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PHILOSOPHY FOR CHILDREN HAWAI'I AND ITS INFLUENCE ON THE DEVELOPMENT OF STUDENTS' REFLECTIVE THINKING IN CLASSROOM DISCUSSIONS

A THESIS SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAI'I IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION IN EDUCATIONAL PSYCHOLOGY

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Abstract

This study focuses on whether the Philosophy for Children Hawaii program (P4C Hawaii) is facilitating reflective thinking in classroom discussions. This study examines the reflective thinking of the group as a whole. Certain characteristics of Dewey's concept of reflective thinking are incorporated into the P4C Hawaii program. They are: (a) persistence; (b) whether the discussion scratched beneath the surface of the topic; (c) the use of the Good Thinker’s Tool Kit; and (d) progress in the inquiry. These characteristics were used in the analysis of three elementary classroom discussions throughout the fall semester of the 2005-2006 school year. This study provides evidence that the P4C Hawaii program facilitates reflective thinking and growth of reflective thinking across time when its guidelines are consistently followed.
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List of Abbreviations

P4C - Philosophy for Children

Tool Kit – Good Thinker’s Tool Kit

W – What do you mean by...?

R - Reason

A - Assumption

I – Inference or implication

T - True

C - Counterexample

GOS – Going off subject

SPLAT – Speak louder please

POPAAT – Please, one person at a time

IDUS – I don’t understand

OMT – One more time

LMO – Let’s move one

Dr. J. – Dr. Thomas Jackson
Chapter 1: Introduction

My Connection to Philosophy for Children Hawaii (P4C Hawaii)

My interest in P4C Hawaii began almost five years ago when my husband, a philosophy graduate student, joined the group of P4C Hawaii facilitators. He shared with me first graders’ comments and questions raised in the discussions that would leave me completely astonished, wondering how a little kid could say something so deep! He suggested I take a P4C Hawaii class with Dr. Thomas Jackson so I could learn how the program works. It was an unforgettable experience. In this class we experienced everything that the school kids experience in the process of creating a P4C Hawaii community of inquiry. I should emphasize the role of the community, the trust that we need to have in the member of the classroom discussion in order to safely ask questions and state our ideas. What helped us become a community of inquiry was the use of the community ball, the magic words, and the Tool Kit. Instruments that became part of my everyday live. Having studied in nine private and public schools in different countries (Brazil, Russia, and the United States), had worked in schools, and had enrolled in a graduate program in Educational psychology, then, when I was introduced to P4C Hawaii I became very interested in a major problem in education throughout the world – viz, how thinking skills can be effectively taught in schools. This is a major reason I decided to study P4C Hawaii.

Attempts to Create an Effective Program

There has been a general concern among educators and parents about the heavy focus on fact or content learning (Heiman & Slomianko, 1987). Even though this type of
learning is necessary, it is not sufficient for students who want to succeed in our rapidly changing world (Nickerson, Perkins, and Smith, 1985; Segal, Chipman, and Glaser, 1985; Kurfien, 1988). This concern however, is not new. An educational reform movement emphasizing students' thinking skills emerged in the 1980's (Costa, 1985). Programs of research were confirming what was already known in theory – that there is a connection between language and thought processes; students learn when there is a verbal interaction among students and teachers. There was this realization that education is not about transferring knowledge from those who are knowledgeable to those who aren't.

According to Lochhead (as cited in Heiman & Slomianko, 1987), it is a process of creating knowledge and addressing or solving problems together. For over twenty years, scholars have been trying to persuade schools to change their educational approach, showing evidence that students are unable to solve tasks that require thinking skills (Grant, 1988; Paul, Binker, Martin, and Adamson, 1989). Several programs were generated to help schools cope with this problem. One of these programs was P4C Hawaii. It relies on the idea that discussions and listening skills are the basis for the development of reflective thinking. However, schools have difficulties implementing such programs for three reasons: First, school administrators do not feel that they can fit a program into school curriculum that does not consistently fit into a traditional content area. The difficulty, though, is not in adding a new subject to the present school curriculum, but rather in reorganizing curriculum materials by changing the instructional strategies (Costa, 1985). Second, infusing thinking skills in school curricula is not a quick fix repair. It takes time for teachers to adapt to different teaching approaches and to develop their instruction in a way that will help students develop their thinking skills.
Finally, there have been some problems in assessing the growth of thinking skills in students. Winocur (as cited in Costa, 1985) states that traditional assessment techniques, such as standardized tests, are inadequate for assessing thinking skills since thinking is not directly observable and measurable. In order to assess thinking skills it is necessary to find out not what students know but what they do when the answer is unknown. This difficulty in assessing growth in thinking is further complicated when the unit of interest is not the individual but the whole class.

Previous studies on the Philosophy for Children Program tended to focus on individual improvement of thinking skills using different types of tests (Burnes, 1981; Curtis, 1980; Hass, 1976; Higa, 1980; Karras, 1980; Shipman, 1982; Yeazell, 1981). This study focuses on the group discussion as a whole, and raises the research question of whether the P4C Hawaii program is facilitating reflective thinking in classroom discussions. It uses Dewey’s (1960) concept of reflective thinking, which is defined as an “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (p. 9).

**Thesis Organization**

In Chapter 2, I start by giving reasons for the special attention devoted to the development of thinking skills in education. I present different authors use of varying terms to define thinking. I then introduce Dewey’s concept of reflective thinking as the basis for the P4C Hawaii program and explain the purpose and procedures of the P4C Hawaii program. In Chapter 3, I describe the participants, the measures, the procedures
and how I analyzed the data. In Chapter 4, I consider each class for evidence of fidelity to the guidelines of the P4C Hawaii program. Then I present evidence of reflective thinking in the three classes used in this study, including evidence of growth in reflective thinking in each separate class. I also examined the extent to which reflective thinking developed across grade levels. In the final chapter I discuss issues related to the development of a P4C Hawaii community of inquiry and the assessment of reflective thinking. The chapter concludes with some pedagogical implications of this study, and suggestions for future research.
Chapter 2: Literature Review

In this chapter I review literature that establishes the context of my research question. In order to accomplish this I start the chapter with a brief description of the thinking skills movement and its influence on the development of many programs designed to improve thinking skills. I then explain my reasons for choosing Dewey’s approach to effective thinking. Finally, I describe the P4C Hawaii program and the ways this program is intended to improve the development of reflective thinking in classroom discussions.

Thinking Skills Movement

Over the last twenty years there has been special attention devoted to thinking skills (Pauker, 1987; Heiman & Slomianko, 1987; Lipman, 1991; Costello, 2000). There are several reasons for such concern: (a) the world is more complex, requiring of us more effective ways to apply our knowledge (Nickerson, Perkins, and Smith, 1985; Segal, Chipman, and Glaser, 1985; Kurfin, 1988); (b) countries’ development depends on the level of intellectual development of their citizens (Costa, 1985; Halpern, 1989); (c) students are unable to deal effectively with problems that require abstract thinking (Paul, Binker, Martin, and Adamson, 1989); (d) students cannot effectively use the knowledge they get in school (Segal et al., 1985); and (e) that schools have low expectations for higher order thinking skills (Grant, 1988). The thinking skills movement generated many approaches to facilitating thinking among students (Costa, 1985; Ennis, 1962; Lipman, 1991; Nickerson et al., 1985, McPeck, 1981, Segal et al., 1985; de Bono, 1985; Paul,

One of the issues not settled by the thinking skills movement was what constituted “thinking”. According to Halpern (1989); thinking is a process present in human beings from birth. She says, “everyone of us already knows how to think. It’s something we’ve done, most often without thinking much about it, from birth. It comes as naturally as breathing” (Halpern, 1989, p. 6). This seems to echo Dewey’s (1960) contention that “all the time we are awake and sometimes when we are asleep, something is, as we say, going through our heads... To this uncontrolled coursing of ideas through our heads the name of ‘thinking’ is sometimes given. It is automatic and unregulated” (p. 4). In this view “thinking” is a natural process and, therefore, does not need to be taught. But the question that should concern us is about the quality of our thinking, or how we think. The “thinking skills movement” mentioned above suggests that students are not developing their thinking in ways necessary to process and use effectively the knowledge and information they receive every day in school and life in general. In order to reach this goal we need to help students develop more effective ways of thinking. The Hawai’i Department of Education’s standards confirm this need by including thinking and reasoning skills in its benchmarks under the Career and Life Skills content area: “Students will be able to practice metacognition using the elements of reasoning and intellectual standards and other thinking skills and strategies; analyze and evaluate various perspectives, interpretations, and theories for clarity, accuracy, logic, and significance” (Hawaii Department of Education, 2004).
However, thinking sometimes is perceived as a combination of fairly specific skills (Segal et al., 1985; Baron & Sternberg, 1987; Costello, 2000; Heiman & Slomianko, 1987) and sometimes perceived as a single process, such as “critical thinking” (Paul et al., 1987; Ennis, 1985; McPeck, 1981), “higher order thinking” (Resnick, 1987), or “reflective thinking” (Dewey, 1960; Lipman, 1991). As Baron & Sternberg (1987) state “there are many different names for the same thing, with each investigator having his or her own preferred set of names” (p. 252). This statement is echoed by Pauker (1987) who says “there can be as many different lists of thinking skills as there are researchers or developers of programs for thinking skills instructions” (p. 31).

**Reflective Thinking**

In this study I adopted Dewey’s approach to what constitutes effective thinking because he has the longest legacy in the fields of education, psychology, epistemology, and logic (Dewey, 1953, 1960, 1990, 1997, 1998), being cited in several works on improvement of thinking skills (Baron, 1987; Bransford, Arbitman-Smith, Stein, and Vye, 1985; Kurfiss, 1988; Lipman, 1991). Dewey used the term “reflective thinking”. He defined it as an “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (Dewey, 1960, p. 9). He further added that it is “a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and an act of searching, hunting, inquiring, to find material that will resolve the doubt, settle and dispose of the perplexity” (p. 12). It is important to note that to be a reflective thinker, it
is not enough just to doubt what is perceived, but one must also search for more information to understand one's difficulty.

According to Dewey, reflective thinking depends on the establishment of conditions in the classroom that would awaken students’ curiosity, and connections of experiences. Reflective thinking thus could be facilitated through structured social interaction. According to Resnick (1987), one of the communalities among most thinking skills programs has been this reliance on social setting and social interaction. She explains it by saying that by interacting with others we can model effective thinking strategies, critique ideas, change each other perceptions, and get motivated to learn.

Vygotsky (1978) stated that in order to internalize higher mental functions we have to first experience them socially.

Accepting that thinking develops through social interaction, our next step is to describe the types of social interaction that suit the development of reflective thinking in the classroom. Classroom discussion is a type of structured social interaction where ideas are being expressed and considered. It is important to distinguish effective classroom discussion from simply talking freely to each other. Within the literature many authors present criteria or guidelines for what makes an effective discussion. According to Ments (1990), discussion requires a formal communication used to question evidence. Paul seems to agree with Ments that discussion is a formal activity and adds that to be part of one we have to learn how to listen, to search for reasons, to be aware of assumptions, to find out implications and consequences, to look for examples, analogies and counterexamples (Paul et al., 1987). Since effective discussion is generally agreed to be a structured activity that requires sincere interaction with others, it is not surprising that
many authors who write about discussion present similar criteria or guidelines for what makes an effective discussion. For example, Wardhaugh (1985), Paul (1987), and Crowell's (1963) guidelines are very similar insofar as they all mention checking preconceptions and assumptions, giving and asking for information, listening carefully to what others say, being relevant, synthesizing, and summarizing what is being said.

*Philosophy for Children Hawaii (P4C Hawaii)*

One of the "thinking skills" programs to emerge from the 1980's was Lipman's *Philosophy for Children Program* (Lipman, 1988). The program relies on the idea that discussion and listening skills are the basis for the development of reasoning skills. In Hawai‘i, Dr. Thomas Jackson (1989) expanded on this work and developed *P4C Hawaii* to create communities of inquiry. The assumption is made in *P4C Hawaii* that the development of the community in the classroom is a prerequisite for the development of a community of inquiry. It relies on the idea that an inquiry unfolds in the context of a new relationship between teacher and students, where the teacher is no longer the "knowledge holder" and the students are no longer the "knowledge receivers". According to O'Keefe (1995), in a community of learners everyone learns, teachers and students. Elaine Roumasset (2004), a second grade teacher, demonstrates this in the following example:

I remember the first session when the question, 'If you jumped off a three-story building would you be hurt?' was posed. My immediate thought was, 'Of course you’d be hurt!' Any dummy could tell you that. Then came a student’s reply, 'No, not necessarily'. My eyes almost popped out of my head. I thought, 'What? Are you insane? Maybe you don’t know how high three stories really are.' The
student then followed up with his reason. ‘If I were wearing a parachute I may not get hurt.’ And then another student, upon hearing the first, responded with, ‘Not if there were a mattress at the bottom that could cushion my fall like for a stuntman.’ I then realized that maybe I don’t have all the answers and it really was not necessary. (p. 87)

To help classrooms first develop a community and, subsequently, a community of inquiry, Dr. Jackson developed some guidelines for educators to use. All the guidelines for creating a community and for creating a community of inquiry reflect P4C Hawaii’s objective to help students develop their thinking and use it in responsible ways. Figure 1 summarizes which guidelines are meant to facilitate development of community and which are meant to facilitate development of a community of inquiry.

Figure 1. P4C Hawaii Guidelines for Developing Community and Community of Inquiry
The first three guidelines have primarily to do with the establishment of an intellectually safe learning community. Specifically, students and teachers sit in a circle, allowing all members to make eye contact and see the impact of what they are saying on one another. Second, a "community ball" is created and used. This helps students feel more comfortable in calling on each other. The students understand that whoever holds the community ball is the speaker at the moment, that the person can pass it to whomever he or she wishes, and that if the ball comes to them and they do not want to speak, they have the right to pass it to somebody else. Certain "magic words" (see List of Abbreviations) were also created. These words help students feel safe in asking the members of the community to speak louder ("SPLAT"), saying "I don't understand!" ("IDUS"), and "Please, one person at the time!" ("POPAAT") in a non-threatening way. These guidelines show that in a community of learners there is more emphasis on students' interest, and in listening and respect for the thoughts of others. The community gradually develops into an intellectually and emotionally safe place for the students to accept any question or comment. As Dr. Jackson (2001) explains, "What develops is a growing trust among the participants and with it the courage to present one's own thoughts, however tentative initially, on complex and difficult issues" (p. 460). When children begin to understand that they can come up with their own topics and express their ideas around their interest we start to see some changes in the quality of their thinking.

