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Using Rich Pictures to Verify, Contradict, or Enhance Verbal Data

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Abstract

The problem addressed in this case study stemmed from recognition of qualitative researchers' desire to triangulate findings with two or more data sources. In this study, I describe the process of using visual data to verify, contradict, or enhance verbal data using a soft systems methodology tool called rich pictures. To date, the process of comparing verbal data and visual data has not been well explored. I use secondary data from a Ph.D. study about faculty members' perceptions of academic quality to compare two data sources: participants' verbal definitions of academic quality and participants' verbal descriptions of rich pictures representing their visual conceptions of academic quality. Three rich picture examples illustrate the varying degrees to which rich picture descriptions may align with verbal definitions. Some participants' rich picture descriptions were partially or completely consistent with their initial definitions of the phenomenon under study. However, in most cases, participants' descriptions of their rich pictures added new data to their initial definitions of academic quality, thus generating new insights. I recommend asking participants to describe their rich pictures in their own words, thereby facilitating a direct comparison of participants' verbal and visual data.

Keywords

Rich Pictures, Systems Thinking, Soft Systems Methodology (SSM)

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Using Rich Pictures to Verify, Contradict, or Enhance Verbal Data

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The problem addressed in this case study stemmed from recognition of qualitative researchers' desire to triangulate findings with two or more data sources. In this study, I describe the process of using visual data to verify, contradict, or enhance verbal data using a soft systems methodology tool called rich pictures. To date, the process of comparing verbal data and visual data has not been well explored. I use secondary data from a Ph.D. study about faculty members' perceptions of academic quality to compare two data sources: participants' verbal definitions of academic quality and participants' verbal descriptions of rich pictures representing their visual conceptions of academic quality. Three rich picture examples illustrate the varying degrees to which rich picture descriptions may align with verbal definitions. Some participants' rich picture descriptions were partially or completely consistent with their initial definitions of the phenomenon under study. However, in most cases, participants' descriptions of their rich pictures added new data to their initial definitions of academic quality, thus generating new insights. I recommend asking participants to describe their rich pictures in their own words, thereby facilitating a direct comparison of participants' verbal and visual data.

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Introduction

To enhance validity in qualitative research, researchers often seek to incorporate more than one data source. The purpose of this case study is to show how researchers could apply a soft systems methodology tool called *rich pictures* to verify, contradict, or enhance participants' verbal interview data. Rich pictures are visual diagrams—usually user-created—that can help users explore organizational problems (Bell & Morse, 2012). In this case study of secondary data, I show how participants' descriptions of their rich pictures verified, contradicted, or enhanced their verbal definitions of academic quality, thereby offering insight into the value of rich pictures as a tool for enhancing validity in qualitative studies.

Background

Organizations can be viewed as meaning-making systems—organization members construct meaning from internal communication and decision-making systems and interact with their various internal and external environments (Wolf, 2010). Therefore, a systems thinking approach was a logical framework for exploring academic quality in for-profit vocational programs.

Systems Thinking

Virtually any organizational phenomenon can be described as a system of related elements (Checkland, 1981/1984). In addition, at a more abstract level, the *process* of

understanding a phenomenon can be approached systemically (Checkland, 1981/1984). Systems thinking involves thinking in layers, connections, and relationships (Blockley, 2010). Further, because humans are involved, systems thinking in organizations tends to be constructivist, interpretative, and exploratory (Paucar-Caceres & Pagano, 2011). These concepts are sometimes more easily expressed in symbols than in words (Fougner & Habib, 2008).

Soft systems methodology (SSM). Rich pictures emerged from a systems thinking approach developed in the 1970s known as soft systems methodology (SSM; Checkland, 1981/1984). Checkland (1981/1984) introduced the label *soft systems methodology* to describe a systems thinking approach developed to help organizational leaders cope with the ambiguity and complexity found in human management situations (Checkland, 2010; Checkland & Haynes, 1994). SSM encompasses three main premises that differentiate human activity systems from nonhuman activity systems:

- All human situations involve people trying to define and implement deliberate, purposeful action;
- Each person brings a unique and evolving worldview to every situation; and
- SSM involves a systemic learning process in which systems thinking shifts from a focus on managing a situation to a focus on conducting an inquiry process to understand the situation (Checkland & Haynes, 1994, pp. 192–193).

