

Based on a belief that critical thinking is a socially constructed process and contextual in nature, the author challenges the use of standardized assessments and instead offers locally grounded strategies.

Assessing Critical Thinking

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Critical thinking occupies a special place in the hearts of adult educators, particularly because of its connections to the democratic tradition that informs the field. At the heart of a strong, participatory democracy is citizens' capacity to question the actions, justifications, and decisions of political leaders, and the capacity to imagine alternatives that are more fair and compassionate than current structures and moralities. Such capacities develop as we learn to think critically. Encouraging critical thinking in adults is therefore integral to the democratic project. It is also true that critical thinking seems to hold the promise of constituting a universal theory of adult learning and, by implication, a template for adult education practice. If critical thinking is a uniquely adult learning process, then fostering critical thinking becomes, by implication, a uniquely adult educational process. Critical thinking can be analyzed in terms of both process and purpose, although these two elements are inevitably intertwined.

The Process of Critical Thinking

As a process, critical thinking involves adults in recognizing and researching the assumptions that undergird their thoughts and actions (Brookfield, 1987). Assumptions are the taken-for-granted beliefs about the world and our place within it that seem so obvious to us that they do not seem to need to be stated explicitly. Assumptions give meaning and purpose to who we are and what we do. In many ways we are our assumptions. So much of what we think, say, and do is based on assumptions about how the world should work and about what counts as appropriate, moral action. Yet frequently these assumptions are not recognized for the provisional understandings they really are. Ideas and actions that we regard as commonsense conventional wisdoms are often based on

uncritically accepted assumptions. Some person, institution, or authority that we either trust or fear has told us that this is the way things are and we have accepted their judgment unquestioningly. When we think critically, we start to research these assumptions for the evidence and experiences that inform them.

The purpose of critical thinking tends to be to scrutinize two particular and interrelated sets of assumptions. First, there are assumptions that frame how we view power relationships in our lives. Critical thinking entails adults understanding that the flow of power is a permanent presence in our lives. In our personal relationships, work activities, and political involvements, power relations are omnipresent, though often submerged. Uncovering and questioning these power relations so that we might redirect the flow of power in a circular or democratic manner is an important part of critical thinking.

Second, there are hegemonic assumptions that need to be uncovered. Hegemonic assumptions are those that we embrace eagerly because we think they are in our own best interests. Yet perversely these assumptions actually work against us in the long term and serve the purposes of those who do not have our best interests at heart. The term *hegemony* applies to the process whereby ideas, structures, and actions come to be seen by the majority of people as wholly natural, preordained, and working for their own good when in fact these ideas, structures, and actions are constructed and transmitted by powerful minority interests to protect the status quo that serves these interests so well. The subtle cruelty of hegemony is that over time it becomes deeply embedded, part of the cultural air we breathe. One cannot peel back the layers of oppression and identify a group or groups of people as the instigators of a conscious conspiracy to keep people silent and disenfranchised. Instead, the ideas and practices of hegemony become part and parcel of everyday life—the stock opinions, conventional wisdoms, or commonsense ways of seeing and ordering the world that people take for granted.

The Debate

One of the most intense debates about critical thinking concerns its assessment. How do we judge whether or not our efforts as adult educators are having any effect? How do we know that people are thinking, much less acting, critically? To be sure, several standardized tests are available that purport to measure students' ability to reason in a critical manner (Carpenter and Doig, 1988). Such tests tend to treat critical thinking as if it were a generic intellectual capacity that manifests itself in broadly similar ways across disciplines (Norris and Ennis, 1989). Others have argued that critical thinking needs to be assessed in the multiple contexts in which it occurs (Cromwell, 1992). The debate regarding the generalizability or specificity of critical thinking is foundational and unresolved (McPeck, 1990; Norris, 1992).

My own view of critical thinking is that it is irrevocably context bound. The same person can be highly critical in one situation, or with regard to one set of ideas, but completely closed to reappraising another situation or idea critically.