These three guidelines mentioned above are connected with the development of a community. Dr. Jackson (T. Jackson, personal communication, April 6, 2006) reminds us that the development of a community is a necessary but not a sufficient condition for an
inquiry to unfold in a discussion. Once the classroom becomes a community, its members become more comfortable in speaking their ideas, thus beginning to form a community of inquiry. However, an inquiry is not considered to be a simple conversation or sharing of ideas. In the process of developing a community there is sharing of ideas (which are sometimes no deeper than, for example, what one should bring to a class party). In a community of inquiry, however, there are certain cognitive tools that establish the sharing of ideas as an inquiry. Dr. Jackson has developed these cognitive tools into what he calls the Good Thinkers Tool Kit. The Good Thinker’s Tool Kit (hereafter called Tool Kit) is another P4C Hawaii guideline used to question evidence, to look for reasons, recognize and reflect upon assumptions, and discover implications and consequences. The good thinker’s “tools” are represented by the seven letters W, R, A, I, T, E, and C. “W” encourages student to check for clarity of what is said (hereafter “What do you mean by...?”). “R” (hereafter Reason) supports asking for or giving reasons for what is said. “A” (hereafter Assumption) calls for attention to possible assumptions being made. “I” (hereafter Inference or Implication) involves identifying inferences or possible implications of what is said (e.g., “If... then” statements). “T” (hereafter True) refers to asking whether or not an assertion is true and whether there is evidence to support it. “E” (hereafter Example) stands for examples, and finally “C” (hereafter Counterexample) calls for attempting to create counterexamples. The Tool Kit gives shape and direction to the classroom inquiry. The effectiveness of the discussion is based on whether or not students are reaching a deeper understanding of the topic, or as Dr. Jackson (1989) says, “scratching beneath the surface”. There are two ways that student discussions can be said to reflect this: when the Tool Kit is used and when there is a sense of progress in the
discussion inquiry. The discussion needs to use at least two tools of the Tool Kit, and each tool should be used at least twice in order to be considered using the Tool Kit (T. Jackson, personal communication, April 6, 2006). To find out if there is progress in the inquiry we have to identify at least one of the three characteristics. The first characteristic is whether the discussion raises different aspects of the problems or questions connected to the topic. In other words, the discussion contains statements that suggest that there is no longer a single, simple solution to the issue; there is after confusion in the face of complexity. The second is a connection of different ideas mentioned in the discussion. The third characteristic is that the discussion at some point shows development towards an answer to the question or topic.

With this understanding of how a community and a community of inquiry are formed it is also important to mention that P4C Hawaii communities of inquiry can be at different levels of maturity, each having its own characteristics (Jackson, Strong, and Oho, 2004; Jackson, 2001). In beginning P4C Hawaii communities, students often fail to present reasons to support their answers and such groups need help understanding the implications of each individual’s answer. Teacher monitoring is more critical in such beginning communities. Consequently, one of the guidelines establishes teacher responsibilities as facilitators of beginning, emerging or mature P4C Hawaii communities of inquiry. In a beginning P4C Hawaii community of inquiry, the facilitator is responsible for: monitoring the proper use of the community ball, introducing the magic words, and modeling and highlighting Tool Kit use. By the time P4C Hawaii communities are more mature, however, the group understands that opinions alone do not make an effective discussion. At this point students start to apply the Tool Kit more often
and have begun to internalize it. The guideline for an emerging or mature P4C Hawaii community of inquiry sees the teacher as more likely to participate alongside the students rather than lead them.

Regardless of the level of maturity of the P4C Hawaii community, Dr. Jackson (2001) recommends as a guideline that the instructional time devoted to the P4C Hawaii program should be no less than two hours per week (2-3 sessions).

The final guideline that applies to all the communities is the practice of reflecting on and evaluating their inquiry at the end of each discussion. Dr. Jackson (2001) includes two kinds of questions in this guideline: ones that ask students how they did as a community and ones that ask them to evaluate their level of inquiry. The questions asked in the first category are about students' listening ("Was I listening to others?" "Were others listening to me?"); students' participation ("Did most people participate rather than just a few who dominated?"); and about students' safety ("Was it a safe environment?"). The questions asked in the second category are about students' focus ("Did we maintain a focus?"); the discussion's depth ("Did our discussion scratch beneath the surface, open up the topic, or otherwise make some progress?"); students' understanding ("Did I increase my understanding of the topic?"); students' thinking ("Did I challenge my own thinking or work hard at it?"); and students' interest ("Was it interesting?"). The members' evaluation is given with "thumbs up", "thumbs down" or "thumbs midway" (between up and down, indicating neutrality or uncertainty).
With regard to Dewey’s definition of reflective thinking, the Tool Kit reflects the "careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (Dewey, 1960, p. 9). Another important aspect of Dewey’s definition of reflective thinking is persistence: “Reflective thinking is an active, persistent, and careful consideration of any belief or supposed form of knowledge” (Dewey, 1960, p. 9). P4C Hawaii incorporates the importance of persistence by asking students whether they stayed focused on the topic at the end of the discussion. One of the "magic words" in P4C Hawaii also is meant to facilitate persistence of the topic chosen, viz., G.O.S (Going off subject). Dr. Jackson’s P4C Hawaii and Dewey’s reflective thinking overlap in their focus on the importance of scratching beneath the surface and persistence. Therefore, a P4C Hawaii discussion is said to facilitate reflective thinking when there is both scratching beneath the surface and the presence of persistent statements. However, it is important to mention that Dewey’s reflective thinking and P4C Hawaii are not completely congruent. There are operational procedures in P4C Hawaii that Dewey did not talk about. The primary one is the notion of the community. And in Dewey’s concept of reflective thinking there are certain aspects, such as active and careful consideration, that this study of P4C Hawaii does not addresses.

Previous studies evaluating the Philosophy for Children Program (Burnes, 1981; Curtis, 1980; Hass, 1976; Higa, 1980; Karras, 1980; Shipman, 1982; Yeazell, 1981) focused on individual improvement of thinking skills, such as in reasoning ability, vocabulary and reading comprehension (Burnes, 1981), formal and informal logic
(Karras, 1980), formal and informal reasoning, ideational fluency and flexibility
(Shipman, 1982), inferential reasoning and ideational productivity (Higa, 1980). These
studies focused on how group discussions can promote the development of individual
thinking skills. But there has been no research to date on change in the classroom
discussion, regardless of the change in individuals. The current study rests on the
assumption that having a structured discussion helps teachers facilitate the development
of thinking skills of the group as a whole. This study will focus on development of
reflective thinking skills that the P4C Hawaii is trying to facilitate in classroom
discussions. This specific research question addressed is: Does Philosophy for Children
Hawaii program facilitate an increase in reflective thinking in classroom discussions of
elementary students in the course of one semester?
Chapter 3: Method

Participants

The participants were 52 Grade 1, 3, and 4 students from an urban public elementary school in Honolulu, Hawaii. There were 22 students in the first grade (10 boys and 12 girls, with a mean age of 6), 15 students in the third grade (11 boys and 4 girls, with a mean age of 8.8), and 15 students in the fourth grade (7 boys and 8 girls, with a mean age of 10). First and third graders engaged in P4C Hawaii discussions once a week for approximately 30 minutes, and 25 minutes, respectively. The fourth graders had P4C Hawaii discussions an average of twice a week, each lasting approximately 30 minutes. The first grade teacher had three years of experience facilitating P4C Hawaii discussions; the third grade teacher had three and a half years of experience teaching P4C Hawaii; and the fourth grade teacher had four and a half years of experience. The third grade teacher led the discussion only at the beginning of the semester. Later sessions were led by his teacher assistant, who had received some training in P4C Hawaii but who did not have formal teaching experience. Dr. Jackson was present for some of the sessions to assist the teachers. The principal gave permission to do the study and students and their parents or guardians completed consent forms (see Appendix A and Appendix B). The statements of those who did not sign the consent form were not used in this study. Students’ names were changed in this study to keep their identities anonymous.

Data Sources

In this study I used video and audio taping to record children’s discussions and conversation with the facilitators to inform my research. The video record was made to
ensure that it was not merely one or two students who were participating in the discussion most of the time. The discussions were transcribed and the transcripts were analyzed by the researcher for signs of reflective thinking. More specifically, the transcripts were examined and coded for: (a) use of the Tool Kit (described earlier); (b) progress in the inquiry; (c) the degree to which students scratched beneath the surface of the topic; and (d) the persistence of the students’ discussion. Evidence for each of these characteristics will be described explicitly below.

Due to technical problems the fourth grade’s third discussion transcript is missing the last seven minutes of the discussion.

**Procedure**

I videotaped and audiotaped classroom discussions during three periods throughout the fall semester of the 2005-2006 school year: the beginning of the semester (at the end of August, and beginning of September), the middle of the semester (during the first week of November) and at the end of the semester (during the first week of December). The audio recorder and video recorder were placed in opposite sides of the room where they would not distract the participants and yet could provide a reliable recording of what happened during classroom discussion. I transcribed the audio recordings of these classroom discussions.

**Data Analysis**

Assessing the characteristics of the P4C Hawaii discussions for reflective thinking rests on the assumption that each discussion was done according to the P4C Hawaii guidelines for discussions mentioned in Chapter 2. However, only part of that
determination could be made by examining the transcripts alone. The P4C Hawaii guidelines point out that the teacher facilitator is responsible for modeling and highlighting the proper use of the Tool Kit, especially in beginning P4C Hawaii communities. In mature P4C Hawaii communities, the teacher is more likely to participate alongside the students. The facilitator interventions I assessed as modeling and highlighting the proper use of the Tool Kit are shown in order of occurrence in the list of abbreviated statements and marked with an asterisk (*). Not included were teachers’ interventions used only to get students’ attention (see Appendices D-O). Other characteristics of fidelity to the P4C Hawaii program were evident only from direct classroom observation, and these will be articulated in the next two chapters.

I next analyzed transcripts to determine whether the discussions facilitated reflective thinking. Before I explain how I analyzed the data it is important to understand how the components of P4C Hawaii fit together in facilitating reflective thinking. This organization is illustrated graphically in Figure 2. At the most basic level of this analytical scheme, I identify the three different aspects of progress in the inquiry (viz., different aspects raised, connection of ideas, development of an answer) and the use of the Tool Kit letters. According to Dr. Jackson (T. Jackson, personal communication, April 6, 2006), a discussion needs to have at least one positive indicator for any of these three aspects in order to claim that there was progress in the inquiry. Furthermore, in order to claim that the Tool Kit was used effectively, there must have been at least two uses each of at least two of the Tool Kit letters. Then, at the next level of the scheme it can be determined whether the discussion progressed in its inquiry and whether the Tool Kit was used. If both use of the Tool Kit and progress were evident, the discussion was
The relationship between Dewey's definition of reflective thinking and *P4C Hawaii* was articulated in Chapter 2. According to Dewey's definition of reflective thinking, in addition to scratching beneath the surface, the degree of persistence in discussions is also important. Thus the discussion transcripts were analyzed for the
number of persistent statements occurring in the discussion. The expectation was that, in emerging or mature \textit{P4C Hawaii} communities of inquiry there will be a higher number of persistent statements in comparison with beginning \textit{P4C Hawaii} communities of inquiry. Though Dewey argues that persistence is necessary for reflective thinking, he does not provide any operational definition of persistence. Since I cannot say \textit{how many} persistent statements are minimally necessary for a discussion to facilitate reflective thinking, our assessment of reflective thinking must depend upon the \textit{relative differences} in number of persistent statements from one discussion to another. Thus, while I might be able to claim facilitation of reflective thinking based upon whether or not a discussion \textit{scratched beneath the surface}, I am only able to draw comparative conclusions about the relative number of persistent statements in any discussion.

Now that the analytical scheme of reflective thinking is understood, I can explain how the data was analyzed. First, I began with an analysis of persistent statements and use of the Tool Kit letters. Then I proceeded to an analysis of the three aspects of progress in the inquiry, taking into consideration only the persistent statements from the data. Then I assessed Tool Kit use and progress according to the criteria of Dr. Jackson, again only taking into consideration the persistent statements from the data. Data from Tool Kit use and \textit{progress in the inquiry} allowed me to analyze whether a discussion scratched beneath the surface. I was able to take the data of scratching beneath the surface and the number of persistent statements to answer whether \textit{P4C Hawaii} facilitated reflective thinking. My final step in the analysis of the transcripts was to evaluate the discussions with regards to the fidelity to the \textit{P4C Hawaii} program guidelines.
First, I analyzed transcripts of the discussions and categorized statements as being either non-persistent or persistent. For those statements coded as persistent (i.e., staying on the same topic) I also determined whether each persistent statement introduced new information about the topic. For example, consider the discussion “Is anything perfect?” (see Appendix L). One student said: “If something is perfect so everything left is imperfect”, another student said: “If you do something better than somebody else that doesn’t mean you are perfect. Perfect would be then to not do anything wrong!” These are three new ideas added to the topic of “Is anything perfect?”: that if there is something perfect the rest would be imperfect; that you aren’t perfect if you do things better than others; and that perfect is when you don’t do anything wrong. I abbreviated these statements and recorded just the essence of each new idea. For example, in another discussion a student said: “Like ah. . . what do you mean by dead? Does anyone believe in ghosts? And if there are ghosts, are they still dead or considered alive, or walking around dead? Cause if you do turn into a ghost I do think you have personality, you still have a mind.” This statement was shortened to “If the person turns into a ghost the person still has personality because he/she has a mind”. These abbreviated statements were recorded in the order in which they occurred in the discussion (see Appendix O). Sometimes the new statements were repeated in the list of abbreviated statements in the transcript in order for the reader to understand the context of the teacher’s intervention. For example in the discussion “Why do you like cats?” (see Appendix D) a student said: “. . . because they are cute” and the teacher did not say anything. The second time the idea was mentioned the teacher again did not intervene. However the third time this idea
was said the teacher intervened saying: "What do you mean by cute? Why are they cute? Is it the way they look? Is it what they do?"

Then I analyzed whether each discussion as a whole scratched beneath the surface. As suggested by Dr. Jackson, there are two indicators that a discussion reflects this (T. Jackson, personal communication, April 6, 2005). The first is whether the Tool Kit was used. The second is whether discussion showed any sense of progression in its inquiry, that is, whether: (a) the discussion raised different aspects of the problem; (b) different ideas were connected; or (c) there was an attempt to develop an answer. When a discussion included at least one of these three indicators it was considered to show progression towards answering the discussion question. Thus, when a discussion showed such progression and showed use of the Tool Kit, that discussion was considered to scratch beneath the surface.

I analyzed transcripts and coded students' statements according to the seven ways students could use the Tool Kit: checking for clarity of what is meant (W), giving reasons for what is said (R), searching for assumptions being made (A), making inferences or possible implications (I), checking whether or not an assertion is true (T), giving examples (E), and giving counterexamples (C). Then I counted the total use of the Tool Kit in each discussion including the total use of each tool.

To determine whether the discussion reflected different aspects of the topic, I examined the list of abbreviated statements for different ideas (see Appendices D-O). To determine whether a discussion reflected confusion, I examined the transcripts for statements that showed confusion or doubt. For example, the earlier referred discussion "Is anything perfect?" (see Appendix L) showed confusion when a student stated; "I'm
really confused because sometimes people say: ‘Don’t change because you are perfect the way you are’ then others say; ‘Nothing is perfect.’” To determine whether the discussion connected different ideas I examined the list of abbreviated statements and analyzed whether the ideas appeared to build upon one another. For example, in the same discussion the following statements seemed to show evidence of ideas building upon one another: (a) Perfect is doing better than everyone else; (b) If you do something better than somebody else that doesn’t mean you are perfect; (c) Perfect would be then to not do anything wrong; (d) If you got a perfect score, it doesn’t mean you are perfect. To determine whether the discussion helped students develop an answer, I identified statements that attempted to put ideas together in formulating an answer. For example, in that discussion a student said: “I don’t think we really came up with the definition because we kept talking about what is perfect but I still don’t have it. Maybe something people might think is perfect, like being clean, like George said. And then some people think might be the perfect score, the perfect whatever you do… so everyone talked about different ideas”.

