



EXPERIENCE THE FOUR C'S PROFESSIONAL DEVELOPMENT

Based on *Becoming Brilliant*

by Roberta Michnick Golinkoff, Ph.D. and Kathy Hirsh-Pasek, Ph.D. (American Psychological Association, 2016).

Experience the Four C's Facilitators Guide

We have frequently heard from members of our faculty and staff that, although they have heard a lot of talk about the Portrait of A Graduate, they aren't really sure what that actually means for them in their classrooms. We thought that in lieu of a book study (which would be hard to facilitate across a group as big as all faculty members) we would design a professional development opportunity where adult learners could experientially learn about the 4Cs. The intellectual content for the 4C's one-pagers (attached below as Addendum 1) come from Dr. Golinkoff and Dr. Hirsh-Pasek as outlined in their book *Becoming Brilliant* (which should be required reading for anyone who is thinking about the 4C's and how they can be incorporated into your system). Some systems may have already designed their own rubrics around portrait competencies which could of course be used in lieu of *Becoming Brilliant* but I think that their work adds a great deal of credibility to any rubric and is desirable background knowledge. The activity will take about 90 minutes total (including a break) and we believe that the ideal number of participants is 10 but should not be any bigger than 20. We are also thinking about incorporating this activity into our onboarding processes as a way of introducing new members of our team to the way in which we approach teaching and learning in our system.

- **Collaboration** (15 minutes) – In this activity, participants will learn the levels of collaboration by trying to solve a problem. When we facilitate this activity we use the peg game that you find at the table in your local Cracker Barrel restaurant. The goal of the activity is for each participant to be able to solve the puzzle by only having 1 peg remaining on their game board.
 - Round 1: Participants will have 2.5 minutes to work independently to see if they can solve the puzzle. With adults you will need to put up solid dividers so their eyes don't wonder (which is important because that's essentially the second round).
 - Round 2: Participants can now work beside (and observe if they would like) one partner for the next 2.5 minute round. They can ask maybe one or two questions only of the other person.
 - Round 3: During this 2.5 round, participants can fully work with one partner to try and solve the problem. They can talk, strategize and support one another fully through the activity.

- Round 4: During this five minute round, participants can now team up with another partnership and work together to solve the problem.

