials and criteria
 - New process comprehensive, but not feasible (or accessible) for all, very time-consuming & expensive
 - Criteria related to play are embedded/integrated
- ECERS
 - In original version (1982) barely mentioned
 - In new version, addressed more comprehensively across sub-scales
 - 4,7,8 (arrangement & materials)
 - 22,23, 24 (blocks, sand/water, dramatic)
 - 29, 30 (supervision)
 - 32, 33 (interactions)
 - 35 (free play – what's the difference?)

Goal of Dr. J's tool is to provide easy way to assess play from two perspectives

Differing contexts

- o Indoor
- o Outdoor
- o Blocks
- o Sand & Water
- o Socio-dramatic

Constants across context:

- o Environment & materials
- o Management/access
- o Intervention & support strategies

Features of this assessment

- Familiar format to those who have used NAEYC and/or ECERS
- Simplified 4 point Likert scale-inadequate, minimal, good, excellent
- Descriptive narrative criteria (ECERS & NAEYC)
- Each sub-scale has the same 3 dimensions (environment & materials, management, facilitation strategies) for ease of comparison across sub-scales
- Addresses all major contexts of child-initiated & teacher-facilitated play (indoor, outdoor, sand/water, blocks, dramatic play)

General Indoor play environment

Minimum requirements: indoor play includes individual centers for blocks, sand and water, and dramatic play

	(1) Inadequate	(2) Minimum	(3) Good: All of (2) plus:	(4) Excellent: All of (3) plus
Physical environment & materials	Centers not designated or clearly defined	Interest areas designated and basic materials available on daily basis Display space available for children's work	Each interest area can accommodate 3-5 children Clearly defined boundaries Materials organized, labeled and accessible to children Materials provide for variety of developmental levels Multicultural/non gender specific materials in each center or interest area	Materials and toys reflect the culture and background of individual children in room Flexible & integrated use of play areas encouraged
Management	Play scheduled in short (15-30 minutes) blocks of time	Play scheduled in at least 30 minute blocks	Free play daily at least one hour AM and PM	Large periods of extended time for play (most of day spent in play)
Intervention and support strategies	Teacher occupied in other activities while children play	Teacher present but involvement limited to monitoring and responding to children's requests	Teacher aware of play levels of individual children and groups of children Teacher moves around room during play time and intervenes appropriately at times	Teacher uses children's products to assess and plan appropriate facilitation strategies for individual children and groups of children Documentation and display of children's work is ongoing

General Outdoor play environment

Minimum outdoor environment: Play area set aside for children that is safe and protected from traffic or other hazards.

	(1) Inadequate	(2) Minimum	(3) Good: All of (2) plus:	(4) Excellent: All of (3) plus
Physical environment & materials	<p>Area used for play not planned for children (i.e. lawn, parking lot, etc.)</p> <p>No designated areas for different kinds of outdoor play</p>	<p>Balance of shade/sun</p> <p>Some gross motor equipment available but not designed necessarily or planned specifically for developmental levels of children</p> <p>Children free to choose activities, but interest areas may not be clearly defined or equipped</p>	<p>Variety of surfaces (hard, soft, grass, etc.)</p> <p>Gross motor equipment appropriate to age/developmental levels of children</p> <p>Interest areas clearly defined for gross motor, sand and water, dramatic play, and games</p> <p>Props available for dramatic play</p>	<p>“Real” construction and gardening materials available</p> <p>Display area includes evidence of outdoor play</p> <p>Outdoor area extends and fully supports and complements indoor environment and activities.</p>
Management	<p>Outdoor play not available on daily basis</p>	<p>Outdoor area used by all children daily</p> <p>Sand and water available occasionally but use restricted</p>	<p>Sand and water available daily</p> <p>Materials rotated regularly</p>	<p>Children extend/continue indoor play themes outdoors with props, space, time, etc.</p> <p>Children document and revisit own work and play outside.</p>
Intervention and support strategies	<p>Teacher monitors play from a distance</p>		<p>Teacher moves freely among children, observing and occasionally intervening to help children develop skills and extend play</p>	<p>Teacher observes/documents and facilitates play as needed</p>

Block Play

Minimum materials: Unit blocks (at least 200 unit blocks per child), hollow blocks or other materials for building large structures (e.g. waffle blocks), a variety of smaller table-top block such as Legos and flexible blocks; accessories such as play people, trucks, etc.