**Coder Reliability**

In order to establish coding reliability, a second coder was recruited. The second coder was a philosophy graduate student who has been facilitating *P4C Hawaii* discussions for more than four years. He coded the use of the Tool Kit and persistent statements. Before he analyzed this study’s transcripts, I trained the second coder to use the coding criteria by having him code similar transcripts that were not from this study. He analyzed three randomly selected transcripts taken at the beginning, middle and end
time periods. This analysis was conducted independent from my own, and the coder did not know which time period the transcripts were from. After the second coder coded the three transcripts, I compared our coding to determine the extent to which we were consistent. Of the total of 21 judgments in the three transcripts (based on the 7 Tool Kit letters), 15 judgments (71.5%) were the same for the Tool Kit; 4 judgments of the use of a specific tool (19%) were within one number; and 2 (9.5%) were two or more numbers apart. For the total number of persistent statements in a discussion, though none were exactly the same, two out of three were only one number apart, and the other more than one number apart.

After I coded the rest of the study transcriptions, the second coder independently coded three more transcripts randomly selected from the study. There were again a total of 21 judgments (seven Tool Kit letters), 19 judgments (90%) of a specific tool were the same for the Tool Kit use; 1 (5%) was within one number; and 1 (5%) were two or more numbers apart. For the total number of persistent statements in a discussion, though none were exactly the same, all the three judgments were within one number. This time the second coder raised the question of whether persistent statements could be inside a discussion that is about something else. We agreed that they would not be considered persistent since they are not connected in any way with the topic discussed. For example, in the discussion about what is a person a student asked: “Are video games really real?” and some students were persistent in going into that direction. The statements that followed were: “Why do we always get into the topic of video games?” “They always play gladiators” “Video games might hurt or might not. It is hard to tell but why is there
such a thing as ghosts or there might not be . . .” All these statements were considered not persistent.
Chapter 4: Results

This chapter presents evidence for whether the P4C Hawaii program is facilitating reflective thinking in classroom discussions. First, I present evidence of fidelity to the P4C Hawaii program guidelines, then evidence of reflective thinking in P4C Hawaii classrooms; then evidence of growth in reflective thinking within each grade level across the semester; and, evidence of growth in reflective thinking across grade levels.

Fidelity to the Program Guidelines

Failure or success in the facilitation of reflective thinking P4C Hawaii classroom discussions is best understood in the larger context of fidelity to program guidelines, remembering that P4C Hawaii facilitators are both trying to develop a community and a community of inquiry. In order to find out whether or not discussions were consistent with the program guidelines it is necessary to review those guidelines from Chapter 2.

According to my observations all three classes had its members sit in a circle, where they could see each other’s facial and body expressions. Regarding the “community ball”, only the first graders did not have it present. However, they did have a stuffed animal (a little cat), which fulfilled the same purposes that the ball does. The other two classes both had created the “community ball” together. The person holding the ball was usually the only one talking in the fourth grade. Students in the first and third grades tended to talk at the same time quite often when someone else was speaking. The magic words were present in all the three classrooms. The magic words most commonly used were “POPAAT” and “SPLAT”. Based on my observations the three classrooms were
physically, emotionally and intellectually safe places for students. There were no “put-downs” or comments intended to ridicule, undermine or belittle individual’s statements.

The first and third graders chose their own questions for the discussions. The fourth grade teacher chose the questions in the discussions used for this study.

According to my observations the Tool Kit was present in the middle of the circle during the discussions of the first and third graders. The fourth grade did not have them present in discussions that I observed.

Regarding the guideline that describes the maturity level of the P4C Hawaii community, it was observed that the first and third grade teachers had to remind the students to present reasons to support their statements while fourth grade teacher did not have to remind the students to use the Tool Kit. From her personal communication, it was clear that first grade teacher’s primary purpose in her P4C Hawaii sessions was developing a community. Therefore she was consistent in both monitoring the proper use of the community ball and introducing the magic words, but was not as frequent or insistent as the other two grades in modeling and highlighting Tool Kit use. For example, in a first grade discussion a student said that she likes cats because they are cute. The teacher asked, without holding a Tool Kit letter: “Ann can I ask you... can you give me an example of what do you mean by cute? Is it the way they look? Is it what they do?” (see Appendix D for the context of this dialogue). The student did not answer her questions and, since the teacher’s purpose was to create a comfortable environment for participation, the teacher did not persist in getting an answer. This emphasis on community development also means that it is important that discussions arise from student interest, even if the subsequent discussion shows few or no indicators of an
inquiry. Thus, the first grade used the same topic twice ("What is your favorite animal?") and neither discussion showed indicators of an inquiry and hence did not facilitate reflective thinking. However, there was no substantial difference in the number or kind of the teacher’s interventions, indicating consistency with the community building guidelines. In addition, by her gradual introduction of the Tool Kit in discussions, she was also beginning to follow those guidelines related to the community of inquiry.

Since most of his students had previous exposure to P4C Hawaii and presented indicators of a developed community early on in the semester, the third grade teacher’s focus was to develop a P4C Hawaii community of inquiry. He gave a good example of how to highlight and model the use of the Tool Kit in the classroom. After a couple of students stated their examples the teacher said: “So, Steve gave an example [the teacher was holding the tool E for “example”]. He said the first people on Earth made the video games and Brandon gave a . . . [showing the tool C for “counterexample”].” The teacher was consistent in modeling and highlighting the Tool Kit use throughout the discussion. However, that third grade teacher was present in only the first of the four discussions observed in the third grade class. The second and fourth discussions were facilitated by the teacher assistant. The third discussion was assisted by Dr. Jackson. The teacher assistant was consistent in monitoring the proper use of the community ball and, although his modeling and highlighting of the Tool Kit was low in the initial session, it improved by the fourth. For example, in the second discussion “Why people play sports” (see Appendix I), the teacher assistant highlighted the Tool Kit use only four times, twice to praise students’ good reasons and twice asking for examples. In the final discussion observed, that teacher assistant intervened eight times modeling and highlighting the
tools “$W$” (*What* do you mean?), “$E$” (*Example*), “$A$” (*Assumption*), and “$I$” (*Inference* or *Implication*). The latter discussion had two positive indicators of scratching beneath the surface. The discussion statements went from addressing the benefit of sports for our health to imagining the possibilities of becoming famous athletes and being able to travel. Students used the tools *Reason* and *Example* in stating their ideas (see Appendix I).

When Dr. Jackson assisted the third discussion (see Appendix J), he intervened sixteen times, modeling and highlighting the Tool Kit use. His interventions were persistent throughout the discussion. For example, a student said that boys are better at sports and Dr. Jackson asked: “So, what happens in my mind when I hear that? I think ‘Boys are better at sports’, then I think: ‘Is that true always? Boys are better than girls in sports.’ Can somebody think of a counterexample? A girlfriend that is better at sports?” Students seemed excited about the topic and without answering Dr. Jackson’s questions a student said: “Boys are stronger.” Dr. Jackson repeats the same questions again so students can understand the model of thinking. He asked: “Always boys are stronger than girls? . . . Can you think of a counterexample?” This discussion had a positive indicator of scratching beneath the surface, viz., raising different aspects of a topic.

The fourth grade teacher’s purpose was to develop a *P4C Hawaii* community of inquiry. He did not monitor the proper use of the community ball or introduction of the magic words, nor did he model and highlight Tool Kit use as often as the first and third grade teachers. Since students were using the Tool Kit and magic words independently, they were able to have reflective discussions throughout the semester. Dr. Jackson was present for the third discussion and his interventions did not model or highlight Tool Kit use as he did with third graders. The teacher’s and Dr. Jackson’s interventions did not
focus on exactly what was said by a particular student. Rather their interventions attempted to move the discussion into different directions, to explore other parts of the topic. For example, in the discussion “How do you know something is good?” (see Appendix M), students began by trying to answer the question, then the teacher intervened and asked: “Do you think there is anything that everybody would agree upon as being something that we may consider good?” Later Dr. Jackson intervened asking: “Would it always be good to give someone a $100?” and “Is there anything plain bad, like violence?”

The fourth graders supported their opinions and applied the Tool Kit more often than first and third graders. For example, a student said: “You know something is good because it makes you feel good... the whole body feels good.” His classmate then replied: “What do you mean by something?” And another student answered by giving an example: “I think food... you can tell if it is good. Like milk, on how it tastes. So you can find if it is good by your senses.” The students asked for clarification (W), gave reasons (R) and examples (E) without teacher help. The first and third grade teachers were often monitoring the proper use of the community ball, reviewing the meanings of the different tools, and keeping the students focused. The fourth grade teacher facilitated the discussions by guiding them to go deeper into the topic. For example, students got “stuck” in seeing humor as something bad after someone gave an example of an adult show (see Appendix N). The teacher intervened and said:

Okay, I think you’re saying you think humor can be a bad thing because people can make jokes about you and that might make you feel bad, right? So, my question is this: Because somebody makes a joke is that joke always considered to be humor?
And is there a difference between that and teasing? Because if you tell me a joke about me and I don’t think it is funny would that be considered to be a joke or you are teasing me? I’m not sure if it’s humor, I’m not sure if we are mixing humor with teasing. If I’m making fun of you and I turn it into a joke, but you don’t think it is funny, is it still a joke? Is teasing mixing up humor? I don’t know, just a thought.

Students replied to the teacher’s interventions saying: (a) a joke can be teasing; (b) there is a difference of opinions to what is a joke and what is teasing; (c) a joke is not teasing; and (d) jokes can be hurtful.

According to one of the guidelines, the instructional time devoted to the P4C Hawaii program should be not less than two hours per week (2-3 sessions). The first and third grades had P4C Hawaii discussions only once a week for approximately 25 minutes and some weeks were skipped entirely. Teachers did not provide the specific number of weeks missed due to assemblies, field trips, test preparation, and curriculum demands. The third grade teacher spent the first 10 minutes (out of the approximately 25 minutes devoted to the discussion), reviewing the Tool Kit and going over P4C Hawaii rules. The fourth grade teacher was able to accomplish an average of two discussions per week. Each discussion lasted approximately 35 minutes.

Using the guideline relating to self-reflection, the transcripts show that the first grade facilitator asked students questions reflecting on the community and questions evaluating students’ listening, participation, and safety. Her questions were: “How did you feel about the topic?” “Did you like it?” “What do you think about our participation?” “Did most of us participate?” Similarly, the third grade facilitators asked most questions
relating to evaluation of the community: “How was our participation?” “Did you find an opportunity to share?” “How safe did you feel today?” “Did we listen to others?” but the facilitators also added one question related to the quality of the inquiry: “Did we scratch beneath the surface?” The fourth grade facilitator asked most questions pertaining to the quality of the inquiry: “Was it something that interested you in a greater way?” “Did we look at it in different ways?” “Did we get deep?” “Did we stretch our brains?” He also included some pertaining to the sense of community itself: “How was the topic?” “How was your listening?” “Did we all participate?”

When examining the transcripts in light of the P4C Hawaii guidelines, it is clear, then, that the first grade discussions did not follow all the guidelines regarding the community of inquiry. They did follow most of the guidelines regarding the formation of a community, with the glaring exception of the recommended time spent on the program.

The third grade discussions followed all P4C Hawaii guidelines for the community and most of the guidelines for the community of inquiry. However, the number of P4C Hawaii discussions each week was below that recommended. In the first, third and fourth discussions the facilitators highlighted and modeled the Tool Kit consistently, while in the second discussion, the facilitator was just beginning to learn how to intervene using the Tool Kit. As mentioned earlier, there were different facilitators throughout the semester in the third grade discussions.

The fourth grade discussions followed all the P4C Hawaii guidelines for the community and most of the guidelines for the community of inquiry. The Tool Kit was not present during the discussions and the teacher chose the questions.
Evidence of Reflective Thinking

The analytical scheme developed in the data analysis section of the previous chapter will be used to show evidence of reflective thinking in P4C Hawaii discussions. At the bottom level of this scheme I looked for these positive indicators of progress in the inquiry. I registered 21 positive indicators of 36 possible, which meant that nine out of the twelve discussions progressed in their inquiry. At the bottom level evidence of Tool Kit was also gathered. Given the criterion established nine of the twelve discussions showed significant Tool Kit use. Jointly the findings for progress and Tool Kit use tell us that 9 out of the 12 discussions scratched beneath the surface.

Recall that both scratching beneath the surface and persistent statements were decided necessary for a discussion to show reflective thinking, but that there was no clear minimum number of persistent statements established as a criterion. The frequency of persistent statements was similar in both first and third grade discussions, but fourth grade had the highest frequencies of persistent statements (see Tables 1-4). Thus, as evidence of reflective thinking there is evidence of scratching beneath the surface in the second discussion of the first grade and in all four discussions of the third and fourth grades. Furthermore, based upon the number of persistent statements among the three groups, it can be claimed that fourth grade was at a higher degree of reflective thinking in comparison with the first and third grades.

Evidence of Growth in Reflective Thinking in Each Grade

Table 1 shows the results of all four discussions observed in the first grade, one at the beginning and end of the semester and two in the middle. These results show no
Table 1

*Evidence of Growth in Reflective Thinking in First Grade Discussions*

<table>
<thead>
<tr>
<th>Dates</th>
<th>Beginning 08/29/05</th>
<th>Middle 10/25/05</th>
<th>Middle 11/03/05</th>
<th>End 12/08/05</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistence</td>
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<td>30</td>
<td>40</td>
<td>24</td>
<td>124</td>
</tr>
<tr>
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<td>no</td>
<td>no</td>
<td>1</td>
</tr>
<tr>
<td>Tool Kit use</td>
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<td>yes</td>
<td>no</td>
<td>no</td>
<td>1</td>
</tr>
<tr>
<td>What...?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Reason</td>
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<td>6</td>
<td>12</td>
<td>19</td>
<td>60</td>
</tr>
<tr>
<td>Assumption</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Inference or Implication</td>
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<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>True</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Example</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Counterexample</td>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
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<td>12</td>
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<td>71</td>
</tr>
<tr>
<td>Progress</td>
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<td>no</td>
<td>no</td>
<td>1</td>
</tr>
<tr>
<td>Different aspects</td>
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<td>no</td>
<td>no</td>
<td>1</td>
</tr>
<tr>
<td>Connection of ideas</td>
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<td>yes</td>
<td>no</td>
<td>no</td>
<td>1</td>
</tr>
<tr>
<td>Developing an answer</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>1</td>
</tr>
</tbody>
</table>

evidence for reflective thinking at the beginning of the semester, some evidence of it in the middle of the semester, and none at the end. The first grade’s second discussion had positive indicators of all three aspects of *progress in the inquiry* and satisfied the criteria...
for use of the Tool Kit, thus scratching beneath the surface (see Appendix E). The discussion presented 30 persistent statements. The first (beginning of the semester), third (middle), and fourth (end) discussions revealed almost exclusive use of only one tool ($R$) and showed no progress in their inquiry. Furthermore, the numbers of persistent statements were 30, 40, and 24, for the first, third, and fourth discussions respectively. Since there is no clear increase in scratching beneath the surface or the number of persistent statements throughout the semester, there is no clear indicator of growth in reflective thinking at the first grade level.