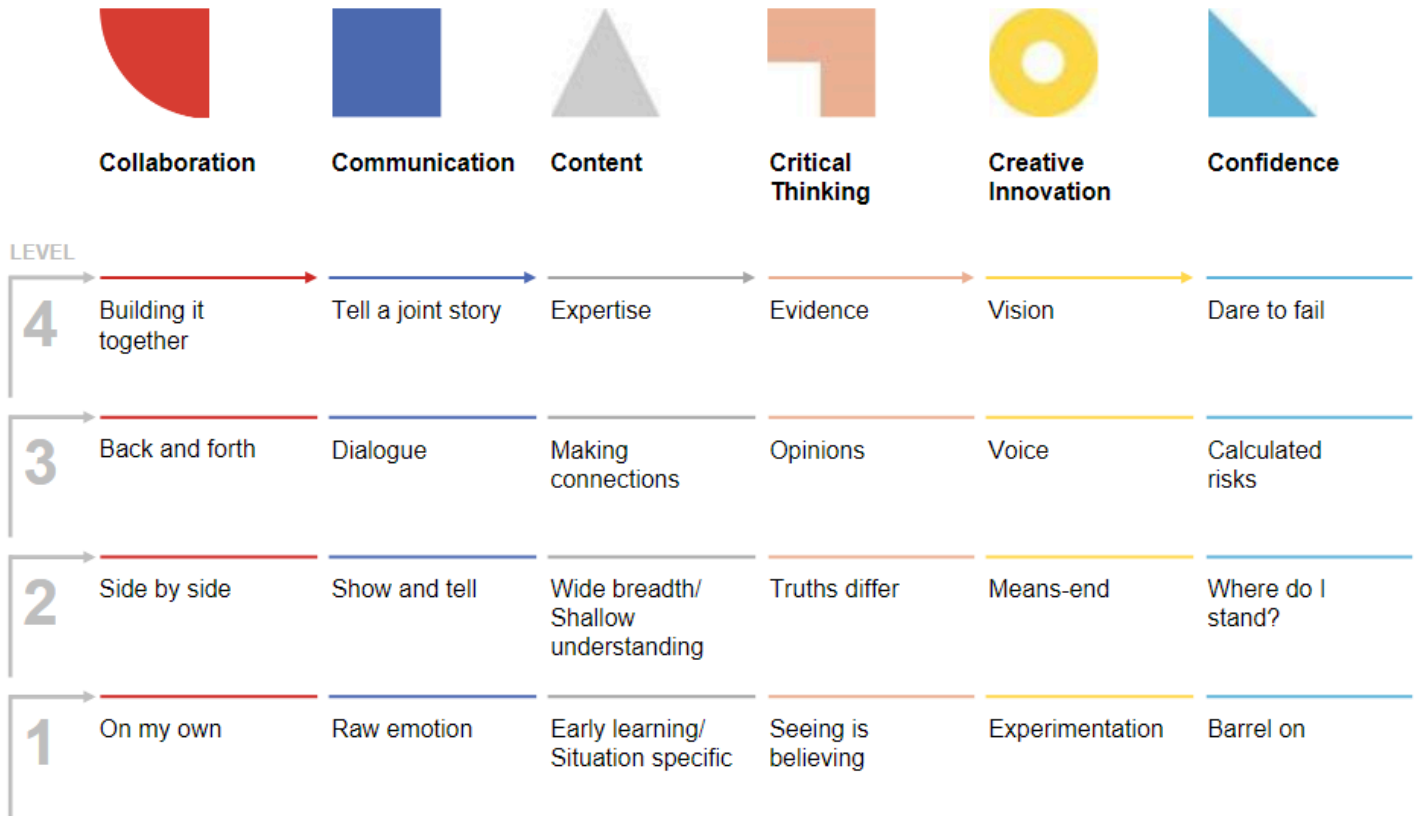
Once the rounds are complete, facilitate a conversation about what it felt like to work alone, with another person and with a whole group to solve the problem. Introduce participants to the collaboration one pager which illustrates the way in which people build collaboration skills in the same way they did during the rounds. If helpful, there is a great YouTube clip that shows how to leave only one peg [here](#).

- **Creativity** (20 minutes) – In this activity participants will use creativity kits to explore how students can grow their creativity. The book *Creative Confidence* by Kelley & Kelley would be a good pre-read for the instructor as the book does a great job iterating the fact that *everyone* can be creative and, like other skills, it is a skill that can grow and be fostered.
 - Participants will be divided into teams of two. Each team will get a “creativity kit” in a brown paper bag. The creativity kits aren’t really kits but just a bag filled with random odds and ends. The kit we used has popsicle sticks, marbles, paper plates, strips of aluminum foil, strips of construction paper, string and small paper cups. This activity is based off of an excellent presentation Battelle for Kid’s SOAR Network received at the Columbus Museum of Art in 2019.
 - Participants will have 10 minutes to construct something they think one might find in a school of the future. While teams are creating circulate and make sure folks are on task and provide support as needed.
 - Go around the room and have each team share out what it is that they constructed.
 - After the activity is complete walk through the creativity one pager and discuss how students can get more at bats during the school year in creativity.
- **Break (10 minutes)**
- **Critical Thinking** (25 minutes) - In this activity, participants will be exposed to the levels of critical thinking by participating in a group conversation about a text. You can use any text that you would like but we use an excerpt from a case study called *Life, Death, and Property Rights: The Pharmaceutical Industry Faces AIDS in Africa* by Nicholas Bartlett ([available here](#)). We only use a few pages from the case study (pages 9-13) as well as the graphs on pages 17 & 18.
 - To begin the activity, briefly go over the four levels as outlined in the one-pager and make sure that participants have a good understanding of the difference between personal truth, opinion, fact and evidence.
 - Next, you will give the participants about 10 minutes to read the case study. In theory you could pre-assign this reading but as facilitators of adult learning trainings often find out, it is unlikely everyone will have read. If you aren’t going to use the case study we use, just make sure you select a text that is meaty enough to generate discussion but short enough for folks to read in about 10 minutes.
 - Explain to participants before they read that this activity will help illustrate the four levels of critical thinking. Let them know that you have assigned four people a role for a