	(1) Inadequate	(2) Minimum	(3) Good: All of (2) plus:	(4) Excellent: All of (3) plus
Physical Environment & materials	<p>No area set aside specifically for block play.</p> <p>Less than minimum basic materials</p>	<p>Area set aside for blocks out of traffic.</p> <p>Minimum basic materials for 2-3 children.</p> <p>Flat floor and table surfaces available for construction</p>	<p>Area clearly and concretely defined with physical boundaries.</p> <p>Props represent cultural differences, such as play people of differing ethnicities, family configurations, and abilities</p> <p>Area supports play for 3-5 children and does not interfere with ongoing activities in other parts of room, but is in close proximity to dramatic play center.</p>	<p>Block area include shapes representative of various cultures (i.e., Egyptian columns or obelisks, Russian domes, etc.)</p> <p>Props included that minimize aggressive play, such as adult and baby animals, scraps of cloth for use as blankets, play food.</p>
Management	<p>Blocks not available on daily basis.</p>	<p>Storage spaces labeled and accessible to all children</p>	<p>Shelf labeling incorporates photographs or outlines of blocks for easy identification of proper storage.</p> <p>Books and pictures of models and children’s constructions displayed</p> <p>Organized, but flexible system for identifying children who want to play in center to respond to children’s interests</p>	<p>Block storage is arranged according to shape and in descending size order from left to right, with accessibility adaptations for children with special needs (e.g., tactile labeling for the visually impaired child.)</p> <p>Teacher encourages themed play with props related to current interests of the children and integration of block play with other areas such as housekeeping, science, socio-dramatic play, and art.</p>
Intervention and support strategies	<p>Block play unsupervised; teacher activity focused on monitoring or enforcing of rules.</p>	<p>Teacher intervention only when children request help.</p> <p>Children play in block area for short (less than 30 minutes) periods of time.</p>	<p>Teacher regularly uses intervention strategies to assist children with construction skills as needed.</p> <p>Teacher encourages dialogue about constructions, such as “can you tell me about what you are building?”</p>	<p>Teacher uses appropriate, play-tutoring intervention strategies such as modeling, and questions that prompt mathematical thinking (e.g., ‘how many more blocks do you need to make this tower the same size as the other one?’)</p> <p>Provision made for “keeping” or documenting structures (photos, scrapbooks, etc.)</p> <p>Teacher facilitates revisitation of earlier constructions through dialogue and group conversation/sharing.</p>

Sand and water play

Minimum materials:

Provisions for Sand and water (table, basin, etc.) Accessories such as toys, pouring implements , shovels, etc.

	(1) Inadequate	(2) Minimum	(3) Good: All of (2) plus:	(4) Excellent: All of (3) plus
Physical environment & materials	Either no sand and water or one but not the other available indoors or out.	Both sand and water available daily indoors and out. Minimum materials limited to buckets, shovels, cups, spoons, etc. Same props available each day.	Props added/rotated regularly for both sand and water Alternate materials added or substituted occasionally for interest such as cornstarch, rice, etc.	Teacher plans addition of toys, implements in response to children's emerging interests and skills Sand/water play props relate to other activities/current themes of interest in other play areas
Management	Sand and water play restricted or not available daily	Experimentation limited by rules	Children encouraged to explore and test ideas, develop themes Children are allowed to integrate sand and water props with materials from other interest areas	Children can document and revisit sand and water play with photos, video, journals, etc.
Intervention and support strategies	No direct supervision of children while playing in sand and water area.	Teacher monitors for splashing, throwing sand, etc., but does not intervene in play	Teacher encourages dialogue, descriptions, conversations as children play. Teacher asks open-ended questions Children encouraged to relate sand and water play to other areas such as art and science	Teacher observes and documents play and responds with appropriate interventions as children's concepts about physical properties emerge