Table 2 shows the results of all four discussions observed in the third grade, one at the beginning, one in the middle, and two at the end of the semester. These results show some evidence for reflective thinking at the beginning, middle, and end of the semester. Only in the first discussion did the third grade show evidence of all three indicators of progress in the inquiry (see Appendix H). In the second, third, and fourth discussions, only the first indicator (i.e., different aspects of the topic were raised) was present. Even with only one positive indicator, there is still evidence for progress in the inquiry in all four discussions. The use of the Tool Kit was observed in all four discussions. Thus, given progress and Tool Kit use, all four discussions scratched beneath the surface. However, we also see that the number of persistent statements did not increase throughout the semester. Thus, while there is evidence of reflective thinking in all four discussions, there is no clear evidence of growth across the semester, since there was no increase of positive indicators in the three aspects of progress in the inquiry, no
Table 2

*Evidence of Growth in Reflective Thinking in Third Grade Discussions*

<table>
<thead>
<tr>
<th>Dates</th>
<th>Beginning 09/01/05</th>
<th>Middle 11/03/05</th>
<th>End 12/01/05</th>
<th>End 12/08/05</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistence</td>
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<td>25</td>
<td>19</td>
<td>24</td>
<td>101</td>
</tr>
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<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
</tr>
<tr>
<td>Tool Kit use</td>
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<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
</tr>
<tr>
<td>What...?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reason</td>
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<td>8</td>
<td>9</td>
<td>16</td>
<td>43</td>
</tr>
<tr>
<td>Assumption</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inference or Implication</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>True</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Example</td>
<td>3</td>
<td>12</td>
<td>4</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>Counterexample</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total Tool Kit use</td>
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<td>14</td>
<td>26</td>
<td>78</td>
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<tr>
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<td>yes</td>
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<td>4</td>
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<tr>
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<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
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<tr>
<td>Connection of ideas</td>
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<td>no</td>
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</tr>
<tr>
<td>Developing an answer</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1</td>
</tr>
</tbody>
</table>

real increase in the number of the Tool Kit use, and, if anything, a slight decrease in the number of persistent statements.
Table 3 shows the results of all four discussions observed in the fourth grade, one at the beginning and end of the semester and two in the middle. These results show evidence for reflective thinking at the beginning, middle, and end of the semester. The fourth grade had positive indicators in all four discussions both of all three aspects of progress in the inquiry and also for use of the Tool Kit, thus indicating that all the discussions scratched beneath the surface (see Appendices L-O). There was an increase in the total use of the Tool Kit from the first discussion, and an increase in the use of different tools of the Tool Kit. In the first discussion there were four tools used with frequency (Reason, Inference or Implication, True, and Example), and in the fourth discussion there were six tools used with frequency (What do you mean by…?, Reason, Inference or Implication, True, Example, and Counterexample). There was also an increase in the number of persistent statements (the only drop in the data occurring where there was an incomplete transcript). Thus, there is also evidence for growth in reflective thinking in the fourth grade across the semester.

Evidence of Growth in Reflective Thinking across Grade Levels

Table 4 shows a summary of growth in reflective thinking across grade levels during the semester. Since I was not able to collect data at the same time from all three classes, I had to make some adjustments to make this comparison fair. I chose one discussion from the beginning of the semester, middle of the semester and end of the semester from each grade level. For the fourth grade, I chose the middle discussion with
Table 3

*Evidence of Growth in Reflective Thinking in Fourth Grade Discussions*

<table>
<thead>
<tr>
<th>Dates</th>
<th>Beginning 09/01/05</th>
<th>Middle 11/01/05</th>
<th>Middle 11/03/05</th>
<th>End 12/13/05</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistence</td>
<td>47</td>
<td>55</td>
<td>31</td>
<td>72</td>
<td>205</td>
</tr>
<tr>
<td>Scratched beneath the surface</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
</tr>
<tr>
<td>Tool Kit use</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
</tr>
<tr>
<td>What...?</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Reason</td>
<td>15</td>
<td>24</td>
<td>19</td>
<td>19</td>
<td>77</td>
</tr>
<tr>
<td>Assumption</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inference or Implication</td>
<td>13</td>
<td>13</td>
<td>11</td>
<td>11</td>
<td>48</td>
</tr>
<tr>
<td>True</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Example</td>
<td>12</td>
<td>12</td>
<td>14</td>
<td>6</td>
<td>44</td>
</tr>
<tr>
<td>Counterexample</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Total Tool Kit use</td>
<td>44</td>
<td>59</td>
<td>45</td>
<td>55</td>
<td>203</td>
</tr>
<tr>
<td>Progress</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
</tr>
<tr>
<td>Different aspects</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
</tr>
<tr>
<td>Connection of ideas</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
</tr>
<tr>
<td>Developing an answer</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
</tr>
</tbody>
</table>
Table 4

Comparison of Reflective Thinking across Grade Levels

<table>
<thead>
<tr>
<th>Grades</th>
<th>First</th>
<th>Third</th>
<th>Fourth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B&lt;sup&gt;a&lt;/sup&gt;</td>
<td>M&lt;sup&gt;b&lt;/sup&gt;</td>
<td>E&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Persistence</td>
<td>30</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>Scratched beneath the surface</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Tool Kit use</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>What...?</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Reason</td>
<td>23</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Assumption</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inference or Implication</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>True</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Example</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Counterexample</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total Tool Kit use</td>
<td>25</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>Progress</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Different aspects</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Connection of ideas</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Developing an answer</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

<sup>a</sup> Beginning of the Semester

<sup>b</sup> Middle of the Semester

<sup>c</sup> End of the Semester
the complete transcript. For the third grade I chose the middle discussion that had the
same facilitator as the discussion of the end of the semester. And for the first grade, in
order to more accurately reflect the variety of the P4C sessions, I chose the middle
discussion that addressed a different topic than the beginning and end discussions.

We can see that the first grade fulfilled all three aspects of progress in the inquiry
in only one discussion and fulfilled no aspects of progress in the inquiry in any of the
other discussions. Thus the first grade demonstrated progress in only one discussion. The
third grade met the criterion for progress in the inquiry in all four discussions. However,
in fulfilling the criterion for progress in the inquiry, the first discussion seems to have
more solid evidence, since in this discussion all indicators of progress in the inquiry were
met. The fourth grade also demonstrated progress in all three discussions. However, the
fourth grade showed evidence of all three criteria of progress in all their discussions.
Thus, in examining the criterion of progress in the inquiry, we can see growth from the
first to the third grade, and perhaps this becomes more solidified between the third to the
fourth grades. Regarding the use of the Tool Kit, the first grade used it once, while third
and fourth grades used it in all three discussions. We can also observe a higher number of
Tool Kit tools used in fourth grade in comparison with the first and third grades. Thus,
there is clear growth in Tool Kit use from the first to the third grade, and continued
consolidation from the third to the fourth grade. Combining progress in the inquiry and
Tool Kit use, the first grade scratched beneath the surface once, while third and fourth
grades scratched beneath the surface all three times. At this level we can see growth
between the first to the third grades. Using the indicator of persistent statements, there
was no increase in the number of persistent statements from the first grade to the third
grade. However, in the fourth grade we see a substantial increase in the number of persistent statements. In summary, there appears to be growth between the third and fourth grades. Thus, we might claim growth in reflective thinking from the first grade to the third and fourth grades based upon the growth in scratching beneath the surface.
Chapter 5: Discussion

The focus of this study was reflective thinking in P4C Hawaii discussions. As seen in the results, most of the P4C Hawaii discussions in this study demonstrated evidence of reflective thinking, with a few discussions that did not demonstrate any evidence of reflective thinking. This chapter centers around four topics: the development of a P4C Hawaii community of inquiry, the assessment of reflective thinking; the pedagogical implications of this study; and suggestions for future research.

Development of a P4C Hawaii Community of Inquiry

P4C Hawaii discussions potentially facilitate reflective thinking in terms of both Dewey’s definition of reflective thinking and Dr. Jackson’s P4C Hawaii’s focus on the importance of scratching beneath the surface and persistence. But whether P4C Hawaii discussions do, in fact, facilitate reflective thinking is also dependent of the degree to which P4C Hawaii classroom discussions follow the guidelines set forth by Dr. Jackson. As mentioned in Chapter 3, I expected to find a relationship between adherence to the P4C Hawaii guidelines and reflective thinking. In order to discuss this relationship I assessed the classroom discussions’ fidelity to the P4C Hawaii guidelines in forming: (a) a community and; (b) a community of inquiry.

Development of a Community

The results present evidence that the third and fourth graders had developed a P4C Hawaii community. The first grade though is the only classroom that continues to be working on its development. The questions chosen in three of the discussions from the first graders were closed questions (“My favorite animal”, “What is your favorite
animal?", and "Why do you like cats?"). According to Gulley (1960), a discussion question should be many-sided. Questions that could be answered in one word are unacceptable for an inquiry discussion because once it is answered the discussion is over. The first graders knew the answers to the questions chosen for these three discussions, thus presenting evidence that this classroom is still at the level of sharing, emphasizing students’ interest, listening and respecting the thoughts of others. Another factor that confirms this is that the teacher did not intervene in the articulation of students’ questions; thus, students could understand that they could express their interests freely, focusing on creating an intellectually safe environment.

One of the guidelines that was not followed by the first graders in the development of the P4C Hawaii community was the recommended time. Having completed a Masters of Education thesis about P4C Hawaii and with 3 years of experience as a P4C Hawaii facilitator, the teacher was very aware of the importance of adhering to the recommended time. Based on my personal communication with the first grade teacher she explained that due to some curriculum tensions created by the “No Child Left Behind” changes, she was frustrated to not have enough time to devote to P4C Hawaii. She further added that during 2004-2005 school year, when she was able to devote the recommended time for the discussions, she did develop a community of inquiry. I confirmed this by listening to an audio tape of one of her discussions from the previous year.
Development of a Community of Inquiry

Based on the results it can be said that the first grade is introducing some of the guidelines of a P4C Hawaii community of inquiry, that the third grade is a beginning P4C Hawaii community of inquiry, and that the fourth grade is an emerging or mature P4C Hawaii community of inquiry.

Role of the guidelines in facilitating reflective thinking.

There were several discussions in the present study where the P4C Hawaii guidelines were not completely followed. In some of these discussions, there was no evidence of reflective thinking. In others, however, there was evidence of reflective thinking. As an example of the former, in three of first grade discussions, two guidelines were not followed: the recommended time, and the highlighting and modeling of the Tool Kit by the facilitator. As seen in the results, these three discussions showed no clear evidence of reflective thinking. However, it is understandable that the teacher did not stress the highlighting and modeling of the Tool Kit, since the first graders were still developing a community. In contrast, while the fourth grade did not follow two of the guidelines in their discussions (presence of the Tool Kit in the circle and topic being chosen by students), all four of the fourth grade discussions showed clear evidence of reflective thinking.

These findings show that meeting all the P4C Hawaii guidelines is not a necessary condition for the facilitation of reflective thinking. However, the findings do demonstrate that when the recommended time and consistency of facilitator’s interventions are present, as was observed only in the fourth grade discussions, there is
growth in reflective thinking throughout the semester. As the first and third grades did not show the same level of growth in reflective thinking, there may be a relationship between the amount of time spent in P4C Hawaii discussions and the consistency of facilitator intervention, on the one hand, and growth of reflective thinking on the other. Whether following the recommended time for P4C Hawaii and consistency of facilitation throughout the semester are individually related to growth in reflective thinking or related in conjunction is unclear from this study. We would need a group that had consistent intervention throughout the semester but less than the recommended time allotted, or vice versa, to show that it was one or the other that was directly related to growth in reflective thinking.

Role of the teacher in facilitating reflective thinking.

Based on the analysis of each discussion (Appendices D-O) we can see that the first grade facilitator did not use the Tool Kit to help students formulate inquiry questions, but she did throughout the discussion, thereby gradually adding features of a community of inquiry. This can be observed in first graders second discussion that did facilitate reflective thinking. She again did not intervene in student’s articulation of the discussion question. It came from students’ interest. The question however was an open question where students were not quite sure about its answer but had enough experience to talk about it. This discussion shows some features of a beginning P4C Hawaii community of inquiry. They chose an open question that involved most of community members at their personal level of experience.
We can speculate that if the facilitator was able to follow the two hours per week guideline for P4C Hawaii discussions, there might have been not only the development of a community, but also a community of inquiry facilitating reflective thinking and growth in reflective thinking throughout the semester.

In the third grade discussions the facilitator of the second discussion had an open inquiry question, but he did not intervene by modeling and highlighting the Tool Kit as necessary (see Appendix 1). The third facilitator in the third grade discussion was Dr. Jackson. He modeled and highlighted the use of the Tool Kit consistently. However, students seemed to be so excited about the topic (“Are girls better than boys?”) that they became distracted and thus engaged in side conversations quite often, resulting in a relatively low number of persistent statements, fewer instances of Tool Kit use, no connection of ideas, and no development of an answer. According to P4C Hawaii guidelines this type of behavior seems appropriate for a beginning P4C Hawaii community, where students fail to present reasons to support their answers and need constant help from the facilitator in understanding the implications of each individual’s answer. In this discussion the teacher redirected their attention to the speaker 11 times while in the other three discussions they were redirected only once. The high level of distraction among the students might also explain why the students did not present evidence to connect ideas nor begin to develop an answer. Finally, the third grade discussions were only once a week and approximately 20 minutes long. It seems possible that the relatively short amount of time devoted to P4C Hawaii discussions (more than an hour and a half less than the guidelines suggest) evidenced all three indicators of progress in the discussion.
It may be that if there were only one facilitator who had consistently intervened when necessary throughout the semester, and if more time per week had been allotted to the guidelines for P4C Hawaii discussions, that there might have been evidence of all three indicators of progress as well as an increase in Tool Kit use and persistent statements, thus resulting in growth in reflective thinking throughout the semester.

During the fourth grade discussions the teacher did not have the Tool Kit present in the circle during the discussions. Furthermore, he chose the questions himself in all four discussions used in this study, though the discussion questions were all open ("Is anything perfect?" "How do you know something is good?" "Do you think humor and joy should be mindful behavior?" and "What is a person?"). Even though the questions did not come from the students, it seems that students were interested in them. They engaged in the inquiry right after the question was given and each of the four discussions facilitated reflective thinking.

The fourth grade devoted the most time to P4C Hawaii discussions, had the most experienced and consistent facilitator, and had the most indicators of progress: the highest use of the Tool Kit (203, as opposed to 71 and 77 for the first and third grades, respectively); and the most persistent statements (205, as opposed to 124 and 101, respectively). The fourth grade facilitator followed guidelines that the other two facilitators did not and achieved the highest number of persistent statements and Tool Kit use. This hints at a possible relationship between guideline use and reflective thinking. The guidelines that the fourth grade facilitator did not follow may say something about the maturity of the community. Perhaps the importance of guidelines changes as the P4C
Hawaii community gets more mature, or perhaps some guidelines are more critical than others.

Another interesting fact that was raised in the analysis of classroom adherence to P4C Hawaii guidelines was the difference in number of students’ interruptions across grade levels. The first graders had 35 incidents, the third graders had 13, and the fourth graders had 7. P4C Hawaii guidelines are intended to facilitate reflective thinking by addressing communities of inquiry practices. The guidelines present certain characteristics for teacher management (e.g., sitting in a circle, inquiry following student interest, the person holding the ball is the only one who should be talking, intellectually safe environment), that are meant to result in fewer interruptions. The findings also show a connection between the maturity of P4C Hawaii communities and use of P4C Hawaii guidelines. The fourth grade had approximately three years of exposure to P4C Hawaii. Most of the students in the fourth grade were exposed to the P4C Hawaii program in first, second and third grade levels. During the Fall 2005 semester of this study they were exposed to P4C Hawaii discussions for approximately two hours per week. Thus, the fourth grade succeeded in following most of the guidelines more consistently, and more often, than the first and third grades. The first grade, which was a developing community, and the third grade which was considered a beginning P4C Hawaii community of inquiry, had much less exposure to the program during the 2005 semester, and in general. Only three students in the first grade were exposed to the P4C Hawaii Program in kindergarten. During the 2005 semester, when this study took place, they were exposed to P4C Hawaii discussions once a week for approximately 30 minutes. Thirteen students in the third grade were exposed to the P4C Hawaii program for two years. Two students were
exposed to the P4C Hawaii program for one year. During the Fall 2005 semester they were exposed to P4C Hawaii discussions approximately for 20 minutes.