discussion you will be facilitating that asks them to mimic one of the four levels of critical thinking. During the 10 – 15 minute conversation that will follow, participants should participate in the discussion but also observe their peers closely to see which of them is displaying Level 1, 2, 3 or 4 characteristics during the discussion. (Note: this activity is great after a break because it allows you time to assign the roles before everyone comes back in so people won't see you ask them.) After the discussion you should have participants see if they can identify the people who were tasked with modeling each level by thinking about their questions/how they interacted during the group discussion.

- **Communication** (20 minutes) – This is one of the least invasive and fastest activity rounds. Participants in this activity will view video clips of conversations or characters and will identify which level of communication that clip is illustrating. You can use any clip of any movie or television show that you would like but we have provided for you the clips that we used.
 - To begin the activity, briefly go over the four levels as outlined in the one-pager and make sure that participants have a good understanding of the difference between the different levels of communications.
 - Next, show the clips you have selected to participants and have them write down which level of communication they think each clip is modeling. Show all of the clips before engaging with participants. Also, make sure you randomize which clip you show when so that participants don't just see the clips in order.
 - Round 1 Raw Emotion: Donald Duck
 - <https://www.youtube.com/watch?v=x39-AgyU3Xg>
 - Round 2: Show and Tell: (emphasize that the difference between this and the third clip is that they are unwilling to listen to the other side).
https://www.realclearpolitics.com/video/2018/07/24/meghan_mccain_and_bear_argue_over_the_normalization_of_democratic_socialism_on_the_view.html
 - Round 3: Dialogue – Make sure that participants know that they should focus on the part of the clip that deals with the Supreme Court's deliberative process and not as much about the introductory information.
 - Supreme Court Discussion <https://www.youtube.com/watch?v=SrrNQgbflww>
 - Round 4: Tell A Joint Story
 - Star Trek the Next Generation (available on Netflix) : Season 2 , Episode 15 clip starts on 22:02.

FOUR C'S ONE-PAGERS (ADDENDUM 1)¹



¹ The content of these one pagers come from *Becoming Brilliant* by Dr. Golinkoff and Dr. Hirsh-Pasek

Collaboration

- Level One: On My Own - Students are able to work independently and able to self-control to complete a task.

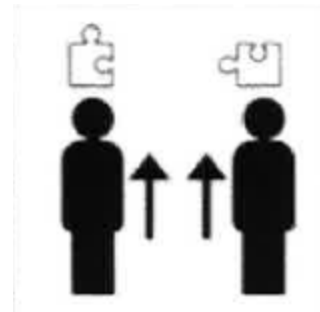


- “Level 1 is like playing a hidden figures game in Highlights magazine. You don’t even notice those budding moments of collaboration and the important role parents are playing in supporting self-regulation. These everyday interactions offer opportunities to help children adopt more mature behaviors. It is in these little moments when parents assist kids to overcome their frustrations and help them turn to other choices that self-regulation and then the capacity to self-regulate are born.”

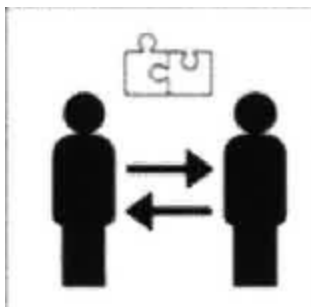
- Silo Syndrome – Hurricane Katrina example; everyone is only talking to themselves and information doesn’t get out.