I also believe that learning to think critically is an irreducibly social process. It happens best when we enlist the help of other people to see our ideas and actions in new ways. Very few of us can get very far probing our assumptions on our own. No matter how much we may think we have an accurate sense of ourselves, we are stymied by the fact that we are using our own interpretive filters to become aware of our own interpretive filters! This is the pedagogical equivalent of a dog trying to catch its tail. A self-confirming cycle often develops whereby our uncritically accepted assumptions shape actions that then serve only to confirm the truth of those assumptions. We find it very difficult to stand outside ourselves and see how some of our most deeply held values and beliefs lead us into distorted and constrained ways of being. To become critically reflective, we need to find some lenses that reflect back to us a stark and differently highlighted picture of who we are and what we do. Our most influential assumptions are too close to us to be seen clearly by an act of self-will.

If critical thinking is conceived as an irreducibly social process, then our peers (and teachers) become important critical mirrors. When our peers listen to our stories and then reflect back to us what they see and hear in those stories, we are often presented with a version of ourselves and our actions that comes as a surprise. Hearing the perceptions of our peers helps us to gain a clearer perspective on the dimensions of our thoughts and actions that need closer critical scrutiny. Talking to others helps us to become aware of how much we take for granted about our own ideas and actions. It also alerts us to our judgmental ways of seeing. Sometimes it confirms the correctness of instincts that we felt privately but doubted because we thought they contradicted conventional wisdom.

Accurate assessment springs from an informed understanding of the phenomenon being studied, and the assessment of critical thinking is no exception. If critical thinking is context and person specific, if its manifestation is irrevocably embedded in its cultural surroundings, then an intelligent approach to assessment requires that it be grounded in local conditions. Assessing critical thinking really has to be locally crafted by those integrally involved with the process. It makes no sense to import formal tests devised by those outside the immediate context in which the critical thinking to be assessed is taking place.

In addition, if critical thinking is necessarily a social process, then it follows that its assessment should also be a social process involving a multiplicity of experiences, contributions, and perceptions.

This chapter outlines a number of examples of locally crafted, cooperative approaches to assessing critical thinking. These approaches are premised on three assumptions, which themselves should be subject to constant critical scrutiny:

1. *Critical thinking can be assessed only in specific contexts.* This means that studying the dimension of action—what students do as well as what they say—is crucial.

2. *Critical thinking can often be best assessed by one's peers, who function as critical mirrors.* Not only the instructor but also other learners can provide valuable assessment of one's developing capacity to question hegemonic assumptions and imagine democratic alternatives.
3. *Assessment of critical thinking should allow learners to document, demonstrate, and justify their own engagement in critical thinking.* In viewing learning from the outside, instructors may miss entirely the critical dimensions of students' thought and practice.

Please remember that the approaches to developing critical thinking outlined in this chapter are not a template. For me to propose a set of replicable, transferable, standardized methods for assessing critical thinking would be to undercut my own argument that it is a local, socially constructed process. If you choose to adapt any of my suggestions, do so with a great deal of reflective skepticism. These approaches are described here in the hope that they may get you started on your own efforts at crafting some locally grounded assessment procedures.

A Pretest and Posttest Approach: The Scenario Analysis Technique

One of the problems with developing local assessment approaches is that licensing bodies and accrediting agencies demand standardized mechanisms for documenting the development of critical thinking in students over time. Telling these organizations that no universal measures of critical thinking are appropriate is politically dangerous. It may mean that your program's reputation or credibility will be tarnished, or even that certification will be withdrawn. One way through this dilemma is to develop what looks like a series of pretest and posttest measures that are actually locally sculpted and responsive to context. An example of this is scenario analysis.

Analyzing familiar ideas and actions critically is an unfamiliar and intimidating process for most people. Adults need to begin a critical thinking program by learning the protocols and habits of critical thinking in relatively nonthreatening ways. As they gain confidence in their critical faculties by learning the habit of assumption hunting, they can be moved into the more threatening activity of applying critical thinking to their own lives, ideas, and actions.

The scenario analysis technique is a useful way to begin a critical thinking program. In scenario analysis students are presented with a hypothetical scenario in which a central character is making some kind of decision or initiating some kind of action. Learners are asked to put themselves in the place of the protagonist in the scenario and to write down the assumptions under which they think this person is acting. They are then asked to take each of the assumptions they think the protagonist holds and say how the protagonist might check them for accuracy and validity. Finally, they are asked to make an

alternative interpretation of the scenario that the protagonist would disagree with if she or he were confronted by it.