Assessment of Reflective Thinking

In this study I used Dewey’s (1960) definition of reflective thinking: “an active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (p. 9). In this study we were interested in assessing the reflective thinking of a classroom as a group, rather than the reflective thinking of the individual members of a classroom. Reflective thinking of the P4C Hawaii group was assessable through several measures: use of the Tool Kit, whether discussions progressed in their inquiry, whether discussions scratched beneath the surface, and the number of persistent statements.

These measures form reasonable assessments of reflective thinking. Even though Dewey does not provide an operational definition of persistent consideration, we are able to draw conclusions about relative levels of persistence among discussions and among groups, which in turn indicate relative levels of reflective thinking among discussions and among groups. Furthermore, if we are only interested in knowing whether a particular P4C Hawaii community of inquiry is facilitating reflective thinking, it might not even be necessary to analyze the frequency of persistent statements. A discussion that scratches beneath the surface already implies that participants were persistent in pursuing the inquiry. Finally, it seems that the aspects of reflective thinking that have been measured through P4C Hawaii are sufficient to make assessments of reflective thinking because they are the aspects which most directly relate to cognitive perplexity and inquiry, two
Deweyian characteristics of reflective thinking: “[it is] a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and an act of searching, hunting, inquiring, to find material that will resolve the doubt, settle and dispose of the perplexity” (Dewey, 1960, p. 12).

**Pedagogical Implications**

The findings of this study provide evidence for teachers and administrators that the *P4C Hawaii* program can facilitate reflective thinking in classroom discussions when it is analyzed in the context of the program’s “stages” of development, viz., community then community of inquiry. We cannot expect that a *P4C Hawaii* class focusing on community will demonstrate reflective thinking and growth of reflective thinking across the semester because the focus at this stage is on development of a new relationship among teacher and students, a relationship of trust, where students’ interest is the most important factor. Once a community becomes a community of inquiry, we must also consider its level of maturity (i.e., whether it is at the beginning, emerging or mature level). Regardless of the level of maturity, at this stage we can expect to see both facilitation of reflective thinking, when most of the *P4C Hawaii* guidelines are followed, and also facilitation of growth in reflective thinking when the guidelines are followed consistently throughout the semester.

Results from the first and third grade discussions provide a reminder for *P4C Hawaii* teachers that the recommended amount of class time for the discussions may be critical, both for establishment of community and for the development of inquiry within
that community. Consistency in highlighting and modeling the Tool Kit may also be
critical to the development of inquiry within that community.

Based on our results the third graders were considered to be a beginning P4C
Hawaii community of inquiry. In beginning P4C Hawaii communities students often fail
to present reasons to support their answers and such groups need help understanding the
implications of each individual’s answer. Teacher monitoring is more critical in such
beginning communities. Teachers are responsible for monitoring the proper use of the
community ball, introducing the magic words, and modeling and highlighting Tool Kit
use consistently during the discussions and throughout the school year. Another factor
connected with teacher’s consistency in modeling and highlighting the Tool Kit use is the
presence of the same facilitators throughout the semester. If different teachers facilitate
the discussion at different times, it would be preferable that they all have the same level
of experience as P4C Hawaii facilitators, so students can see the consistency in modeling
and highlighting Tool Kit use.

Regarding the recommended time guideline, it was observed that the more
students are exposed to P4C Hawaii discussions, the more they internalize different tools,
leading the inquiry discussion to show more progress, scratch beneath the surface of the
topic, facilitate reflective thinking and growth of reflective thinking throughout the
semester. The use of only one tool is not sufficient for the discussion to scratch beneath
the surface, and hence not sufficient for facilitating reflective thinking. If P4C Hawaii
teachers want to see their discussions facilitate reflective thinking and want to see growth
in reflective thinking across time, in addition to having a community formed, they have to
take into consideration the recommended time for a P4C Hawaii discussion.
This study provides \textit{P4C Hawaii} facilitators with a potential tool to assess their classroom discussions. By examining whether their discussions are being faithful to \textit{P4C Hawaii} guidelines, whether they are facilitating reflective thinking, and whether they are facilitating growth of reflective thinking throughout the semester, they can more easily adjust their roles as \textit{P4C Hawaii} discussion facilitators.

This study also provides measures to assess reflective thinking in classes that are not participating in the \textit{P4C Hawaii} program. Teachers can use the Tool Kit and the indicators of \textit{progress in the inquiry} to find out whether their classroom discussion is facilitating reflective thinking. Additionally teachers could use the number of persistent statements to compare the relative levels of reflective thinking throughout the semester or across classes.

\textit{Suggestions for Future Research}

This study indicated that \textit{P4C Hawaii} facilitates reflective thinking in classroom discussions. But it was not able to clearly answer certain questions due to the small sample, differences across grade levels regarding their use of \textit{P4C Hawaii} guidelines, and lack of control groups. This study has certain gaps that could be addressed by future research.

It was not possible in the present study to determine whether the recommended discussion time per week, the teacher's consistency in following the guidelines, or both factors together that made a difference in facilitating reflective thinking and growth of reflective thinking throughout the semester. That is, this study did not have a class that followed the recommended time guideline and did not have consistency in teacher
interventions throughout the semester, nor was there a class that had consistency of
teacher’s interventions but did not follow the recommended time throughout the semester.
This is a topic for further study.

Future research could use control groups to compare whether the use of persistent
statements is due to age difference or exposure to P4C Hawaii discussions. Control
groups could also provide more information about the number of persistent statements in
other classroom discussions and thus lead to understanding of the relative importance of
persistent statements in reflective thinking.

It would enrich this study’s results if we also had an individual’s reflection on
whether an answer was developed at the end of each session. This study only analyzed
the answers that were articulated during the discussion. Some teachers have their students
keep a journal where they write their comments about the discussion. Future research
could use these journals to find out how the group discussion helped each individual
student build their own answers, specifying what ideas mentioned in the discussion were
used to formulate the student’s own answer to the inquiry question.
References


O’Keefe, V. (1995). Speaking to think, thinking to speak. Portsmouth, NH:


Armadale, Australia: Eleanor Curtain Publishing.

Appendix A

Assent Form

AGREEMENT TO PARTICIPATE IN

Philosophy for Children Hawaii and its Influence on Students’ Reflective Thinking

Natalia Lukey
MEd. Candidate
Dept. Of Educational Psychology, University of Hawai’i
1776 University Avenue Honolulu, HI 96822
phone: (808) 941-2117

I know that this is a research project. The researcher wants to find out if the Philosophy for Children Hawaii Program is facilitating reflective thinking. She has told me what will happen and what she wants me to do. I know that I can stop participating any time I want. I agree to be a part of this project.

Child’s Name ____________________________________________________________

Child’s Signature _______________________________________________________

Date __________________________
Appendix B

Parent Consent Form

Philosophy for Children Hawaii and Reflective Thinking
Natalia Lukey
MEd. Candidate
Dept. Of Educational Psychology, University of Hawai‘i
1776 University Avenue Honolulu, HI 96822
phone: (808) 739-7777

The purpose of this research is to explore the effectiveness of the Philosophy for Children Hawaii Program on students’ reflective thinking.

Your child will be asked to participate in a study that will be conducted over the course of the semester. The procedures involve audio-taping classroom discussions during Philosophy for Children sessions over the course of the semester, (first two weeks of the semester, two weeks in the middle and two weeks at the end of the semester). All information collected in this study is confidential. Your child’s responses will be kept confidential through the use of pseudonyms (and the deletion of identifying features) for participants, the school, the district, and anyone mentioned by the participant.

Your child’s participation is voluntary. He/she may choose to stop participating at any time without prejudice or penalty.

There is a direct benefit to your child’s participation in this study. The information gathered in this study will help teachers and parents understand how the Philosophy for Children Hawaii influences students’ reflective thinking. The information will provide valuable evidence for educators in deciding to implement the program into their classrooms.

I have read and understand the information above. My questions about project procedures and other matters have been answered to my satisfaction. I know that I can withdraw my child's participation at any time without consequence.

I agree to the participation of my child, __________________, in this study. I understand that by agreeing to my child’s participation, I have not given up any legal rights and that the researchers and the institutions they represent are still responsible for upholding all laws that apply.

Signature of Parent of Guardian  Print Name  Date

(If you do not receive satisfactory answers to your questions or have comments or complaints about your treatment in this study, contact: Committee on Human Studies, University of Hawaii, 2540 Maile Way, Honolulu, Hawaii 96822. Phone: (808) 956-5007)

cc: guardian

05/13/05
Appendix C

Examples of Transcripts

Example A: Ms. T. (August 29, 2005)

Teacher: Before we start do you want to go around and share what you did on the weekend?

Students: Yeah!

Teacher: But before we do it I want to show you something. What is this? [Teacher showed the students the letters of the tool kit, and asked for their meaning. Students didn’t seem to know the I, and C].

Teacher: Ok, who wants to start? Tell me something about your weekend or anything else you want to share.

Student: I like cats because they look... I like kittens.

Teacher: You don’t have to talk about cats right now. Right now is just whatever you want to talk about. Just pass around the circle so everybody gets the chance to share.

Student: On the weekend I went to the beach.

Student: On the weekend I went to see a movie.

Student: On my weekends I play with my friend ___.

Student: I like cats because they are cute.

Student: On the weekend I go to the beach and I see my friend ___ and we get to play with them and I get to make a big sand castle.

Student: On the weekend I went to the library.

Student: I like (unable to transcribe) because they help me out.

Student: On the weekend I played (unable to transcribe).

Student: On the weekend, on Fridays I go to Water Park.

Student: I go to the beach with my dad and my sister goes with me and we have so much fun!
Teacher: Ok, now we are going to start talking about cats. Who wants to say something about cats?

P Student: (R) I like cats because they are soft and cute.

Student: Ugh!

P Student: I like cats (unable to transcribe).

Teacher: I like the way you’re giving reasons.

Student: Pass around the circle ___!

P Student: (R) I like cats because they are cute.

P Student: (R) I like cats, baby cats because they are very small.

P Student: (R) I like cats because they are cute.

P Student: (R) I like cats because I like to pat them.

P Student: (R) I like cats cause when I touch them they lick me.

Silence

P Student: (R) I like cats because they have a lot of fur and they are cute.

P Student: (R, E) I like cats because they always like me and when they jump they actually bite and lick me, and I like it.

Teacher: 1, 2, 3...

P Student: (R) I like cats because they are cute.

Teacher: ____can I ask you____ can you give me an example of what do you mean by cute? What do you mean by cute? Why are they cute? Is it the way they look? Is it what they do?

P Student: (R) I like cats cause they are so fuzzy and I like baby cats cause I want to take them home and play hide and seek.

Silence

P Student: (R) I like cats cause they are soft.
P Student: *(R)* I like cats because they are nice.

P Student: *(R)* I like cats because they are the best hiders.

P Student: *(R)* I like cats because (unable to transcribe).

Teacher: Ok, wait. I think — said that cats are nice. Is it true? [Teacher shows the toolT to the students]. Is it true that all cats are nice?

Students: Yeah!

Teacher: Raise your hand! Is it true that all cats are nice?

P Student: Sometimes those cats scratch me.

Teacher: They scratch you...

P Student: *(R)* I like cats because they race funny and they make you laugh. *(E)* Sometimes I try to jump over them and they scratch me.

Teacher: So wait. If they scratch you though, do you still think they are nice?

P Student: I've got two cats. One scratches me, the other doesn't.

Student: (unable to transcribe).

Student: SPLAT!

P Student: *(R)* I like cats because they are fun to play with.

P Student: *(R)* I like cats because when I play with them they lick me and it is fun, because I like to watch them climb trees.

Teacher: Wait! I want to go back to ___ and to ___ about scratching. If cats are nice why do they scratch?

P Student: Maybe they might be scared...

Teacher: 1, 2...

P Student: *(R)* Because they don't want to be pet.

Teacher: ___ you can assume that they don't want to be pet.

P Student: *(R)* I think they scratch because they don't want to be hold.
Teacher: So you are assuming they don’t want to be carried.

P Student: (A) I assume that cats... even though...

Student: SPLAT!

Student: I assume cats....

Student: SPLAT!

Teacher: I think she is trying to say that they are babies and they don’t know they are scratching.

Student: I heard her!

Teacher: Shake up! Knee to knee! ___ has been waiting for a while...

P Student: (R) Cats scratch because they are mean and their eyes glow in the dark.

Teacher: Cats scratch because they are mean and their eyes glow in the dark... So, are they mean because their eyes glow in the dark? That is what you are saying?

P Student: Yeah!

Teacher: If their eyes glow they are mean. ___ didn’t have a turn...1,2..

NP Student: I like ah, dogs, because I like to play with them, and they bark...

P Student: We are not talking about that, we are talking about cats!

Teacher: That is called GOSing. Going out of subject and that is ok even though we are talking about cats he can talk about dogs. As long as you know you are doing it, it is ok. But that is called GOSing.

P Student: (R) I like cats because they are friendly.

P Student: (R) I like cats because when they scratch me it doesn’t hurt.

Teacher: ___ do you agree that it doesn’t hurt when cats scratch?

Students started to talk at the same time.

Student: Stop talking!
Teacher: POPAAT please!

P Student: (R) Cats scratch people because they don’t like them or people are mean to them.

Students continued talking at the same time.

Student: SPLAT!

Teacher: It is hard to hear with this side conversation...

NP Student: I like dogs cause they are great!

NP Student: I like brown dogs because I like brown dogs.

NP Student: I like dogs because they are really good at (unable to transcribe).

Teacher: Stop playing with your shoes. Knee to knee. Ready? I’ll ask you a question and you tell me how do you feel about it. Ready? How did you feel about talking about cats today? How did you feel about our topic – cats? Did you like it? Didn’t like it? Or was it ok? how did you feel about it?

Student: It was too long… I’m tired.

Teacher: You are tired… How many of you thought that most of us participated today? That means that most of us got to talk about cats? How did you feel about that?

Student: Some people didn’t.

Teacher: what do you think? About our participation? Do you think most of us participated?

Student: Yeah...

End of session.
Example B: Mr. M (December 13, 2005)

Teacher: Let's breathe a little first, straighten your back.... Breathe through your nose. Your eyes are closed.... If you are sick you can breathe through your mouth, if you are not, breath through your nose...Breath making your stomach look big. You want to let a little rhythm going, slow cycle. Think about your breathing. Try to picture the air getting in through your nose, back straight, nothing funny. Slowly open your eyes up. It is a really good thing to do for your breathing. It fills up your whole body with oxygen. It is ok if you don't want to do it. It is your choice, that's fine. What I don't like is when you disturb others. It is hard to concentrate in your breathing when other people are talking or laughing. Ok, the question I'd like to talk about today is going to seem like very simple at first. But I don't want you to raise your hand immediately. I want you to think it. I want that red hand of the clock go all the way around before somebody raises their hand. The question is: What is a person? Just think about it for a whole minute in all different ways.