SSM has evolved as researchers have applied the framework to social problems. Practical applications of SSM generally incorporate seven steps:

1. Identify the problem situation;
2. Express the problem situation in the form of a conceptual model;
3. Compile an overall rich picture diagram containing the perspectives of key stakeholders;
4. Use the rich picture to form a root definition, collectively known by the acronym CATWOE, standing for *clients, actors, transformations, worldviews, owners, and environmental constraints*;
5. Compare the conceptual model from Step 2 to the rich picture formed in Step 3 and perform further iterations as needed to arrive at a final model and root definition;
6. Identify desirable changes; and
7. Identify feasible action steps. (Doloi, 2011, pp. 624–625)

Steps 1 and 2 reveal the problem situation (Checkland, 1981/1984). The overall rich picture created in Step 3 should contain as many perceptions of the problem as possible (Berg & Pooley, 2013b). The root definition arrived at in Step 4 is a hypothesis of the problem situation from a combined perspective (Checkland, 1981/1984). In Steps 5, 6, and 7, debate leads to action to improve the situation (Jackson, 2000).

SSM and Rich Pictures

Visual representations of phenomena have a long tradition in human history, going back to cave paintings and hieroglyphics. Humans naturally create images to represent situations they face. Diagrams are frequently used in the social sciences to illustrate structural and process elements in organizational systems (Bell & Morse, 2013). Similarly, rich pictures are a

graphical means of identifying differing worldviews to arrive at a shared understanding of an organizational phenomenon (Berg & Pooley, 2013a).

Checkland (1981/1984) inadvertently championed the use of diagrams, or rich pictures, as part of his explanation of SSM. According to Lewis (1992), Checkland's first description of SSM contained no mention of rich pictures. Originally, Checkland used the term *rich picture* as a representation of the problem situation rather than as an actual diagram (Lewis, 1992). Since then, practitioners' applications of SSM have produced an increasingly well-developed regimen for using visual diagrams to illustrate managerial problems (Bell & Morse, 2012, 2013; Berg & Pooley, 2013a; Fougner & Habib, 2008; Horan, 2000; Kish, Bunch, & Xu, 2016; Lewis, 1992; Valente & Marchetti, 2010; Waring, 1996/2005). In recent years, researchers have incorporated a combination of symbols, icons, and text (either hand-drawn or computer-generated) to illustrate relationships and processes related to a problem situation, as seen from the perspectives of stakeholders (Belue, Carmack, Myers, Weinreb-Welch, & Lengerich, 2012).

Proponents of the tool have claimed that creating rich pictures lets users bypass the mental filters of traditional narratives to access the underlying meanings, or essences, of phenomena (Bell & Morse, 2013). Further, rich pictures carry spatial clues, mood expressions, and symbolic meanings that may hint at hidden ideas, relationships, and emotions (Wall, Higgins, Hall, & Woolner, 2013), elements that may never emerge in verbal discussion (Bell & Morse, 2013). Therefore, combining visual data and verbal data could help enhance the validity of a research investigation.

Collecting Rich Picture Data

Practitioners and researchers have used a variety of methods to collect rich picture data from participants. First, facilitators of rich pictures must determine the degree of control they will exercise over the users' process (Bell & Morse, 2013). Some researchers have presented explicit instructions for creating rich pictures (Bell & Morse, 2013; Wall et al., 2013), while others have allowed users to proceed with just a description of the process and a visual example (Berg & Pooley, 2013a). In one study, the researchers declared two rules: (a) The rich picture must be visible to everyone in the group, and (b) text should be avoided (Bell & Morse, 2012). In general, participants should be encouraged to draw not just figures but also contexts and interactions and to avoid using excessive text (Armson, 2011).

Other facilitators have attempted to standardize rich picture iconography by offering a selection of symbolic images from which users can choose (Berg & Pooley, 2013a). Waring (1996/2005) offered a menu of predetermined symbols, including crossed swords to denote conflict, a knotted rope to indicate a "knotty" problem, and a pair of hands in a handshake to show friendship and solidarity (p. 84). In a study of international trainers, the brief instructions given participants for creating a concept map of their experiences consisted of encouraging them to include both challenges and successes and to limit the concept map to one letter-size page (Wheeldon & Faubert, 2009). Berg and Pooley (2013a) asked 120 participants to communicate a written scenario using drawn images, icons, and speech bubbles. In conjunction with interviews and surveys, Kish et al. (2016) used rich pictures in groups of one to three participants to explore elders' perceptions of pollution in their Chinese communities. In sum, rich pictures have often been combined with other research methods, and the degree of control over the process has ranged from virtually none to explicitly detailed.

Makers of rich pictures sometimes need guidance to develop rich picture-making skills (Jackson, 2000). Many people are uncomfortable with drawing as a medium of self-expression, especially in a professional setting (Valente & Marchetti, 2010). Users may be willing to try but be unsure where to start, reluctant to express negative views of a problem situation, or

hesitant to disclose sensitive data (Berg & Pooley, 2013a). Further, some stakeholders may prefer the status quo or attempt to dominate the discussion (Berg & Pooley, 2013a). However, researchers can prepare participants with menus of icons and explicit guidance to ease the process (Appendix A). The benefits of using rich pictures may outweigh the risks involved in asking participants to draw.