The following scenario analysis exercise, called “Going Back,” is an example of how the technique works:

Karen, a wife and mother of two young children in her thirties, has decided to go back to work. She has watched as her husband Jack, a busy professor, has taken on more and more work outside of his college to help provide his family with a decent quality of life in the city. She sees how tired he is and hears his complaints of how he never has enough time with his family, how he is being pulled in so many different directions, and how he wishes things would just slow down.

To ease the situation, Karen accepts a full-time job with a company in the suburbs. She will put the children into day care and commute back and forth each day to her work. She reckons that with the money her job brings into the home Jack will be able to give up many of his commitments outside of the college. This will give him more time with his family and reduce the pressures and tensions he feels. Overall, the family will be happier; their economic situation will be the same but the burden of producing income will be shared more fairly and Jack will be able to spend more time at home.

1. What assumptions—explicit and implicit—do you think Karen is operating under in this situation? List as many as you can.
2. Of the assumptions you have listed, which ones could Karen check by simple research and inquiry? How could she do this?
3. Give an alternate interpretation of this scenario—a version of what’s happening that is consistent with the events described but that you think Karen would disagree with.

Here is one reading of the assumptions underlying Karen’s actions that a group of adult students uncovered in this scenario:

1. Jack has been honest in what he is telling Karen. He wants more time with his family and wants to slow down his life.
2. It is up to Karen to fix the problem.
3. Fairness is an objective concept on which couples can agree.
4. The family’s problems are financially based.
5. Families are happier when the burden of producing income is shared.
6. Women should stay at home with young children.
7. Jack will feel less pressure if Karen works.
8. Karen’s working will reduce Jack’s tension, the tension between Karen and Jack, and the tension between Jack and the rest of the family.
9. Spending more time with the family will reduce the pressure Jack feels.

Here is how the group split these assumptions into assumptions of power and assumptions of hegemony:

Assumptions of Power

1. The problem is Karen's to solve (by getting a job). Her taking a job will reduce familial tension, decrease the pressure Jack feels, and therefore help the situation.
2. It's Karen's responsibility to find and fund day care and to find good paying work.

Assumptions of Hegemony

1. Money is the cause of the family's stress.
2. Money is the solution to the family's problems.
3. The only way for this situation to be resolved is for Karen to find a job.
4. Karen's job will provide more money, and therefore more family happiness.

The assumptions in the second cluster are hegemonic because they reinforce the cultural ideal that money brings happiness. They meet the three conditions of a hegemonic assumption: it is widely accepted as being common sense; it ends up harming us and working against our physical, psychological, and political health; and it serves the interests of another group (the producers of goods who benefit from our consuming their goods).

The scenario analysis exercise can be adapted to a pretest-posttest assessment format by posing several general scenarios to students at the start of an educational program. Doing this introduces them to the habit of identifying assumptions, searching for ways to check them out, and generating multiple perspectives. Then, as students become familiar with the process, they can be asked to analyze scenarios that are specific to an activity or knowledge area of concern.

Using the three questions posed in the Going Back scenario for each subsequent scenario allows for a degree of comparison. Over time you can see whether learners are able to identify more assumptions, propose more diverse methods to research them, and generate increasingly greater numbers of alternative readings. You can also design the scenarios to involve greater degrees of complexity, perhaps by introducing multiple actors or by adding intractable ethical issues. If people are able to identify several assumptions, propose several ways to check them out, and generate several alternative interpretations or perspectives, then you can reasonably argue that their capacity to think critically is growing.

The problem with this approach is that it is not a valid measure. It does not address the quality of the analysis. Are the assumptions, ways of checking, and alternative interpretations plausible in the scenario? And who decides whether they are plausible—the designers of the scenario? the readers? knowledgeable outside parties? or all of these? My own preference is for decisions about the plausibility of responses to become an item for critical conversation.

An Experiential Approach: The Critical Practice Audit

Students who are learning to think critically about some aspect of their work may find the critical practice audit to be useful. The audit uses a critical inci-

dent approach to help workers focus on the extent to which critical analysis is evident in their practice. The term *critical practice* refers to any work people do that involves analyzing situations, reflecting on past experience, making judgments and decisions, and taking actions without the benefit of a standard protocol or uniform response that takes care of each and every problem they encounter. The audit has been used mostly with teachers and nurses.