Silence for a minute

Teacher: Ok, any ideas of what is a person?

P Student: A human.

NP Student: I have a question. Why we liked the topic yesterday and you said we're going to talk about it today.

Teacher: Right. Ok, let's do this: can we talk about it tomorrow and continue today on this one? Ok, so what is a person?

P Student: A person is an animal.

P Student: A person is someone who has feelings.

P Student: (T) How do you know a person has feelings?

P Student: Well, (I) if a person doesn't have feelings I don't think it is a person (R) because all creatures have feelings and if they don't it is kind of odd.

P Student: (C) Not all people have feelings, some people are odd. Nobody is the same.

P Student: (T) How do you know humans are living things?

P Student: I don’t know!

NP Student: How do you know we aren’t ruled by aliens?
P Student: I think I know why humans are living things. (R,I) Because if we weren't living we would not have been talking here! So, that help us know that we are living things!

Student: (unable to transcribe)

P Student: (R) People don’t have to breath cause people can kill themselves and you cannot breath if you're underwater.

Teacher: We have four conversations going on, --- --- ---, I want you to back up please and I want you guys to face forwards, not sideways. That way your eyes are where the speaker is, where the ball is. So right now shush!

P Student: (C,I) If you are a scuba diver than you can breath under water, cause you have that air tank.

NP Student: But you need to take breaks!

P Student: (R,R) Some people don’t have heart but they can still can live and then, like, not everybody is the same cause some people could have three eyes and stuff, or.....

P Student: (T) How do you know for sure? (W) What do you mean by a person? (R,C) Because like animals and plants are living things! Does that make them people? What is the definition of person?

P Student: I think that the definition of person is what we are trying to find out.

P Student: (W) What do you mean by person? (W) What do you mean by what makes a person? What characteristics do they have to have or do you mean how people look, how they act.....

NP Student: I think ....what is a person like.

P Student: What if they die?

Teacher: Let me clarify what he said: are dieing things always humans?

P Student: No.

P Student: Like what really makes a human or what makes a person? (R) Cause human, they are all human but person can have different personalities and none of us has the same personality. (W) So what do you mean: person or human, because they are two different things.
P Student: A human is a living thing (unable to transcribe), that is true (I,E) cause if a flower dies is not going to be a flower anymore.

P Student: (T) How do you know?

Student: (unable to transcribe)

Teacher: So, I’m just going to say what ___ said. ___ said: “There are such things as human or a person. We haven’t made the differentiation, really examined that issue, the difference between human and person. Let us just call it a person. If a person needs to be alive to be a person. If so you can put it as part of the definition. You can clarify, you can change whatever I’m saying, what contradicts, it is fine. But then you said look at a flower, if you have a flower it is alive, it is a flower, and you have a flower, if it is dead, it dries up, it is still a flower, now, if a person dies, is it still a person?

P Student: Yes, a dead person.

P Student: They still a person, they are just dead.

P Student: Yeah, but I have a question: do people keep their personalities when they are dead?

P Student: I don’t know.

P Student: (R,I) Cause if a person (unable to transcribe), if a human is dead they have a personality and ah…..the body is dead but they still are humans no matter what.

P Student: (I) I think ah……if you die you’ll still be a person, but dead.

P Student: (W) So do you mean that even if they are dead they still have their personality? Is that what you mean?

P Student: Yeah!

P Student: (W) So they still a person when they die right?

P Student: (R,I) I think so, because if they are not a person I don’t know if they can have personality. Because isn’t the word personality from the word person?

P Student: Person, person-ality!

P Student: Personality

NP Student: Cause you know people have a lot of bones.
P Student: What does that have to do with the topic?

P Student: (T) How do you know people have personalities if they are dead?

P Student: (R) My reason for saying it is because just as when we say a flower is dead it still is a flower, so a person dead is still a person, dead.

P Student: How do they have personality?

Teacher: Think about.

P Student: (R) Like ah... what do you mean by dead? Does anyone believe in ghost? (I) And if there are ghosts, are they still dead or considered alive, or walking around dead? (R,I) Cause if you do turn into a ghost I do think you have personality, you still have a mind...

P Student: (I,R) I don't think if you're dead you have a personality because after, the skeleton under ground (unable to transcribe).

P Student: I have a question to -

P Student: Can you talk louder?

P Student: (T) How do you know flower hasn't personality?

P Student: (R) Cause it is not a human.

P Student: (R) Flower doesn't have personality cause it is not human. Maybe it has flowerality.

P Student: (unable to transcribe) when you're dead you go to Heaven.

P Student: (T) How do you know Heaven is real?

P Student: (R) Cause is there is stairway to Heaven!

NP Student: There is a stair away to Heaven at H3!

Student: (unable to transcribe).

P Student: (I) What if there isn't such thing as Heaven?

P Student: (I) If there is no Heaven we'll all go to the devil.

NP Student: The stair away to the devil!
P Student: I have a question for everyone. (T) How do you know there is such a thing as (unable to transcribe)?

P Student: It is a video game!

Teacher: POPAAT!

NP Student: Are video games really real?

NP Student: Why we always get into the topic of video games?

Laughs

NP Student: Are we talking about video games or getting hurt? Is there a connection between the two?

NP Student: They always play gladiators.

NP Student: Video games might hurt or might not. It is hard to tell but why is there such a thing as ghosts or there might not be.....

Teacher: Can I get the ball? Ok, we started the subject - what is a person, and I actually would like a little verification, I’m still confused. We left a little door open cause I don’t understand if there is a difference between a human and a person? I don’t know, I haven’t cleared that up in my head. Can anybody help me clear that? Hey, it is amazing if we all play by the game, that if you have the ball you talk. It is a wonderful way to format this conversation, and you’ll notice that anytime you don’t respect the ball it just becomes chaos. I know it is hard. We have to decrease our impulsivity but if we can do it this little format works great and we can all voice our opinion here.

P Student: I think the difference between human and person is person has personality. We are all different people, person. But then humans are all humans. When we are talking about humans we’re all the same, and if we talk about person we are all different.

P Student: (T) How do you know?

P Student: (R)Because people have different personalities.

P Student: I have a question about personality. (I) If you’re dead, and you are just a piece of sand, how can you have a personality?

P Student: We can look in the dictionary!
Teacher: Ok, so look in the dictionary. Go and look for human and person. Ok, so let me see if I’m understanding what is going on. The difference according to what you’re saying, between human and a person, is a person has personality and a human doesn’t?

P Student: No, it is like we are all humans but we are different kinds (unable to transcribe).

Teacher: Ok, let ___say the definition

P Student: I found a definition!

Teacher: Ok, so you’re saying that humans are a more general classification than a person. So can you give me an animal analogy? For helping me understand what you are saying?

P Student: (W) What do you mean by that?

Teacher: Basically we’re differentiating them by classification, right? You’re saying human is a broader qualification where a person would be a subcategory under that. For example if we had dogs, a Golden Retriever. Can you give me similar comparison?

P Student: What I mean is that humans are all humans and person describes your personality so every person is different. (E) Every human has heart, lungs and all that, not every person has the same personality.

P Student: So I hear you saying that (E,R) kind of like Mr._, was saying about the dogs but we are talking about humans so like a person is unique because has personality and human is every human being...

Teacher: Ok, can I interrupt with the definitions? The definition of human is: 1) of persons, that people have, example kindness is a human trade; 2) being person or persons, having the from or qualities of people; 3) having or showing qualities that are natural to people, belonging to all human beings; 5) a human being, a person. Now, a person; 1) man, woman, children; 2) human body; 3) (-) appearance; 4) a form of pronouns and nouns used when the person is speaking, or bla, bla, bla... so, in the definition of ....can you guys go back to the circle? You don’t need to be close, you can hear me over there. In the definition of humans they say person and in the definition of person they say humans.

P Student: So maybe they mean the same thing!

P Student: There is nothing about personality!

Teacher: Everybody seat up!
P Student: What I mean is being a person is part of being a human, like ah, what traits you have....

P Student: (R) I think that because of the dictionary. I think both mean the same thing (R) because it says people are human, and human are people so I think that might mean the same thing because it mentions each other. (E) It is kind of like some books, some books they mentioned, like, that, other books that has been written already, like so I kind of think that ....

Teacher: Ok, you lost me on that one, can you explain to me about the books?

P Student: (R)Because it says it mentions the people and humans, mentions each other, like books. (E) Some books like, like “Monster under my bed”, it would mention books, books that are already written. Sometimes it will mention when it will be going to be written.

P Student: Ah! I get it!

P Student: So I think it is the same thing. I think there is a connection.

P Student: (T)How do we know if the definition in the dictionary is right?

P Student: Because it is.

P Student: (T) How do we know the definition hasn’t changed? When was that written?


Teacher: Before you were born.

All talking at the same time.

NP Student: Why are we talking about birthdays?

Teacher: Ok, two more thoughts and we’re going to LMO.

P Student: We didn’t find anything about personality. Yes, so where personality fits into the whole thing?

Teacher: It is a wonderful question for another day! Before we go, can you little monkeys go back to the circle? First of all how was our level of commitment? Were you with us or not? Half of time, never made it? Was it something that interested you in a greater way? How did you think we did as a group? Did we look at it in different ways? Ok, thank you.
Differentiating parts/problems/questions, and connecting different ideas

- They are soft and cute;
- They are cute;
- They are very small;
- They are cute;
- Feels good to pat them;
- They lick;
- They have lots of fur;
- They are cute;
- They jump and bite;
- They are cute;

*I like the way you are giving reasons
d

- They are fuzzy;
- They are soft;
- They are nice;
- They are the best hiders;

*What do you mean by cute? Why are they cute? Is it the way they look? Is it what they do?
- They are fuzzy;
- They are soft;
- They are nice;
- They are the best hiders;

*Is it true that all cats are nice?[showed the letter T]
- Cats scratch;

*If they scratch you, are they still nice?
- Cats are fun;
- Cats lick me and climb trees;
*If cats are nice, why do they scratch?
- Cats scratch because they are scared;
- Cats scratch because they don’t want to be pat;
*You can assume they don’t like to be pat.
- Cats scratch because they don’t want to be hold;
*You are assuming they don’t want to be carried.
*GOS
- Cats are friendly;
- When cats scratch they don’t hurt me;
* do you agree that it doesn’t hurt when cats scratch?
*POPAAT
- Cats scratch because they don’t like people who are mean to them;
- Cats are mean because their eyes glow;

<table>
<thead>
<tr>
<th>Tool Kit use</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>W=0</td>
<td></td>
</tr>
<tr>
<td>R=23</td>
<td>- …because they are soft;</td>
</tr>
<tr>
<td></td>
<td>- …because they are cute;</td>
</tr>
<tr>
<td></td>
<td>- …because I like to pat them;</td>
</tr>
<tr>
<td></td>
<td>- …because they are the best hiders;</td>
</tr>
<tr>
<td></td>
<td>- …because they always like me and when they jump they actually bite and lick me, I like it.</td>
</tr>
<tr>
<td>A=1</td>
<td>- I assume that cats [are babies and they don’t know they are scratching].</td>
</tr>
</tbody>
</table>
I=0
T=0
E=1
C=0

I like cats because they always like me and when they jump they actually bite and lick me, and I like it;

Persistence= 30

Examples:
- Sometimes those cats scratch me;
- May be they might be scared...
- I like cats because they are cute.

Scratched beneath the surface:

Students did not scratch beneath the surface.

1. Was the Tool Kit used? 1. Yes.
a. Different aspects of the topic were raised; a. The discussion did not reflect different aspects of the topic. The closest they get to doing it was when the teacher asked: “If they scratch you though, do you still think they are nice?” Students gave reasons why cats scratch, however they did not connected them with cats being nice.

b. There was connection of ideas;
b. Students did not connect different ideas.
c. The discussion began to develop an answer c. The discussion question was not an inquiry question.

d Asterisk (*) indicates teacher’s interventions.
Appendix E: Grade 1 Second Group Analysis

Ms. T. 10/25/05 (Middle of the Semester)

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>What is Halloween?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiating parts/problems/questions, and connecting different ideas</td>
<td>Shortened statements of new ideas and teacher's interventions:</td>
</tr>
<tr>
<td></td>
<td>- People wear costumes;</td>
</tr>
<tr>
<td></td>
<td>- People get candies;</td>
</tr>
<tr>
<td></td>
<td>- People give candies;</td>
</tr>
<tr>
<td></td>
<td>- Halloween is scary;</td>
</tr>
<tr>
<td></td>
<td>- People dress up;</td>
</tr>
<tr>
<td>*Why do you dress up on Halloween?</td>
<td>- You scare people;</td>
</tr>
<tr>
<td>*If you want to scare people, why do you wear princess costume?</td>
<td>- Halloween is scary;</td>
</tr>
<tr>
<td>*Only on Halloween can you dress up?</td>
<td>- Costumes are beautiful;</td>
</tr>
<tr>
<td>*Is that true? Why would you wear a princess costume on Halloween?</td>
<td>- You get candies;</td>
</tr>
<tr>
<td>*So, it doesn’t have to be scary? Is that what you are saying?</td>
<td>- Costumes are used to scary girls;</td>
</tr>
<tr>
<td></td>
<td>- It is to scary people;</td>
</tr>
<tr>
<td></td>
<td>- It is about stop being who you are for one day;</td>
</tr>
</tbody>
</table>
- It is scary those who think monsters are real;
- You don't have to be anything;
- Girls don't dress up scary;
- Girls dress up scary like witches;

*Here is your counterexample. Here is the “E”, somebody said that girls don't want to be dressed scary. ___ is going to be something scary. She disagrees with you, it is a counterexample.

*That is an example of what she is going to be and it is scary.

- You can be someone who flies;
- Halloween is about caring about people because you also give candies;
- People buy costumes which are expensive;
- People make costumes which are cheaper;
- It is about who gets most candies;
- It is not about who gets most candies;
- On Halloween you can be whatever you want;

*Do you agree with ___?
- It is about having fun;
- Halloween is fun for little kids;
- It is not a game;

Good Thinker's Tool Kit use (13)

W=0

R=6
- Because we want to scare people;
- ...because they are beautiful;
- ...because you get candy;
... so we can scare people, those who think monsters are real;
- ... because at A+ our leader asked what are we going to be and most of us said witches.
- ... because I don’t have to buy costumes and spend my money because my mom can make costumes.

A=0

I=2

- You don’t have to be anything if you don’t want it.
- If you are scared of people in the Halloween, don’t be scared because other people might be scared or you might just want to have candies.

T=0

E=4

- Halloween is like a..., there is a..., people wear costumes. You can be a princess, a singer or a ghost or an octopus;
- Halloween, like... people dress up!
- ... on Halloween we see people with costumes that they’ve bought and I think I’m really lucky because I don’t have to buy costumes and spend my money because my mom can make costumes.
- I saw a boy with a dragon costumes hat he bought...
- Not even, if you are a girl you can dress up like something scary like a witch.

C=0
Persistence= 30

Examples:
- Halloween is when you dress up;
- It is just to scary girls;
- On Halloween you can be whatever you want! It doesn’t matter if you are a boy or a girl;
- Costumes are not scary because they are beautiful.