Socio-dramatic Play:

Minimum materials: Housekeeping furniture, dress-up clothes; simple housekeeping props such as play food, dolls, blankets, telephone

	(1) Inadequate	(2) Minimum	(3) Good: All of (2) plus:	(4) Excellent: All of (3) plus
Physical environment & materials	<p>No defined area set aside for dramatic play</p> <p>Less than minimum materials</p>	<p>Dramatic play area and props focus on housekeeping.</p> <p>Space is set aside for prop storage, but not organized by theme.</p>	<p>Basic props reflect cultural diversity, such as ethnic play food, clothing and dolls.</p> <p>Area supports play for 3-5 children and does not interfere with ongoing activities in other parts of room.</p>	<p>Props evolve in response to children's interests in themes and personal experiences.</p> <p>Themed props include materials that invite children to engage in complex use of literacy, math, social skills, etc. (e.g., for restaurant or fast food play, order pads, recipe cards, menus reflecting the languages spoken by children in the classroom, money, headset, cash register, material for sign making, etc.)</p>
Management	<p>Area not available on daily basis</p>	<p>Area available daily</p> <p>Same props available all of the time</p> <p>Play duration limited (less than 30 minutes)</p>	<p>Materials organized and storage provided for access by children as needed.</p> <p>Space provided beyond housekeeping area for themed play</p> <p>Props rotated regularly</p>	<p>Method of documentation available & used to for children to revisit play (video, tape recorders, photos, etc.)</p>
Intervention and support strategies	<p>Teacher monitors play for attention to rules.</p> <p>Not involved in observation or intervention</p>	<p>Teacher responds to children's requests for help and will supply additional props when requested</p> <p>Children's play not coordinated to themes</p>	<p>Children encouraged to integrate dramatic play with other areas</p> <p>Outdoor dramatic play area and props available to extend play</p> <p>Teacher observes play, discusses and asks questions, assists children in extending play themes when requested</p> <p>Teacher assists unfocused children</p>	<p>Parents involved in supplying props; informed of current themes and interests of children</p> <p>Teacher observes and documents socio-dramatic play regularly</p> <p>Teacher uses appropriate intervention strategies to facilitate elaborate and extended themed play.</p> <p>Teacher encourages extension of play themes to outdoor socio-dramatic play area</p>

Scoring (with sample scores)

	Indoor (12)	Outdoor (12)	Sand/water (12)	Blocks (12)	Socio- Dramatic (12)	Sub-Total scores across dimensions
Environment & materials (20)	3	2	3	4	3	15/20
Management (20)	4	4	3	3	4	18/20
Facilitation (20)	3	4	2	2	4	15/20
Sub-Total scores for each sub- scale	10/12	10/12	8/12	9/12	11/12	Total Score (48/60)

Interpreting results

- A total score reflects the overall quality of play in the context of the environment.
- If scores for each sub-scale are analyzed separately, each scale can provide feedback on a particular type of play (indoor, outdoor, sand/water, blocks, dramatic).
- If scores across sub-scales are analyzed separately, feedback is provided for a particular dimension of play (materials, management, facilitation)
- The descriptors, like both the ECERS and NAEYC criteria provide 'self-correcting' information for improvement

Small Group Activity

Work with your MSA teaching partners to complete the assessment (from memory or participant observers) as it applies to your current classroom

- Questions?
- Discussion?
- What could you do immediately to improve the play environment?
- What long-term vision do you have for a play environment?