Analyzing Rich Picture Data

After persuading participants to draw, the researcher's next step is to analyze the rich pictures. Evaluating rich pictures may seem daunting. However, rich pictures are visual representations of a phenomenon and as such can be evaluated using methods similar to those used to analyze works of art. In fact, rich pictures—whether created by one person or by a group—are similar to art in the sense that they are interpretations of a situation emerging from one or more worldviews, reflecting the experiences of those making the images (Barrett, 1994). The inherent challenge lies in the fact that researchers must use words to communicate their interpretations of pictures (Saldaña, 2013).

In academic research, interpreting visual imagery such as rich pictures often involves content analysis, which consists of a coding process similar to that used in other qualitative analysis methods (Emmel & Clark, 2011; Erişti & Kurt, 2011; Galman, 2009; Rose, 2007). During the coding process, the researcher translates the meaning of an image into text (Rose, 2007) and then uses traditional text analysis methods to assign codes to bits of text and categorize the codes to create themes (Corbin & Strauss, 2008). Coding images accurately can be difficult—images, icons, and symbols may hold different meanings for different people (Berg & Pooley, 2013b; Mason, 2005; Saldaña, 2013). Thus, each study using rich pictures will be unique, representing the specific worldviews of the participants (Lewis, 1992) and possibly the perspectives of the researchers who assign and interpret the codes (Wall et al., 2013).

Method

Problem

The problem addressed in this case study of secondary data emerged from my desire to assess the value of using rich pictures to triangulate another data source. Relying on only one data source can limit the validity of a study (Patton, 2002). Researchers have applied the tool of rich pictures to gain an understanding of a phenomenon (e.g., Bell & Morse, 2012, 2013; Berg & Pooley, 2013a). However, to date, the process of comparing verbal data to visual data to determine the degree of consistency between the two data sources has not been well explored. In this study, I sought to determine how participants' visual conceptions of academic quality (rich pictures) verified, contradicted, or enhanced their verbal definitions of academic quality.

Research Question

Questions about the extent to which “form dictates content” (Banks, 2007, p. 52) prompted me to wonder how participants' visual conceptions of academic quality (the form) mirrored or contradicted their verbal definitions of academic quality (the content). Thus, the research question guiding this case study was: “How do rich pictures verify, contradict, or enhance participants' verbal definitions of academic quality?”

Research Design

In this qualitative study of secondary data, the research design can be classified as a case study of a process (Creswell, 2009)—the process of comparing data collected from two different sources. For this case study, I used secondary data collected in 2013 for a Ph.D. study about faculty members' perceptions of academic quality. In the original study, I employed a purposeful sampling design to recruit 10 faculty members consisting of full-time faculty and adjuncts working in multiple departments at two for-profit colleges in the Pacific Northwest (Booton, 2013). I conducted semistructured individual in-depth interviews with the 10 participants using a protocol adapted from Shanahan and Gerber (2004). Before the interviews, participants received an e-mailed informational handout showing a menu of icons they could use to draw their conceptions of academic quality (see Appendix A; Booton, 2013). During the interviews, participants provided two sources of data; they verbally defined academic quality, and they verbally explained their rich pictures. For this case study, I compared the two sets of data to produce novel results.

Data Analysis

The original data consisted of transcribed text, which I coded and categorized to distill and summarize participants' perceptions of academic quality into statements. The two data sources consisted of (a) participants' statements defining academic quality and (b) participants' statements describing their rich pictures. Because all the data for this study existed as participant statements regarding academic quality, the data could be analyzed using one approach. In fact, it was easy to arrange the text statements side by side in tables because in the original research, participants had reported their verbal definition statements separately from their rich picture statements.

First, I applied a comparative analysis approach to both data sets (Corbin & Strauss, 2008). Specifically, for each participant, I compared participants' verbal definition statements to their rich picture statements to discern similarities and differences among the statements. I noted words and phrases that were similar between the two data sets. Three outcomes seemed possible: (a) extensive consistency, (b) some consistency, or (c) no consistency between the two data sources.