Scratched beneath the surface:

| Students scratched beneath the surface. | 1. Yes. |
| 1. Was the Tool Kit used? | 1. Yes. |
| 2. Was there any progress in the inquiry? | 2. Yes. |
| a. Different aspects of the topic were raised; | a. The discussion reflected different aspects of the topic. They said that Halloween is about scaring people, getting and giving candies, dressing up, having fun, and not being yourself for a day. There were some signs of mental difficulty when the girl did not agree with the boys statements that girls do not like to dress up scary. Also when one of the students asked if Halloween is a game based on the fact that some students said that it is about who gets most candies. |
| b. There was connection of ideas; | b. The discussion connected different ideas. When one student said that Halloween is about getting candies another replied that it is also about giving candies. Another student said that it is about scaring people and someone added that it is about scaring |
c. The discussion began to develop an answer people who are afraid of monsters.

c. At the end of the discussion one student asked if Halloween was a game based on the fact that students were said that it is about who gets most candies.
Appendix F: Grade 1 Third Group Analysis

Ms.T. 11/03/05 (Middle of the Semester)

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>My favorite animal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiating parts/problems/questions, and connecting different ideas</td>
<td>Shortened statements of new ideas and teacher’s interventions:</td>
</tr>
<tr>
<td></td>
<td>- It is a two headed snake;</td>
</tr>
<tr>
<td></td>
<td>*POPAAT</td>
</tr>
<tr>
<td></td>
<td>- My two dogs;</td>
</tr>
<tr>
<td></td>
<td>- T-Rex;</td>
</tr>
<tr>
<td></td>
<td>*Give me a reason.</td>
</tr>
<tr>
<td></td>
<td>- Snakes;</td>
</tr>
<tr>
<td></td>
<td>*Can you give us a reason?</td>
</tr>
<tr>
<td></td>
<td>- Because I like snakes;</td>
</tr>
<tr>
<td></td>
<td>- I like wolves because (unable to transcribe);</td>
</tr>
<tr>
<td></td>
<td>- Dogs because they are nice;</td>
</tr>
<tr>
<td></td>
<td>- Bunny because I really want a bunny;</td>
</tr>
<tr>
<td></td>
<td>- Baby cat because baby cats are cute;</td>
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<tr>
<td></td>
<td>- Black widow;</td>
</tr>
<tr>
<td></td>
<td>- Scorpion;</td>
</tr>
<tr>
<td></td>
<td>- Turtle;</td>
</tr>
</tbody>
</table>
|                             | *If you use the word favorite, favorite animal is that one, or could that be more than one? If we have 10 favorite or like 3 favorite, would it still be a favorite?
- Sometimes you can have more than two favorite;
- My first favorite is kangaroo;
- Bunny because it is furry and soft;
- Cats because I like it and I have one;
- Fish;
- Dog because I can pet it;
- Baby puppy because it is cute;
*Can you give me a reason why? What makes it cute? What do you like about it?
  - It is cute;
*You cannot say because it is cute anymore. Explain to me, what is it about this animal that makes it cute?
  - Lizard;
  - Kittens;
*GOS

<table>
<thead>
<tr>
<th>Tool Kit use</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>W=0</td>
<td>- Because T-Rex could keep people out;</td>
</tr>
<tr>
<td>R=12</td>
<td>- Because I like snakes;</td>
</tr>
<tr>
<td></td>
<td>- Because I like wolves;</td>
</tr>
<tr>
<td></td>
<td>- ...because they are nice;</td>
</tr>
<tr>
<td></td>
<td>- ...because I really want a bunny and I can carry it;</td>
</tr>
<tr>
<td></td>
<td>- ...because baby cats are cute;</td>
</tr>
<tr>
<td></td>
<td>- ...it is furry and soft;</td>
</tr>
<tr>
<td></td>
<td>- ...because I get to pet it;</td>
</tr>
<tr>
<td></td>
<td>- ...because it is a baby puppy and is cute.</td>
</tr>
</tbody>
</table>
Persistence = 40

Examples:
- My favorite animal is a T-Rex;
- I like dogs because they are nice;
- My favorite animal is black widow.

Scratched beneath the surface: Students did not scratch beneath the surface.

1. Was the Tool Kit used? 1. Yes.

a. Different aspects of the topic were raised; a. The discussion did not reflect different aspects of the topic.
b. There was connection of ideas; b. They did not connect different ideas.
c. The discussion began to develop an answer c. The discussion question was not an inquiry question.
### Differentiating parts/problems/questions, and connecting different ideas

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>What is your favorite animal?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shortened statements of new ideas and teacher’s interventions:</td>
</tr>
</tbody>
</table>

- Kitten because it is little and cute and I can carry whenever I want;
- Parrot because it is cute;
- Cat because (unable to transcribe);

* Give us a reason.
- Gorillas because they are strong;
- (Unable to transcribe) because they are cool.

* Can you explain that please? When you say they are cool, can you explain that?
- Cat because (unable to transcribe);

* What makes it cute?
- They have fur;
- Baby monkeys because they speak a lot and I act like a monkey;
- Snake because it runs thirty miles per hour;

* How do you know that?
- Rhinos because they have pointy things in their heads and they are strong;
- Cheetah because (unable to transcribe)
- Bunnies because they are cute;
*I want to know what makes it your favorite animal. Is there something that makes it your favorite? Can any animal be your favorite? What makes it special? What makes it your favorite?

- Giraffes because they have long necks;

*Why giraffes have long necks? How does it help it?

- Giraffes catch things from the tree;
- It tries to take apples;
- Christmas puppies because they are cute;
- Cats because they catch mouse;

*Why catching mouse is good?

- Cats eat mice;
- Cats because they see in the dark;

---

Tool Kit use = 21

<table>
<thead>
<tr>
<th>W=1</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- What do you mean?</td>
</tr>
</tbody>
</table>

| R=19 | - ...because it is little and cute and I can carry whenever I want;       |
|      | - ...because it is cute;                                                 |
|      | - ...because they are strong;                                            |
|      | - ...because they are cool;                                              |
|      | - ...because it is cute;                                                 |
|      | - They have fur;                                                         |
|      | - ...because they have pointy things on their heads and they are strong;  |
|      | - ...because bunnies are very cute and they have a lot of fur;            |

A=0
Persistence = 24

Examples:

- I like rhinos because they have pointy things in their heads and they are strong;
- I like giraffes because they have long necks;

Scratched beneath the surface:

1. Was the Tool Kit used? 1. Yes.
   a. Different aspects of the topic were raised;
   b. There was connection of ideas;
   c. The discussion began to develop an answer

Students did not scratch beneath the surface.

a. The discussion did not raise different aspects of the topic.
b. The discussion did not connect different ideas.
c. The discussion question was not an inquiry question.
**Appendix H: Grade 3 First Group Analysis**

Mr.L. 09/01/05 (Beginning of the Semester)

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>Who made video games?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiating parts/problems/questions, and connecting different ideas</td>
<td>Shortened statements of new ideas and teacher’s interventions:</td>
</tr>
<tr>
<td></td>
<td>- First people on Earth created video games;</td>
</tr>
<tr>
<td></td>
<td>*Do you have a reason?</td>
</tr>
<tr>
<td></td>
<td>- First people did not have electricity;</td>
</tr>
<tr>
<td></td>
<td>* ___ gave an example. He said the first people on Earth made the video games and ___ gave a counterexample.</td>
</tr>
<tr>
<td></td>
<td>- No electricity, no video games;</td>
</tr>
<tr>
<td></td>
<td>* ___ is saying if there is no electricity then we can’t make video games. That is an inference.</td>
</tr>
<tr>
<td></td>
<td>- Who made video games made computers;</td>
</tr>
<tr>
<td></td>
<td>- One of the presidents found electricity;</td>
</tr>
<tr>
<td></td>
<td>- Benjamin Franklin found electricity;</td>
</tr>
<tr>
<td></td>
<td>- God made video games;</td>
</tr>
<tr>
<td></td>
<td>*Do you have a reason? Remember the Tool Kit. I’m allowed to ask the “W”, what do you mean by that?</td>
</tr>
<tr>
<td></td>
<td>- God.</td>
</tr>
</tbody>
</table>
|                            | *How did he make it? Did he grow on the ground or something? Or first people? Just had all set up.... Think about it. If you think about how that would work let me know.
- Because he created everything in the world;

*Good reason.
- Video games were created a long time ago;

*How long ago?
- 10 years ago;
- Benjamin Franklin found electricity when he was flying a kite and got shocked by a lightning;
- If the first person played video game how did it get to Earth?
- If Benjamin Franklin found electricity God could not have made video games before;

<table>
<thead>
<tr>
<th>Tool Kit use = 17</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>W=0</td>
<td>- I agree with ____ because back then there was no electricity, ah... the first people had no videos, batteries...</td>
</tr>
<tr>
<td>R=10</td>
<td>- I have to agree with ____ , the first people born wouldn’t have done that because I know that one president found electricity;</td>
</tr>
<tr>
<td></td>
<td>- I think God created it because God created the world and other things in the world;</td>
</tr>
<tr>
<td></td>
<td>- I disagree with ____ because one of those presidents started flying a kite and electricity shocked him, so, that is one way the president created electricity.</td>
</tr>
<tr>
<td>A=0</td>
<td>- If there is no electricity we can’t make video games;</td>
</tr>
<tr>
<td>I=3</td>
<td>- If the first person played video games, how did it</td>
</tr>
</tbody>
</table>
get on Earth?
- If Benjamin Franklin found electricity and then a
  long time ago God found it (unable to transcribe).

T=0
E=3
- Like this year I played video games from when I
  was smaller;
- They needed electricity to power their radio;
- …one of the those presidents started flying a kite
  and electricity shocked him, so, that is one way
  the president created electricity.

C=1
- I probably think ___ is wrong because there was
  no electricity.

Persistence=33

Examples:
- What ___ is saying maybe we don’t know,
  maybe there was no electricity but when someone
  found the electricity and then he found all the other
  electricity and games, computers… but I don’t
  know where he plug them.
- Maybe they were the first born pilgrims, or
  maybe before them was electricity and maybe
  they found it!

Scratched beneath the surface:  Students scratched beneath the surface.
1. Was the Tool Kit used? 1. Yes.
2. Was there any progress in the inquiry?
   a. Different aspects of the topic were raised;
   a. The discussion reflected different aspects of the topic raised. Students said that video games were created a long time ago, that in order to create video games
b. There was connection of ideas; electricity must be present. They also talked about God as its creator and about Benjamin Franklin being the president who found electricity. There were some statements that reflected doubt. For example: “How can you find it [electricity]?” I don’t think God is invisible, or I don’t really know cause no one ever saw him before” “If God made video games, did he know about video games when he invented them or he did not know?”

b. Students connected different ideas. After figuring out that video games were created a long time ago they connected different ideas and discovered that it could not be created before electricity which means that video games were not present for the first person on Earth since back then there was no electricity.

c. The discussion began to develop an answer c. A student tried to convince the class that God created video-games.
Appendix I: Grade 3 Second Group Analysis

Mr. B, 11/03/05 (Middle of the Semester)

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>Why people play sports?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Differentiating parts/problems/questions, and connecting different ideas</th>
<th>Shortened statements of new ideas and teacher’s interventions:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- To get more energy;</td>
</tr>
<tr>
<td></td>
<td>- To work out, exercise;</td>
</tr>
<tr>
<td></td>
<td>- To be healthy;</td>
</tr>
<tr>
<td></td>
<td>- To clear the brain;</td>
</tr>
<tr>
<td></td>
<td>- For fun, hobby;</td>
</tr>
<tr>
<td></td>
<td>- To release stress when you are upset;</td>
</tr>
<tr>
<td></td>
<td>- To be active;</td>
</tr>
<tr>
<td></td>
<td>- To feel good;</td>
</tr>
</tbody>
</table>

*You guys are giving good reasons why people play sports. Can you think of something that sports might need to in the future?*

  - To make muscles;
  - To burn fat;

*Good reasons why people play sports. How many of you play sports? You guys are on teams? Do you look forward in seeing people in your team? Do sports give you anything besides health benefits?*  
What else can sports do for you?

  - It can give you a job;
  - Chance to compete with other teams;
- You can get honors;
- My dad gives me high fives;
- It can be a hobby, like shopping;
- I can see my cousin;

*Sports give you a chance to see your family. Can anyone else add to that? How sports can help you see friends and family.

- You can travel to compete with other teams;
- Chance to be famous;
- Opportunity to try different activities;
- Chance to express yourself;

*Can you give an example of someone who express himself in sports?
- Me

---

**Tool Kit use = 21**

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>W= 0</td>
<td></td>
<td>I=1</td>
<td></td>
<td>T=0</td>
<td>E=12</td>
</tr>
<tr>
<td>R=8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- I think people play sports to get more energy;
- …because, ah, so they can, ah, work out;
- …to be healthy, clear out the brain;
- …for fun and to exercise;
- …so people get active;
- …to feel better;

- If you play sports you get honors!
- Can give you a job;
- You can compete with other teams;
- When I go to practice I go with my dad in Hawaii Kai and he gives me a lot of high
fives;
- It can be a hobby...like, shopping;
- I went surfing with my uncle and we saw my
cousin surfing.

C=0

Examples:
- Or you could stay with your friend's family
  while you're playing;
- Sports can help you get you into a good team
  and be famous;
- Sports make you exercise and sometimes you
  can express yourself.

Scratched beneath the surface:
Students scratched beneath the surface.
1. Was the Tool Kit used? 1. Yes.
2. Was there any progress in the
   inquiry?
   a. Different aspects of the topic
      were raised;
   a. The discussion reflected different aspects of the
      topic. The discussion went from sports being good for
      our health to giving us the possibilities of becoming
      famous athletes, possibilities to travel, etc.
   b. There was connection of
      ideas;
   b. No. The statements did not seem to build upon
      previous statements. Example:
      Student: “I think people play sports to get more
      energy.
      Student: People play sports because, ah, so they can,
      ah, work out...
      Student: People play sports to exercise, to be healthy,
      clear out the brain.
Student: I think people play sports for fun and to exercise, like human body.

Student: I think people play sports because they are upset.

Student: I think people play sports so people get active.” They were all giving their individual answers, instead of having a dialogue, connecting ideas.

c. The discussion began to develop an answer

c. There was no attempt to use the statements given to formulate an answer at the end.
**Appendix J: Grade 3 Third Group Analysis**

---

Mr. B. 12/01/05 (End of the Semester)

---

<table>
<thead>
<tr>
<th><strong>P4C Hawaii Discussion Topic</strong></th>
<th>Are girls better than boys?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Differentiating</strong> parts/problems/questions, and connecting different ideas**</td>
<td>Shortened statements of new ideas and teacher’s interventions:</td>
</tr>
<tr>
<td></td>
<td>- Girls are better because they can have babies;</td>
</tr>
<tr>
<td></td>
<td>- Boys are better at sports;</td>
</tr>
</tbody>
</table>

*Dr. J. OMT.
*So, what happens in my mind when I hear that? I think “Boys are better at sports”, then I think... Is that true? And then I think “Is that true always”? Boys are always better than girls in sports. Can somebody think of a counterexample? A girlfriend that is better at sports?
*  - Boys are stronger;

*Dr. J. Always boys are stronger than girls?
*Dr. J. POPAAT! Can you give a counterexample?
*Dr. J. Ok, just sometimes. Can you think of another Tool Kit to use?
*Dr. J. Is it true always, never, sometimes... |
*  - Boys are better because they protect girls;

*Dr. J. POPAAT! You are saying boys have to protect girls most of the time. Ok, can you give me an example where boys protected a girl?
*  - Girls beat boys at dodge ball;
*Dr. J. POPAAP! He says girls are better then boys and he gave us a reason and his reason was an example. ___ can you repeat your example?
*Dr. J. Is that true?
*Dr. J. POPAAP! When somebody says reason [shows the letter “R”] there is a reason why he thinks that.
   - Girls are weaker;
*Dr. J. You said girls are weaker than boys. Could you say that is true? And I want to know if it is true always? Never? Sometimes?
   - Girls are good at lots of things, like volleyball and they are more relaxed;
*Dr. J. Can you guys think of any other example besides sports?
   - Boys don’t know how to take care of babies;
*Dr. J. POPAAP! What do you mean by that? Sometimes I’m thinking... sometimes boys are stronger. And if somebody is stronger does that mean that they are better?
   - Girls are good at putting make up on;
*Dr. J. Is that true? Is it always true? I want to know if anyone can think of a counterexample.
*Dr. J. What you are saying is that girls are always better than boys in putting make up on?
*Dr. J. Can you think of a counterexample?