Center-based Play Indoors & Outside

Switch Presentations



Scaffolding & Facilitating Play

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Leading Activities & Executive Functioning(Vygotsky)

- Vygotsky describes a leading activity as “the only type of interaction at a certain period of life that will
 - Produce major developmental accomplishments
 - Provide the basis for other activities (interactions)
 - Induce the creation of new mental processes and the restructuring of old ones” [assimilation & accommodation] (Bodrova & Leong, 2007)
- Infants: Emotional interactions with caregivers
- Toddlers: object-oriented activity
- Preschoolers: MAKE BELIEVE PLAY
- Elementary – learning activities

Leading Activity/Developmental Accomplishments for 3-5 year olds

The leading activity for preschoolers 3-5 is MAKE BELIEVE PLAY because it supports & leads to:

- Imagination – inventing new ways of thinking about all kinds of things
- Symbolic function – the ability to use objects, actions, words, or people for something else
- Ability to act on internal mental plane – thinking is no longer dependent on objects; visual imaging (which leads later to abstract thinking)
- Integration of thinking and emotion – ability to moderate emotions based on past experience learning
- Self-regulation – deliberate intentional action to regulate physical and emotional behavior

Facilitating Play (in general)

- You can't facilitate play if you are focused on something else.
- Your level of involvement in center time sends subliminal messages about how much it is valued
- Try to resolve scheduling conflicts so you can focus your full attention to center time
- Observe for "windows of opportunity" (Vygotsky's ZPD)
- ZPD = what a child cannot do independently, but can do with assistance

- Supervision ≠ Facilitation
- Supervision ≠ Observing
- Don't step in and do anything for a child the child can do unassisted
- Do step in to model problem-solving, language, inquiry strategies, etc.

Scaffolding with ZPD Example:

"Mary Margaret draws a horse"

Characteristics of complex, mature play

Handout: Mature/Immature
Play

- Symbolic representation
- Extensive use of language
- Complex or interwoven themes
- Character development/roles
- Extended time frame

Scaffolding High Quality Make-believe Play

- Sufficient Time
- Suggest theme ideas relevant to children's experiences
- Choose appropriate props & toys
- Help with/model planning strategies
- Monitor & coach when needed
- Suggest/model theme development
- Model conflict resolution
- Encourage peer-mentoring

Planning for High Quality Center Play

Center [CC]	Do More?	Do Less?	What could go?	What could I add?



Project-Based Learning & Emergent Curriculum

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Project Work



- Long-term project work requires all the elements of EF
- Long-term projects provide a context that supports the principles of brain development

Elements of Project Work vs. Thematic Units/direct instruction

Long-term Projects

- Adult anticipated
- Child directed
- Small groups
- Driven by exploration
- Time varies
- Multi-dimensional
- Document process
- Constructed knowledge

Thematic Units

Adult generated
Teacher directed
Whole class
Teacher planned
Set time frame
One theme at a time
Document ending
Transmitted knowledge

Project Examples & EF Elements

EF Element	Project	EF Dimensions & Characteristics Focus
Activation	<i>Pennies for Peace</i>	Organizing; prioritizing; strategizing
Focus	<i>24 foot Python</i>	Getting it perfect, persistence
Effort	<i>Owls/birds</i>	Pacing, waiting; sustaining interest
Emotion	<i>Fancy Dress Project</i>	Coordinating many personalities; regulating emotions
Memory	<i>Water Project</i>	Accessing conceptual recall
Action	<i>Park Project</i>	Monitoring & self-regulating behavior

Activation: Pennies for Peace (organizing)



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Focus: 24 foot Python (getting it perfect, persistence)



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Effort: Owls/birds (pacing, waiting)



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Emotion: Fancy Dress Project (coordinating many personalities)



Memory: Water Project (conceptual recall) & Dinosaur Project (movie)



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Action: Park Project (self-regulation)



Climbing the trees

Visual Documentation

- Purpose/goal:
 - To assist child in interpretation & extension of learning
 - To communicate children's learning to others
 - To extend teachers understanding of the teaching/learning process
 - Provide information for planning
- Format:
 - Panels: self-contained display boards that focus on a learning theme or activity
 - On-going displays in room/hallways using walls, bbds, ceiling, etc.
 - Scrapbooks
 - Digital Stories
 - Online publishing
 - Powerpoint or Prezi presentations
- Strategies
 - Visual images: digital cameras, instant photos, videotape, etc.
 - Scripts: conversations, discussions, conferences
 - Labels – “What is going on here?”
 - Artifacts & work products
- Examples

<http://ecdc.cofc.edu>

<http://www.projectapproach.org/>