Ethical Issues and Researcher Role

I collected the secondary data used for this case study in a Ph.D. study. Thus, as the principal researcher, I was responsible for any errors in interpretation, coding, categorizing, and reporting of participants' perceptions of academic quality. Qualitative approaches by nature depend on researchers' interpretations of the data they collect (Patton, 2002). However, researchers' interpretations are subject to preconceptions and biases (Moustakas, 1994). To mitigate possible researcher bias, I employed traditional validity techniques in the original study, including bracketing, member checking, and triangulation of data sources (Corbin & Strauss, 2008; Moustakas, 1994; Patton, 2002). Further, in the original research project, I asked participants to describe their pictures in their own words, rather than using my own words to assign meaning to their pictures. However, the validity of the statements used in this case study depends on the validity and integrity of the original study.

Results

As mentioned, in terms of the amount of consistency between the two data sources, three outcome scenarios seemed possible: (a) consistency, (b) some consistency, or (c) no consistency between the two data sources. Overall, seven of the 10 participants showed obvious consistency between their verbal definitions of academic quality and their rich picture descriptions. However, eight of the 10 participants offered elements in their verbal definitions of academic quality that did not appear in their rich picture descriptions. Moreover, nine of the participants offered elements in their rich picture descriptions that did not appear in their verbal definitions. In this section, I compare the text statements identified in the original research. I offer examples of the three potential outcome scenarios. For each, I present a rich picture, followed by a table showing the participant's statements from the two data sources.

For example, in Figure 1 and Table 1, I show how Participant F1's rich picture data were consistent with her verbal definitions. In Figure 2 and Table 2, I show how Participant F2's rich picture data overlapped somewhat with her verbal definition—what I defined as *some consistency*. In Figure 3 and Table 3, I show how Participant F3's rich picture description contradicted his verbal definition, showing *no consistency* between the two data sources. The rich pictures and verbal definition data are presented to show how I compared the two types of data. The three rich pictures are typical of the variety of images produced in rich-picture research (Bell & Morse, 2012, 2013; Berg & Pooley, 2013a; Fougner & Habib, 2008; Horan, 2000; Kish et al., 2016; Lewis, 1992).

Consistency between Verbal and Visual Data

F1's rich picture appears in Figure 1. A comparison of her verbal definition and rich picture description appears in Table 1.



Figure 1. Rich picture—Participant F1.

Table 1. *An Example of Consistency Between Verbal Definition and Rich Picture Description*

Verbal Definition of AQ (F1)	Rich Picture Description (F1)
1. Student employment/teach students professionalism, technology, business practices	1. Contented, happy, eager students/reduce barriers for unhappy students
2. Empowered instructors who can empower students/resources for teachers (continuing education, technology)/opportunities for teachers to grow	2. Happy teachers/unhappy teachers leave or change
3. Communication [of staff] with teachers	3. Helpful admin staff/program directors
4. Visible owners	4. Stakeholders [sic]/owners build relationships with community/partnerships with community/work with government/regulatory/accreditation

Much similarity emerged between F1's verbal definition of academic quality and her rich picture description. First, her verbal definition of academic quality focused on several student-related elements, including student employment and learning. In her rich picture description, F1 described "contented, happy, eager students" and recommended reducing barriers for unhappy students. Second, F1 defined academic quality as including "empowered instructors who can empower students." In addition, teachers needed resources and opportunities to grow. In her rich picture, F1 labeled teachers as "happy" or "unhappy." Unhappy teachers "leave or change." Third, F1 included communication with teachers as an element of academic quality. (I assumed she referred to communication with supervisors and staff.) In her rich picture, she described the need for helpful administrative staff and program directors (supervisors).

Finally, F1 thought academic quality included "visible owners." In her rich picture, she expanded on that idea: Owners build relationships and partnerships with community members and work with government agencies. In sum, F1's definition of academic quality aligned closely with her rich picture description. Thus, the rich picture description verified F1's verbal definition of academic quality.

Some Consistency Between Verbal and Visual Data

The first page of F2's 5-page rich picture appears in Figure 2. A comparison of her verbal definition and rich picture description appears in Table 2.