Following are the instructions for conducting a critical practice audit:

- Please complete this audit on a weekly basis. Its purpose is to help you understand more about your own practice—in particular, to help you understand the assumptions that undergird how you analyze situations, make decisions, and take actions.

- Please think back over the past seven days. As you review your clinical practice, think about the critical incidents that have happened during that time. A critical incident is an event that can be called to mind easily and quickly because it is remembered vividly. We usually consider critical events to be significant because they are unexpected—they take us by surprise. Sometimes they are wonderful highs, sometimes they are demoralizing lows. Often they are a mix of both.

- Choose the most memorable two or three critical incidents in your clinical practice over the last seven days. For each incident, do the following:

1. Write a brief description of the incident, including details of what happened, who was involved, where and when it took place, and what made the incident critical for you.
2. List the assumptions you have as a clinical practitioner that were confirmed by this incident. What was it about what happened that led you to think that the assumptions you uncovered were accurate and valid?
3. List the assumptions you have as a clinical practitioner that were challenged by this incident. What was it about what happened that led you to think the assumptions you uncovered might be inaccurate or invalid?
4. How did you try to check the accuracy of your assumptions that were challenged? If you were not able to check them at the time, how could you check them in the future? What sources of evidence could you consult?
5. What different perspectives could be taken on the incident? As you think about it through the eyes of the other people involved, are there different ways the situation could be seen, or that your behavior could be interpreted?
6. In retrospect, are there different responses you might have made to the incident? If so, what would these responses be and why would you make them?

As learners respond to these questions on a weekly basis, they are documenting their growing capacity for, and struggles with developing, critical thinking. The critical practice audit is similar to the scenario analysis in that people are asked to focus on how their actions in specific circumstances reveal

the assumptions they hold. The difference is that the actions and actors are real, not fictional.

A Behavioral Approach: Critical Debate

Another way to bring learners into the critical thinking process is to engage them in a critical debate, a theatrical device with an element of playful swagger built into it. As such, it draws in students who feel it will not involve their “real” selves in any serious consideration of new ideas. But as the process evolves, students find themselves deeply engaged in taking alternative perspectives on familiar ideas. The following instructions show how the process works:

- Find a contentious issue on which opinion is divided among participants. Frame the issue as a debate motion.
- Propose the motion to participants. By a show of hands ask people either to volunteer to work on a team that is preparing arguments to support the motion, or to volunteer to work on a team that is preparing arguments to oppose the motion.
- Announce that all those who volunteered for the supporting team will actually be on the opposing team, and vice versa.
- Conduct the debate. Each team chooses one person to present their arguments. After initial presentations the teams reconvene to draft rebuttal arguments and choose one person to present these.
- Debrief the debate. Discuss with participants their experience of this exercise. Focus on how it felt to argue against positions to which they were committed. What new ways of thinking about the issue were opened up? Did participants come to new understandings? Did they change their positions on the issue at all?
- Ask participants to write a follow-up reflection paper on the debate according to the following instructions:
 1. What assumptions about the issue were clarified or confirmed for you by the debate?
 2. Which of your assumptions were you surprised by during the debate? In other words, which assumptions that you did not know you held were you made aware of during or after the debate?
 3. How could you check out these new assumptions? What sources of evidence could you consult?
 4. What new perspectives on the issue suggested themselves to you?
 5. In what ways, if any, were your existing assumptions challenged or changed by the debate?

As learners debate, the instructor has the chance to assess their capacity to engage in perspective taking. Faculty and students together can discuss their ability to see things from a markedly different perspective. If a small group of

students is asked to observe the debate rather than participate in it, they can report back to the group their assessment of how things went.

The five questions just outlined can form the basis of an assessment measure if answers are gathered together in a critical portfolio and read over time. These responses allow the instructor to assess the extent to which students are engaged in the three processes of critical thinking: identifying assumptions, researching them, and generating multiple perspectives.

A Conversational Approach: Storytellers and Detectives

One of the hardest processes of critical thinking for students to learn, and for teachers to assess, is the ability to give challenging but respectful critical commentary on another person's ideas or actions. Given that we live in a culture infused with the dynamics of power, and that we rarely (if ever) have the chance to participate in or witness egalitarian group talk, most people do not know how it happens or what it looks like.