- Level Two: Side by Side: Students are able to work more independently but have budding respect for the needs of others.

- “Daniel and Cynthia – 3 year olds- are playing in the sandbox with their shovels and buckets and castle molds. They play along quietly together not really acknowledging each other until Daniel can’t find his castle mold. He looks over at Cynthia, “You got my castle?” and she reached under the sand to grasp a red plastic corner peering out and pulls the castle out smiling. “Here!” she says triumphantly. Every now and then they might come to get for a few moments to pat something down and smooth out sand, but there is no real collaboration on a common, overarching task.”
- Philadelphia – The town needs a facelift. Committees are formed to address the problem and each has a laser focus on one aspect of the project. Everyone comes together excited for the plan but the newly imagined train station has no connection to the township and everyone’s upset with the parking. No one gave a whit of thought to the *total plan*. Each of the groups is marching side by side toward a common goal but no one is really working together.



- Level Three – Back and Forth – Students begin to talk more together and work together towards solving a problem.



- “Daniel and Cynthia eagerly share their buckets and molds in the sand box, each ask questions about what the other is doing, and hold conversations about digging to China. They engage in give-and-take behavior and comment on each other’s progress: “Oh, that shovel is bad; try this one!” Cynthia freely volunteers.” You know you’re seeing level three when children are more interested in one another than in the toys they are playing with.

- A hard drive crashes in a company in Philadelphia. The locally training “specialist” isn’t trained enough to help and immediately contacts an expert in India. The two work together and relay information to get the computer back to working order. All three workers are only successful due to their work together on the issue.
- Level Four – Building it Together – Students seamlessly work together to solve a problem and create an outcome impossible without the others.
 - “[Daniel and Cynthia] play together, define rules and assign roles to each other. “Let’s build Queen Elsa’s castle,” Cynthia says enthusiastically, after having seen the movie Frozen. “OK,” Dan says, “but then we have to build a big wall to keep the invaders out.” Cynthia” I’ll be Queen Elsa; you be the Olaf the Snowman.” Dan agrees – reluctantly – and thinks about the weird motions he can try with his body to capture snowman Olaf’s elasticity.”
 - Hewlett and Packard. Lerner and Loewe. Watson and Crick. Abbott and Costello. Masters and Johnson. What do these pairs of names have in common? These super successful collaborations left their mark on the world and made them household names. Not everyone has to be a star. Moe and Molly’s local luncheonette can be born of a great collaboration as well.



Communication

- Level One – Raw Emotion: Student communicates how they feel or what they need by raw emotion rather than verbal articulation.
 - Infants cry in order to express their discomfort or demand something. This is Level 1.



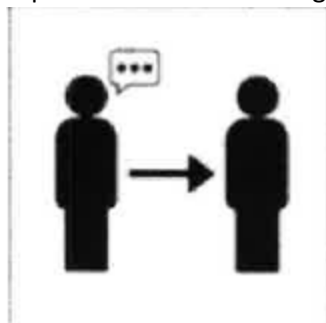
Only after time they can begin to verbally express their discomfort which is Level 2.

- After a child is told they can't have another cupcake, they reach emotionally and either steal the cupcake or have a knockout tantrum on the floor. A Level 2 child would at least be able to verbally express "I'm angry."
- Meg Whitman, CEO of eBay, allegedly verbally chewed out and berated an employee, shoving her in the process.

This is a level one type of communication of dissatisfaction with performance.

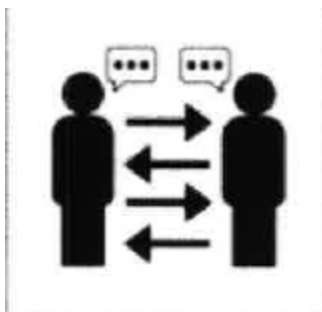
- Level 2 – Show and Tell: Students are able to verbally express their emotion but fail to really listen to others when they are talking, opting instead to focus on what they will contribute to the conversation when it's their turn.