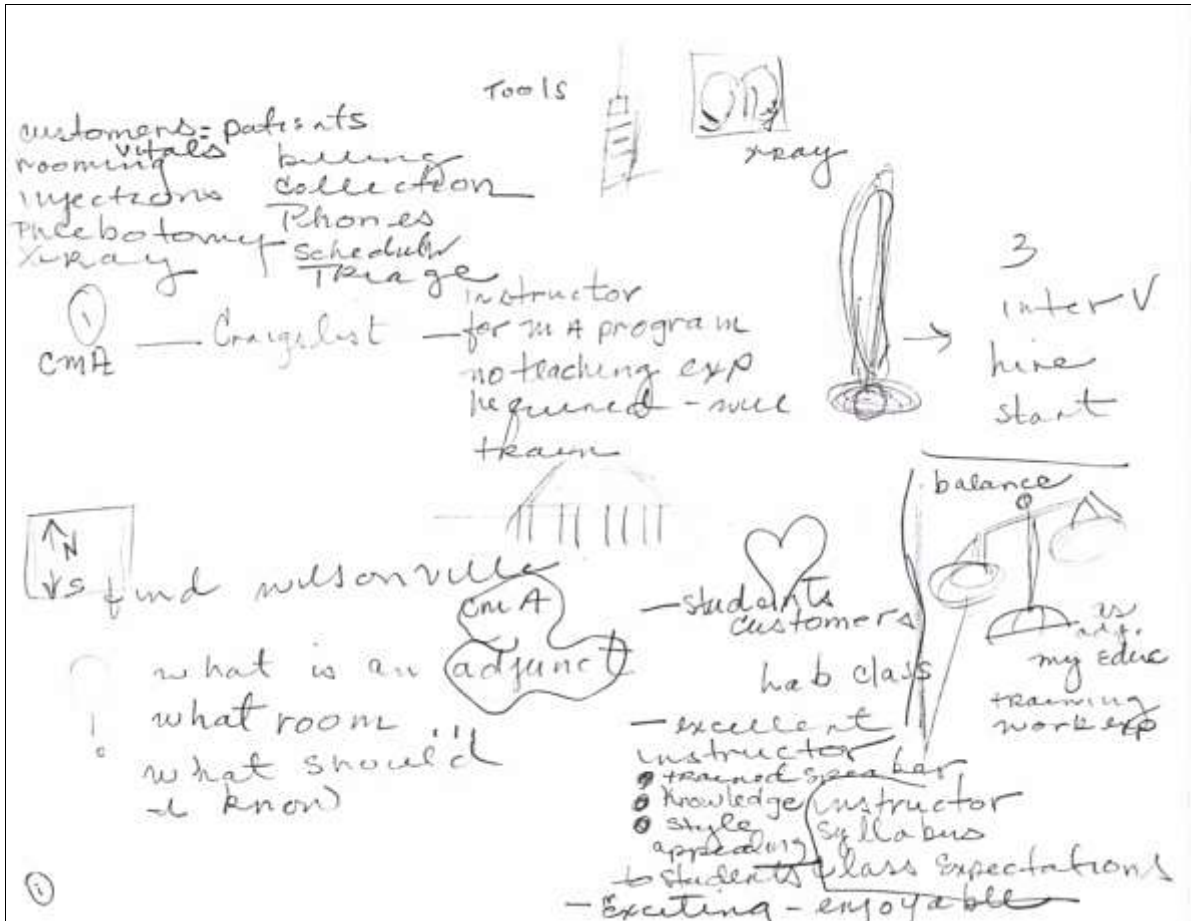


Figure 2. Rich picture—Participant F2 (page 1 of five pages).

Table 2. An Example of Some Consistency Between Verbal Definition and Rich Picture Description

Verbal Definition of AQ (F2)	Rich Picture Description (F2)
1. Wonderful teachers	1. Qualities of an excellent instructor: trained speaker, knowledgeable, style appealing to students, exciting, enjoyable
2. Accurate materials	2. Complete information for students and teachers/consistency in test materials
3. Effective management	3. Effective management/teachers should be in control/ teachers should have more input/students should not be allowed to cheat Relaxed, noncompetitive atmosphere
4. Smartboard	
5. Customer is not always right	1. The history of how she got the job/list of her job skills/ seeking balance between her new adjunct job and her experience 2. Teaching the whole person

Three areas of overlap emerged between F2's verbal definition of academic quality and her description of her rich picture. First, F2's verbal definition of academic quality included the need for "wonderful teachers." In her description of her rich picture, F2 noted the qualities of excellent instructors, confirming and extending her definition by noting excellent instructors should be knowledgeable, trained speakers who have an "exciting," "enjoyable" style that is "appealing to students." Second, F2 defined academic quality as providing "accurate materials" for students. In her description of her rich picture, F2 noted "accurate materials" meant providing complete information and consistent test materials. Third, F2 defined academic quality as including "effective management." F2's rich picture description specifically included the phrase "effective management"—a direct confirmation between the two data sources. Effective management could imply (from F2's perspective) that teachers should be in control and have more input, and further, that students should not be allowed to cheat. Somewhat related to effective management was her desire to work in a "relaxed, noncompetitive atmosphere."

Two elements in F2's definition of academic quality showed no equivalent in her rich picture description. According to the fourth element of her definition, academic quality meant providing modern classroom technology (specifically, a Smartboard). In the fifth element of her definition, she told a story of some cheating students whose behavior her managers chose to ignore, prompting her to say, "The customer is not always right." Her rich picture description contained no equivalent statements.