Any effort to assess people's attempts to think critically must involve gauging their ability to talk critically, to engage in critical conversation. A critical conversation is a focused conversation in which someone is helped to come to an awareness of the assumptions under which she is operating, to investigate the extent to which these assumptions are well grounded in critically examined reality, to look at her ideas and actions from different viewpoints, and to think about the implications of the conversation for her future actions. As a first stage in learning critical conversation, students often find the following Storytellers and Detectives Conversational Protocol helpful:

- In this exercise people play one of three possible roles:
 1. *The storyteller*: the person who is willing to make herself the focus of critical conversation by first describing some part of her experience
 2. *The detectives*: others in the group whose purpose is to help the storyteller examine her experience so that she comes to a more fully informed understanding of the assumptions that inform her ideas and actions
 3. *The umpire*: the group member who monitors the conversation with a view to pointing out when people are talking to each other in a judgmental way

All participants in the group play all three of these roles at different times. The idea is that the behaviors associated with each role gradually become habitual. Here is how the exercise works:

The Storyteller Tells the Tale. The conversation opens with the person who is the storyteller describing as concretely and specifically as possible an incident from her experience that for some reason is lodged in her memory. This incident may be one that is recalled because it was particularly fulfilling or because it was particularly frustrating. The storyteller describes the incident

without any questions or interruptions. Her colleagues, who are in the role of detectives, listen with a purpose.

The detectives are trying to identify the explicit and implicit assumptions about the experience that they hear in the storyteller's tale. They are asked to imagine themselves inside the heads of the other characters in the story and to try to see the events through their eyes. If possible, the detectives make mental or written notes about plausible alternative interpretations of the story that fit the facts as they hear them but that might come as a surprise to the storyteller.

The Detectives Ask Questions About the Event. After the storyteller has finished speaking, the detectives break their silence and ask any questions they have about the events she has just described. The detectives search for any information that will help them uncover the assumptions they think the storyteller holds. They also look for details not provided in the first telling of the story that will help them to relive the events described through the eyes of the other participants involved, thereby helping them to understand these events from the different participants' perspectives. The one ground rule they must observe is to request information, not to give judgment. Their questions are asked only for the purpose of clarifying the details of what happened. They must refrain from giving their opinions or suggestions, no matter how helpful they feel these might be.

As the storyteller hears the detectives' questions, she tries to answer them as fully and honestly as possible. She also has the opportunity to ask the detectives why they asked the particular questions they put to her. The umpire points out to the detectives any judgmental questions they ask, particularly those in which they imply that they have seen a better way to respond to the situation than the way that has been described. Examples of such questions would be those that begin, "Did you really believe that. . . ?" "Didn't you think to. . . ?" or "Do you mean to tell us that. . . ?" The umpire brings the detectives' attention to the ways in which their tone of voice and body language, as well as their words, risk driving the storyteller into a defensive bunker.

The Detectives Report the Assumptions They Hear. When the incident has been fully described, and all the detectives' questions have been answered, the conversation moves to the assumption-hunting phase. Here the detectives tell the storyteller, on the basis of her story and her response to their questions, what assumptions they think she holds. This is done nonjudgmentally, as a reporting-back exercise. The detectives seek only to state clearly what they think the storyteller's assumptions are, not to judge whether they are right or wrong. They are asked to state these assumptions tentatively, descriptively, and nonjudgmentally, using phrases like "It seems as if. . .," "I wonder if one assumption you might be holding is that. . .," or "Is it possible that you assumed that. . . ?" The umpire intervenes when she thinks the detectives are reporting assumptions with a judgmental overlay.

The Detectives Give Alternative Interpretations. The detectives now give alternative versions of the events described, based on their attempts to relive the story through the eyes of the other participants. These alternative

interpretations must be plausible in that they must be consistent with the facts as they have been described by the storyteller. The umpire points out those moments when psychoanalytic second-guessing is taking place, when the detectives start to preface their interpretations with remarks like “You know, what you were really doing. . .” or “What was really going on here. . .” Again, the detectives are to give these interpretations as descriptions, not as judgments. They are describing how others involved in the events might have viewed them, not saying whether these perceptions are accurate.