- Level II students are able to communicate their needs but spend more time thinking about what they want to say than listening to the person who is trying to communicate with them.
- Level II teaching can sometimes occur when a teacher student dominates all of the conversation during a discussion rather than seeking to communicate and be understood by the room.
- In business, Peter Nulty has suggested that listening is the most valuable skill leaders have and that it distinguishes the great leaders from normal ones. But Level II can't get there.



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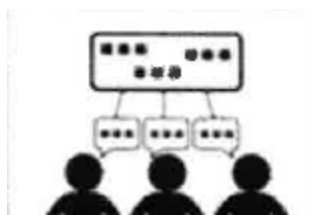
- Level 3 – Dialogue: Students are able to engage in a "serve and return" conversation where a student sends over a piece of information to a colleague who understands it (and the other's perspective), builds on it and sends it back with some new information added.



- Really strong Level III conversations require the person to take and understand the perspective of the other person in the conversation.

- Level III teaching might mean facilitating a conversation not just for the content alone but to give kids a chance in putting themselves in another's shoes and learning how to listen to a comment, consider it, and engage in dialogue with another.

- Level 4 – Tell A Joint Story: Students are able to listen to each other and understand not just the words but everything they know about the other person and build a story together.
 - Level IV looks a lot like improvisational comedy where actors are engaged and building off one another.



- Has some “maxims” for success
 - Maxim of Quantity: as informative as necessary without excess information.
 - Maxim of Quality: what is said is truthful and necessary for the conversation.
 - Maxim of Relation: what is said is relevant to the ongoing conversation.
 - Maxim of Manner: what is said is communicated appropriately with clarity and brevity.

Critical Thinking

- Level One – Seeing is Believing: Students blindly accept new information without meaningful questioning and assume all other think like or hold the same assumptions they do.
 - Noah (age 4) is playing with a cat. The researcher then places a dog mask over the same



cat the child believes the cat is now a dog. A child sees The Wizard of Oz and assumes that if she gets a bucket of water poured on her, she will melt like the witch.

- In business, people say “that’s not my job” and refuse to do a task because they don’t want to consider something new. Also the opposite: people will say “I was just following orders” when they do something wrong rather than own that they should have considered the request before complying.

- Level 2 – Truths Differ: Students know that not everyone thinks like they do but act like “absolutists” in believing that there is still one actual truth or answer. They might begin to use expertise of another in determining which truth is right.
 - Liz’s dad tells her is she swallows a watermelon seed she’ll grow a watermelon in her tummy. Her friend Gaby disagrees and says if you swallow the seed you’ll have a baby. Both believe one is wrong and one is right and will continue to fight about it.
 - Level II students will struggle with “questioning assumptions” and it can be difficult to get them to come off of a point of view. They also won’t need to do any planning or significant scrutiny of a source of information.
 - In business, when BP’s oil platforms blew up they lost millions of gallons of oil and created an ecological disaster. But they had never considered before that such an event could happen and had no game plan.



- Level 3 – Opinion: Students can now understand that individuals have opinions and that there can be different opinions on truth. They may overweigh personal opinion over actual evidence.
 - Students will consider the source of an opinion but may be hoodwinked by self-proclaimed experts, notorious website (Wikipedia...) or celebrities pretending to have more weight behind what they say.



- We reinforce level III thinking over level IV when we asks students what they subjectively believe what a story means or what a character was thinking rather than requiring them to cite evidence to point them to that conclusion.

- Think teenagers: they will listen and understand that others think or opine differently but no matter what you say, the credibility you have or what the evidence suggests they believe their opinion to be correct.

- Level 4 – Evidence or Mastering the Intricacies of Doubt: Students make decisions based on evidence and synthesize disparate pieces of information to make a new conclusion relevant to the task at hand.