However, in her rich picture description, F2 mentioned two new elements not contained in her verbal definition. First, F2 illustrated how she got her job as an instructor. She listed her job skills and drew a scale to show her desire for balance between her job and experience. On the fifth page of her rich picture, F2 illustrated her inferred worldview, *teaching the whole person*, with a gift-wrapped package.

Drawing the rich picture encouraged F2 to expand on three major elements in her verbal definition of academic quality (wonderful teachers, accurate materials, and effective management). In addition, drawing the rich picture inspired her to focus on her own history and experience as an adjunct teaching medical assisting students, elements that did not appear in her definition. Her definition of academic quality showed her frustration with cheaters, but her rich picture prompted her to express a more optimistic philosophy of "teaching the whole person." In sum, F2's description of her rich picture enhanced her verbal definition of academic quality.

No Consistency Between Verbal and Visual Data

F3's rich picture appears in Figure 3. A comparison of his verbal definition and rich picture description appears in Table 3.

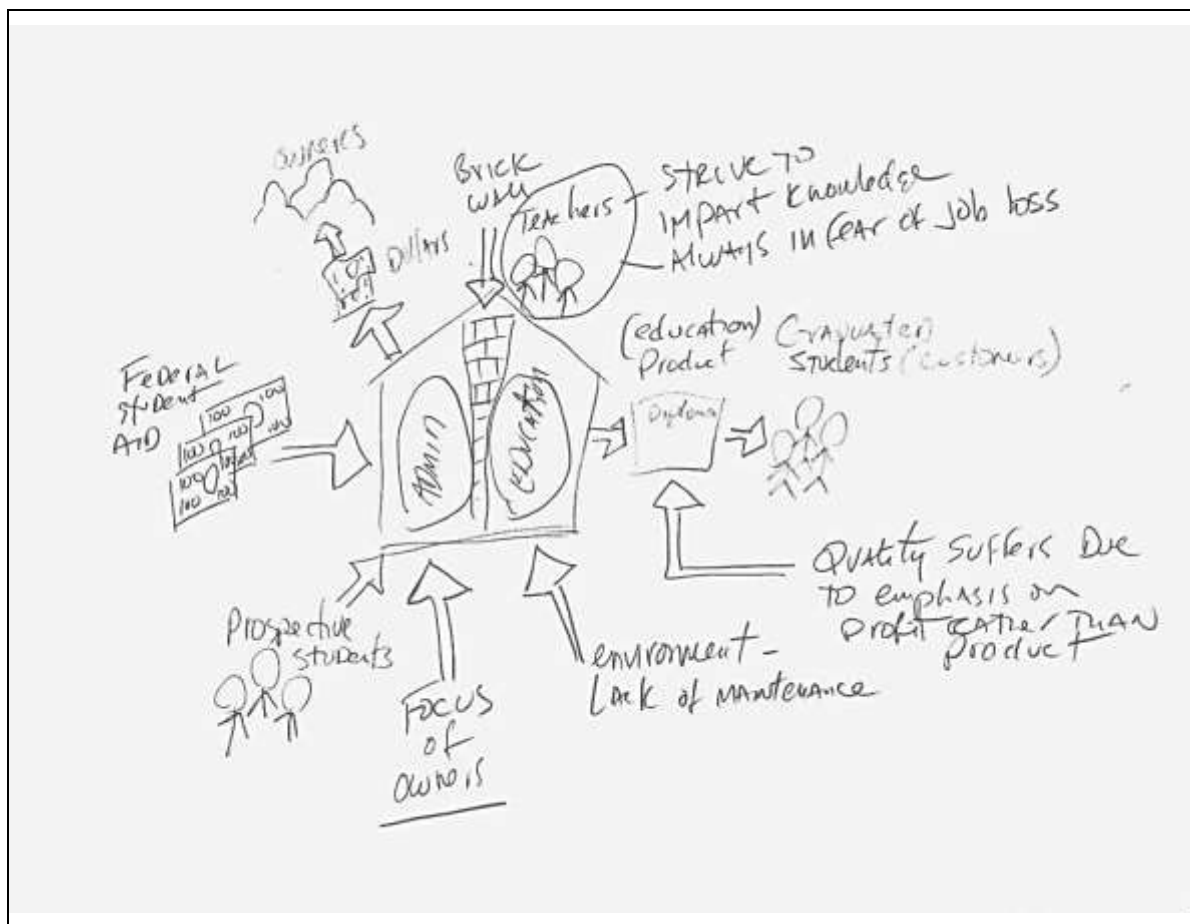


Figure 3. Rich picture—Participant F3.