After the detectives have described how the situation might look through the eyes of other participants, the storyteller is allowed to give any additional information that would cast doubt on these interpretations. She is also allowed to ask the detectives to elaborate on any confusing aspects of their interpretations. She is not expected to agree with the detectives.

The Participants Do an Experiential Audit. Finally, the storyteller and the detectives state what they have learned, what insights they have realized, and what their reflection means for their future actions. The umpire also gives a summary of the ability of participants to be respectful listeners and talkers.

It is in this final audit or debriefing phase that some useful assessment work can take place. Of course the umpire’s report is crucial. As well as giving an assessment of the group’s ability to converse critically, the umpire can write private notes to participants that draw attention to what they have done well or badly, or hold conversations with them about these matters, or both. Such written and spoken encounters can focus on the very specific words, phrases, conversational patterns, tonal qualities, and gestures that either helped others to face assumptions they would rather not acknowledge, or caused them to become so defensive that they shut out all alternative perspectives.

The participants in a critical conversation can also assess their developing willingness, or their lack of willingness, to engage in critical conversation. After the conversation they can write a self-assessment report in which they document the ways they tried, as detectives, to phrase questions, report assumptions, and suggest perspectives in a challenging but nonconfrontational manner. Because all participants sooner or later act as storytellers, they can also write an evaluation of their colleagues’ ability to give critique. This serves two functions. First, these observations can be shared with the individual colleagues to help them improve their capacity for critique. Second, as the storytellers reflect on how it felt to hear certain kinds of questions or listen to people offering assumptions and perspectives, they can gauge their own reactions. They can then use these reactions as stimuli to examine their own behaviors as givers of critique. For example, if certain ways of asking questions threaten or anger them, they can examine the extent to which they use the same forms of words when they ask questions of others.

There is also a role here for an experienced teacher to assess adults’ developing capacities for critical conversation. If the group agrees to be videotaped, the teacher can use this tape as a record of what transpired. She can start out by showing examples of what she feels are helpful questions, and then she can

check with the storyteller to see whether she agreed that they were helpful. The teacher can then provide examples of how certain ways of offering assumptions and suggesting new perspectives helped the storyteller to come to a clearer understanding of her own assumptions, and then again she should check with the storyteller to see whether the storyteller experienced these conversational interactions as helpful. The teacher's analysis will usually prompt a wider discussion among the group regarding helpful and unhelpful ways of giving critique.

Depending on the trust level, the teacher can then show examples of unhelpful, unnecessarily intimidating questions, disrespectful ways of offering assumptions, and threatening, insulting ways of suggesting different perspectives on the storyteller's actions. If possible, it is best to ask the participants themselves first to select what they feel were the worst examples of unhelpful, confusing, or insulting critique. If the teacher has been a participant in the conversation, she should go first in drawing attention to her own worst behaviors.

Conclusion: The Importance of Modeling in Assessing Critical Thinking

One of my strongest convictions about critical thinking is that students learn to think, write, and speak in critical and democratic ways by watching respected leaders in positions of power and authority model these processes in their own lives. So, one of the first things that teachers of critical thinking need to do is make sure that they model a public commitment to and engagement in critical thinking before they ask their own students to engage in critical thinking. This involves teachers' doing a continual public self-assessment of their facility for critical analysis.

There are various ways to do this. One is to talk out loud about their own estimation of how well they have participated in critical discourses while they are in the midst of it, drawing attention to a poorly phrased question or comment. They can also talk out loud about how their instincts and preferences shape a group's agenda, which is supposed to be collectively and democratically constructed. And they can assess the extent to which they conveniently omit ideas or evidence that contradicts their positions, or note the questions that went unanswered. I try to use a classroom critical incident questionnaire in every class, to clarify and challenge assumptions I have made about the course (Brookfield, 1995).

Teachers have to earn the right to ask students to take critical thinking seriously. Modeling critical thinking not only gives learners a model, scaffold, and point of access to the process, it also builds trust between learners and leaders. This insight applies just as much to assessment as to any other part of the educational process. Students will learn habits of critical self-assessment partly by watching how teachers engage in this process. So, part of being a good teacher of critical thinking is modeling a commitment to one's own engagement in critical self-assessment.

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