- This is the heart of the 21st century skill: it won't be enough to have been exposed to, or memorized and forgotten, content. It will be in the ability to use evidence to find the right pieces of data to create a whole new picture and way forward.

- "Perhaps we need to escape from the illusion that content is king and recognize that those who will success will be the synthesizers and navigators in a... sea of content."

Creative Innovation

- **Level 1 – Experimentation: Students are able to experiment or play with materials but without a grand plan or idea of how they can interact together.**



- Students are willing to mess around with materials or an idea but don't know how they can combine for a whole. Elena explores blocks but can't do much with them.
- In the adult world, when we shut down new ideas or stop brainstorming prematurely we aren't even getting to level 1 experimentation.

- **Level 2 – Means End: Students are able to use materials to create diverse ends or different materials to create the same end.**

- Elena can now use the blocks to construct a house rather than just use trial and error to explore their function.
- Students should be encouraged to explore potential solutions to problems in an open ended way rather than taught the “right answer” or given specific instructions.



- U.S. soccer students are less likely to show creativity on the play of field because they are used to being taught every contingency/strategy rather than allowed to flow with the game. They never advance beyond Level II.

- **Level 3 – Voice: Students are able to use their personality or voice to make new, albeit small, improvement or new advance within a field.**

- Elena would be able to come up with a small, ingenious use of the blocks to construct an aspect of the house she is building.



- Students are able to come up with a small novel solution to a problem or improvise a new one outside of the parameters initially presented.
- Level III creative breakthroughs in business represent a “turn of the crank” of a study to make small, incremental gain. A Level IV would be a huge advancement of the crank or a reimagining of an entirely new crank.

- **Level 4 – Vision: Students are able to solve a large problem or a paradigm shift in the way things are done.**

- Performance at level 4 is usually supported by a synergistic boost from critical thinking, collaboration and confidence.



POSSIBLE QUESTIONS FOR CRITICAL THINKING EXERCISE (ADDENDUM 2)

1. How many Africans are estimated to be HIV positive?
 - a. 25 million
2. Is there a treatment available for AIDS?
3. What percent of the population current receive treatment?
 - a. Only 25,000 of the 25 million so less than 1%?
4. Who do activists blame for this lack of care?
5. So, what is the drug cost?
 - a. \$10,000 - \$15,000
6. And does insurance cover it?
 - a. Many Africans don't have it – follow up question Is the Government doing anything?
 - i. Government is doing somethings but are hindered by patents
7. Is there a generic substitute?
8. How long does a pharmaceutical patent typically last? (Note: this isn't in the reading, might be a good time to encourage them to google.
 - a. 20 years

9. What is the rationale for having drug patents in the first place?
10. In other countries that have used generics, how much lower would the cost be per patient?
 - a. \$4,716
11. And how have other countries been able to bring in those drugs?
 - a. Thailand just passed a law allowing it
 - b. Brazil the government sponsored its own production
12. Did either approach lower the amount of AID patients?
 - a. Kept 146,000 out of the hospitals and saved 422,000,000 in costs.
13. But let's start to think a little about the other side of the argument, aren't Pharmaceutical companies trying to save lives?
14. So, under Pharma's view, what are the issues that are preventing treatment in Africa?
 - a. Lack of clean water, poor medical infrastructure
 - b. Corruption of local officials (only \$12 of every \$100 in drugs actually gets to patient)
 - c. Drugs are stolen and sold in other parts of the world due to lack of security
 - d. Difficulty in navigating the continent and getting drugs to places within the country
 - e. AIDS is an immune system issue that you need to have regular drugs and monitoring for which is not available in African areas
 - f. Patients also have to have good general health, proper nutrition and exercise

- g. High prices in the industry are critical because innovation is expensive (use the chart to draw this out).

15. At this point, facilitate conversation among the group trying to cold call the four people selected with targeted questions to draw out their assigned viewpoint.