Table 2. An Example of No Consistency Between Verbal Definition and Rich Picture Description

Verbal Definition of AQ (F3)	Rich Picture Description (F3)
1. Material and information are up-to-date and factual.	
2. Students use the learning on the job.	
3. Students are given theoretical knowledge as well as applied learning.	
	1. Prospective students enter the system
	2. Federal student-aid dollars enter the system
	3. Dollars exit the system to the owners
	4. Teachers strive to impart knowledge but are always in fear of job loss
	5. The diploma is the education product
	6. Graduated students are the customer
	7. The owners focus on the administrative side and ignore the education side/there is a brick wall dividing administration from education
	8. Quality suffers due to emphasis on profit rather than product/lack of maintenance

F3's perception of academic quality depicted in his rich picture showed no apparent consistency with his definition. F3's definition of academic quality seemed to represent ideal conditions. First, academic quality meant teaching materials should be up-to-date and factual. Second, students should use what they learned on the job. Third, academic quality for F3 meant students receive both theoretical and practical knowledge.

In marked contrast, in his rich picture description, F3 described how prospective students entered the system along with federal student-aid dollars. Those dollars exited the system to owners' pockets. Teachers tried to convey knowledge to students but feared the loss of their jobs. In F3's rich picture description, student diplomas were the education product, and graduates were the customers. He saw a divide between administration and education created by the owners' desire for profit. Instead of focusing resources on students, the owners extracted profits from the school, and quality suffered.

In sum, a clear contradiction was evident between F3's verbal definition of academic quality and his rich picture description. In fact, there was no discernible overlap. F3's rich picture description added eight entirely new insights into his perceptions of academic quality. The addition of the rich picture data source revealed facets of F3's conception of academic quality that were not apparent in his verbal definition.

Discussion

The value of using rich pictures to aid the thinking process is well documented (Bell & Morse, 2013; Berg & Pooley, 2013a; Galman, 2009). One challenge in using the rich-picture methodology has been the potential difficulty of understanding the symbols drawn by participants (Berg & Pooley, 2013a). In the original research project, I mitigated this difficulty by asking participants to explain in detail the elements of their rich pictures.

Practitioners of SSM have found employing rich pictures can help users identify and address managerial problems (Bell & Morse, 2012, 2013; Berg & Pooley, 2013a; Fougner & Habib, 2008; Horan, 2000; Kish et al., 2016; Lewis, 1992; Valente & Marchetti, 2010; Waring, 1996/2005). In this case study, for some of the participants, the consistency between their verbal definitions of academic quality and their rich picture descriptions was clear; for others, little or no consistency emerged. The degree of consistency between the two data sources validated both sources by verifying, contradicting, or enhancing participants' perceptions. Lack of consistency between definitions and rich picture descriptions showed the capacity of rich pictures to help uncover facets of the phenomenon that participants might have overlooked or ignored in a traditional verbal response.

Several limitations apply to the findings in this study. These limitations involve the validity of the secondary data. In particular, my role as researcher and the narrow geographical scope of the original study may have affected the integrity of the original data. I hope the measures taken to ensure the validity of the original study (e.g., bracketing, member checking, and triangulation of multiple data sources) support the internal validity of this case study. In terms of external validity, I provided sufficient detail that future researchers could attempt to replicate this approach as they use rich pictures to enhance verbal data (Guba, 1981).

Using rich pictures comes with some caveats. First, visual expression comes more easily to some people than to others. However, the main limitation of rich pictures involves the conversion of visual data to textual data. Typically, decoding, interpreting, and discussing visual images requires somehow converting the visual data to spoken or written text. In the original research study on which this case study was based, I asked participants to describe their rich pictures in detail. Thus, instead of relying on my interpretation of their images, I relied on participants' interpretations. In essence, they translated the visual data to textual data

for me, using their own words. In the process, deep, rich, vivid nuances of academic quality emerged.

For most of the participants, drawing and describing their rich pictures produced a list of academic quality attributes uniquely different from their verbal definitions, thereby verifying, contradicting, and enhancing their verbal data. Comparing verbal and visual data offered new insights into the phenomenon of academic quality. Qualitative researchers may benefit from using rich pictures as a data source to enhance the validity of their investigations. Finally, future researchers should consider applying the soft systems tool of rich pictures to other social situations to extend knowledge about the use and benefits of the rich-picture approach.

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Appendix A: Instructions for Drawing a Rich Picture

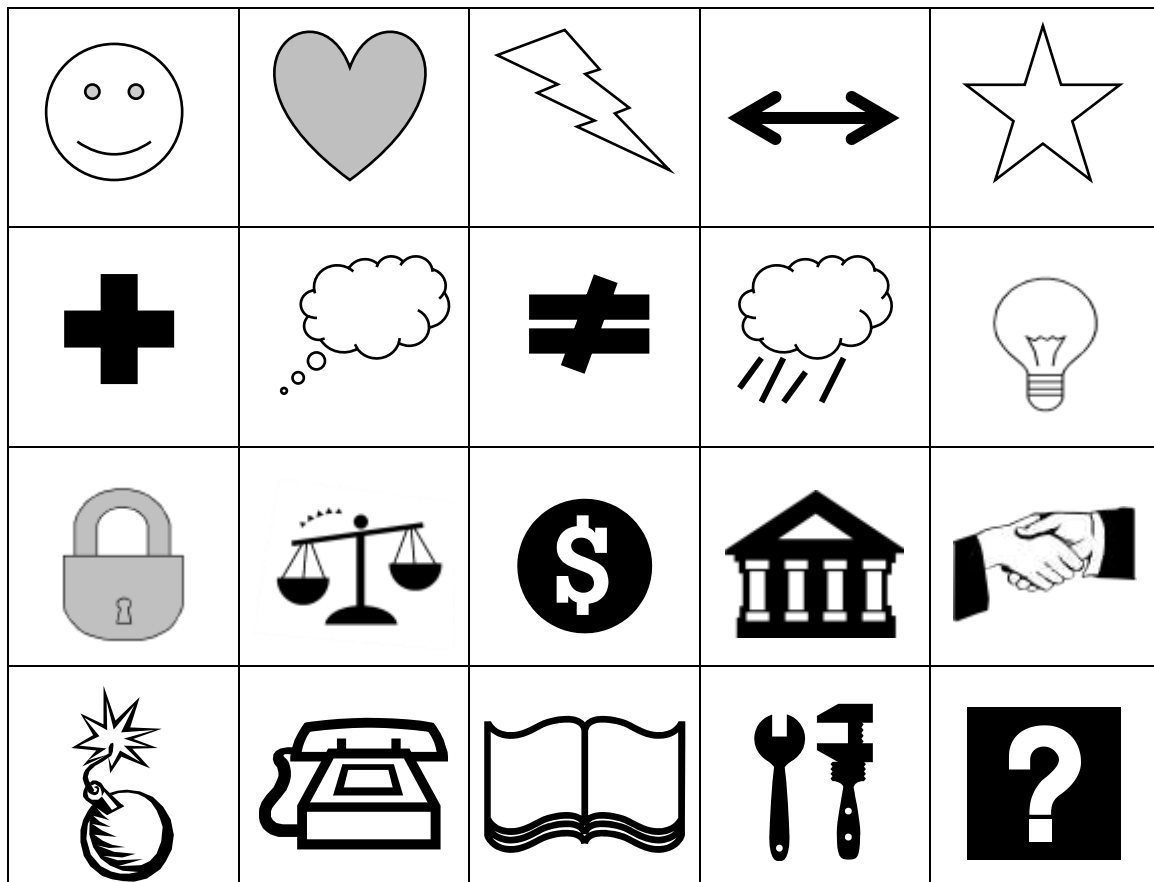
Please follow these directions to draw your rich picture. Estimated time: 30 minutes.

Your task. To draw a picture of your experience with academic quality in the vocational programs you teach. Academic quality is whatever you define it to be. Anything you draw is OK! This is your experience.

1. **Paper.** Choose white paper, size 8.5 x 11 (letter size paper) or larger. You can tape multiple sheets of paper together if you want.
2. **Drawing materials.** Choose any drawing materials that will be readable, e.g., markers, colored pencils).
3. **Images.** Use any icons, symbols, and text you like to represent your experience with academic quality. Some symbols are shown on the following page.
4. **ELEMENTS.** Please include the following elements, from your perspective:
 - a. **Customers** (whoever you conceive the customer to be)
 - b. **Actors** (people and institutions who carry out the education process; include yourself)
 - c. **Transformation** (the processes of learning and teaching; think of inputs and outputs)
 - d. **Worldview** (the overall theme, stance, or philosophy that seems to encompass your experience, from your perspective)
 - e. **Owners** (people and institutions who have the power to change things positively or negatively)
 - f. **Environment** (entities, institutions, and conditions that have influence either positively or negatively on your experience, i.e., the government, financial constraints, or legal issues)
 - g. **Relationships**
 - h. **Emotions**
5. **IMPORTANT:** Bring your rich picture with you to the interview.

A Menu of Symbols

Here are some of the many symbols you can use. Feel free to make up your own. Explain your symbol with labels and text as needed.



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