---

Examples:

- ...because if in the Earth there were only boys, we'd all die and there wouldn't be anyone left,
but if they have girls they can have babies;
- ...because they are better at sports;
- Girls are not better than boys because boys have to protect girls;
- I think boys are better than girls because I'm always (-) and I still beat them in dodge ball;
- I think girls are better than boys because, ah, girls are good at lots of things like volleyball and mostly relaxed;
- ...because if they make babies they don't know what to do with them;
- They are good at putting make up on.

A=0

- If you are married and somebody gets into the house you might have to kill the guy.
- if in the Earth there were only boys, we'd all die and there wouldn't be anyone left, but if they have girls they can have babies;

T=0

E=4

- When she is his wife;
- Girls are good at lots of things, like volleyball;
- If they make babies they don't know what to do with them;
- I saw my (unable to transcribe) putting make up on. He looked like a cow.

C=1

Persistence= 18

Examples:
- Boys are better than girls in sports;
Scratched beneath the surface:

- Boys are stronger;
- I think girls are better than boys because, ah, girls are god at lots of things like volleyball and mostly relaxed. . .

<table>
<thead>
<tr>
<th>Scratched beneath the surface:</th>
<th>Students scratched beneath the surface.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Was the Tool Kit used?</td>
<td>1. Yes.</td>
</tr>
<tr>
<td>2. Was there any progress in the inquiry?</td>
<td>2. Yes.</td>
</tr>
<tr>
<td>a. Different aspects of the topic were raised;</td>
<td>a. The discussion raised different aspects of the topic. They said that girls are better than boys because they can have babies; they beat boys at dodge ball and are more relaxed. They said that boys are better than girls because they are better in sports and because they help girls.</td>
</tr>
<tr>
<td>b. There was connection of ideas;</td>
<td>b. There was no connection of ideas. They were giving reasons to their opinions which were unrelated to what was said previously. For example, a girl said that girls are better than boys because they can have babies. Instead of commenting this statement the next student says that boys are better than girls because boys are better at sports.</td>
</tr>
<tr>
<td>c. The discussion began to develop an answer</td>
<td>c. There was no attempt to use the statements given to formulate an answer at the end.</td>
</tr>
</tbody>
</table>
Appendix K: Grade 3 Fourth Group Analysis

Mr. B. 12/08/05 (End of the Semester)

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>How come nobody is perfect?</th>
</tr>
</thead>
</table>

Shortened statements of new ideas and teacher’s interventions:

- If anyone was perfect in sports games wouldn’t be fair;
- People loose and win;

*What do you mean by perfect?
  - A perfect person can do anything;
  - A perfect person doesn’t do anything wrong;
  - Nobody is perfect. Some people color off the line;

*So you are giving and example of not being perfect. Can you give a counterexample? What would be perfect?
  - If you are old, and you can’t run, and get out you aren’t perfect.

* You are assuming that if you are old you can’t be perfect? Being perfect has something to do with age? What does it take to be perfect?
  - Anybody can perfect;
  - Adults are better than kids;

*By that assumption [Mr. ___ is taller] you are saying that Mr. ___ is perfect?
If you are perfect you can protect yourself from germs and bacteria;

* What do you mean by perfect?
* Are you saying if you are perfect that you have magic powers? If you are perfect you can create this thing and you'll be safe or you can just do something else because you're perfect and can make it go away?
  - If you win something it doesn’t mean you’re perfect;
  - Perfect people do too much and can have a heart attack;
  - People can be perfect if they learn;
  - Perfect people would have lots of money;

* Are you saying being perfect gives you money?
Makes you rich?
  - People aren't perfect because Adam and Eve did not listen to God;

* If you listen all the time can you still be not perfect?
What do you think?
Perfect people aren't bad people.

---

**Tool Kit use = 26**

**Examples:**

- Nobody is perfect because if anyone is perfect in sports it wouldn’t be a fare game and stuff;
- No one is perfect because sometimes you might loose sometimes you might win;
- I don't think everyone is perfect in the world because everyone makes mistakes;
- The president is not perfect because he can’t
I agree with ___ because when somebody is taller and somebody is lower, the taller person can get away and the small person can get away, so it is kind of equal.

- If you are perfect, like, ah, you wouldn’t have homework, and get to eat your mom’s candies, need to take a shower, and stuff;
- If there was, they could do everything they wanted;
- If anyone was perfect they would die;
- If you get a trophy it doesn’t mean you are perfect;
- If anyone was perfect in sports it wouldn’t be a fare game and stuff.

Some people color off the line, like when you are coloring a book;
- ...like homework without mistakes;
- ...when you are a little kid you can’t be stronger than an adult but when you are an adult you can run faster than a kid;
- ...some people can dance, and some can’t;
- Like, when you enter a tournament is not that special;

Examples:

- People aren’t perfect because at the beginning
Eve and Adam did not listen to God eating from the prohibited tree;
- You could get away with your perfectness;
- When you are a kid you can’t do things that adults can.

**Scratched beneath the surface:** Students scratched beneath the surface.

1. Was the Tool Kit used?  
   1. Yes.

2. Was there any progress in the inquiry?  
   2. Yes.

a. Different aspects of the topic were raised;  
   a. The discussion reflected different aspects of the topic raised. Some students discussed that there is not a perfect person, “Nobody is perfect because if anyone is perfect in sports it wouldn’t be a fare game and stuff”; some discussed that there is: “Anybody can be perfect. Cause like you, when you are a little kid you can’t be stronger than an adult but when you are an adult you can run faster than a kid”; and some gave descriptions of what would be a perfect person “If you are perfect, like, ah, you wouldn’t have homework, and get to eat you mom’s candies, no need to take a shower, and stuff”.

   One of the students reflected doubt on his question. He asked: “So how come we can’t win a basketball game with Mr. ___?”

b. There was connection of ideas;  
   b. The discussion did not connect different ideas. The students tended to repeat what was said earlier by their classmates and teacher but they did not build upon these ideas:

   “Student: Because he is taller than us!”
Teacher: So, by that assumption you’re saying that Mr. ___ is perfect?

Student: I agree with ___ because when somebody is taller and somebody is lower, the taller person can get away and the small person can get away so it is kind of equal.”

c. The discussion began to develop an answer
c. There was no attempt to use the statements given to formulate an answer at the end.
Appendix L: Grade 4 First Group Analysis

Mr. M. 09/01/05 (Beginning of the Semester)

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>Is anything perfect?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiating parts/problems/questions, and connecting different ideas</td>
<td>Shortened statements of new ideas and teacher’s interventions:</td>
</tr>
</tbody>
</table>

- If something is perfect the rest is imperfect;
- If the world were perfect it would be boring;
- Doing better than others;
- Doing something better than others doesn’t mean you are perfect;
- Perfect means you don’t do anything wrong;
- Sometimes people say they are perfect but they aren’t;
- They say they are perfect for attention;
- Something new you buy, not cracked is perfect;
- Things can’t stay perfect forever;

*How long can they stay perfect?
*Take a minute, turn to a partner, and talk about this.

Ask each other if you think anything is perfect.

*Those who said yes, can you elaborate a little bit?
- You can use a calculator, ruler and dictionary and have perfect results;
- People say: “Don’t change because you are perfect just the way you are!” then others say: “Nothing is perfect!”
*Teacher reads the dictionary definition of perfect*

- You can be perfect if you don’t do anything;
- If someone says you are perfect it means you’re special;
- You can be perfect for your family but not for the whole world;
- Nothing is perfect because we all think differently;

*Do you think there is a difference in something being perfect and doing something perfectly? You guys said: “I don’t think there is anything perfect” but do you think you could do anything perfect?*

- It is your opinion;
- If you get a perfect score it doesn’t mean you are perfect;
- Not only people can be perfect. A house, a school, anything!

*Wait, one more time, OMT*

- If you are a gymnast you can do perfect movements;
- If you think something is perfect you shouldn’t ask anyone because that is your thought.

---

**Examples:**

W=1

- What do you mean by perfect?

R=15

- Is there a reason you think there is something perfect?
- I don’t think anything is really perfect because everybody I know isn’t perfect.
- I don’t think anybody is perfect because, or anything is perfect because if the world was perfect it would be a boring place to live, like no problems to solve, or anything, or we wouldn’t be having P4C.

- Nothing is perfect because you might think perfect in a completely different way than other people.

A=0

I=13

- If something is perfect so everything left is imperfect;

- If you do something better than somebody else that doesn’t mean you are perfect;

- If someone says you are perfect it means you’re special;

T=2

- Is it true that people who say they are perfect want more attention?

- Is it true that everyone can be perfect?

E=12

- I’m really confused because sometimes people say: “Don’t change cause you are perfect just the way you are”, but then others say: “Nothing is perfect”.

- ... like you got a perfect score so you think you are perfect but you really aren’t.

C=1

- I think you can cause if you look at the report card some people got perfect grades.
Persistence = 47

Examples:
- I have a question. When you are talking about perfect, does it have to be a person?
- I think a way of something being perfect is like, depends of what it is. Like ___ said, what you think and others are different.
- I'll answer ___'s question. I think perfect is like, doing better than everyone else.

Scratched beneath the surface: Students scratched beneath the surface.

1. Was the Tool Kit used? 1. Yes.
2. Was there any progress in the inquiry?
   a. Different aspects of the topic were raised; Students articulated various related problems. They perceived perfect in different ways. When talking about objects they say it means to be clean, new, without scratches. When talking about people they meant special, being able to get perfect scores, to do everything correctly, etc.

   Students articulated statements that reflect mental difficulty. For example: “I'm really confused because sometimes people say: “don't change because you are perfect just the way you are” then others say: “Nothing is perfect.”

   b. There was connection of ideas; b. The discussion connected different ideas. After listening to each other's statements students started to conclude that perfection is relative to the perceiver.
c. The discussion began to develop an answer.
Perfection is relative to the perceiver.
**Appendix M: Grade 4 Second Group Analysis**

Mr.M. 11/01/05 (Middle of the Semester)

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>How do you know something is good?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiating parts/problems/questions, and connecting different ideas</td>
<td>Shortened statements of new ideas and teacher's interventions:</td>
</tr>
<tr>
<td></td>
<td>- If it feels good;</td>
</tr>
<tr>
<td></td>
<td>- You can find out through your senses;</td>
</tr>
<tr>
<td></td>
<td>- Something sometimes is good, sometimes is bad;</td>
</tr>
<tr>
<td></td>
<td>- Getting hurt can be good;</td>
</tr>
<tr>
<td></td>
<td>*Do you think there is anything that everybody would agree upon as being something that we may consider good?</td>
</tr>
<tr>
<td></td>
<td>- Nobody would agree in something being good because we are all different;</td>
</tr>
<tr>
<td></td>
<td>- We have different tastes;</td>
</tr>
<tr>
<td></td>
<td>*Dr. J. What do you folks think about all these habits of mind [points to the posters on the walls]. Do you think humor, that everybody would agree that is a good thing? Or joy? That is always a good thing?</td>
</tr>
<tr>
<td></td>
<td>- Humor and joy can be bad if used to tease others;</td>
</tr>
<tr>
<td></td>
<td>- Metacognition can only be good;</td>
</tr>
<tr>
<td></td>
<td>*Dr. J. Can you think about other things that would always be good? Would it always be good to give someone a $100?</td>
</tr>
<tr>
<td></td>
<td>- People could use it to buy something bad;</td>
</tr>
</tbody>
</table>
- It could be good if they were poor or homeless;
- Someone might think you are rich and rob you;
- They might want it because they are jealous;
- It would be hard to walk with such a huge wallet;
*Dr. J. What if the person stole the money to get you all gifts? Is that good?
- They could be buying a bomb for you;
*Dr. J. If somebody in here can come up with an example that everybody in your class agrees is always good, I’ll buy you a candy bar of your choice. Someone of you will put an example [on a little box] and the rest of you could say: “No, no, I can think of a counterexample!”
- Being alive is good;
- Being alive could be bad if it is too hot to go out;
*Can you think of something being always bad?
- Guns;
- Violence is bad;
- ___'s slippers are bad because they stink;
*Always?
- It could be good to scare the birds;
* [Dr. J. tells a story] Is there anything plain bad, like violence? If somebody has an opinion that this is good they are mistaken. So what do you think?
- Violence is good in the war in Iraq, to protect us;
- Smoke is really bad;
- Some people think it is good to smoke;

- Soldiers in Iraq is good and bad. Good because they are fighting for our people, and bad because
they get killed;
- Good because for those who are blowing
  themselves up it is kind of one way ticket. Bad
  because US people are dying;

* Is something good just because you think it is good?
*Dr. J. If somebody likes onions, and your eyes are
  watering, does that make it bad? If I think it is bad, is it
  enough to make it bad or has to be something more? If
  yes, what would that be?
  - We’ll never figure something that is always bad
    or always good.

<table>
<thead>
<tr>
<th>Tool Kit use = 58</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>W=2</td>
<td>- What do you mean by something?</td>
</tr>
<tr>
<td></td>
<td>- What do you mean by good?</td>
</tr>
</tbody>
</table>
| R=24              | - You know something is good because makes you
  feel good...the whole body feels good; |
|                   | - I think it is good to get hurt because it is fun; |
|                   | - I don’t really think that we all could think of
  [something being always good] because as ___
  said, we all have different tastes; |
|                   | - About the people fighting in Iraq, I think it is
  good because they are fighting and some are
  form our country; |
| A=0               | |
| I=12              | - If you are laughing at someone it is not good; |
|                   | - What if the person asking you for a $100 was a
  good person and you had no more money? |
|                   | - What if they could just be sent to prison and not
  be hurt? |
- If someone thinks it is good and someone thinks it is bad, they are each thinking their own opinions.

T=0

E=14

- I think food... you can tell it is good, like milk, on how it tastes;
- Everybody plays volleyball, or soccer, basketball...
- ...like boys might think that getting hurt is fun, and video games and stuff whereas girls don’t think so.
- Like a homeless or something and they need it.

C=6

- No, because the person could be buying a bomb for you!
- I think it could be bad because what if it is too hot to go out?
- Violence is good because what if people from another country were trying to destroy us?
- Some people think it is good.

Examples:

- I agree with ___ that things could be good and bad. I overheard my mom this morning on the phone. She said that would be good for me to go to ___ however I wouldn’t have time to do my work;

- Yeah! Why do we focus on bad things! Why aren’t we thinking about good things?
- But, you shouldn’t carry a lot of money in your
pocket. You have to have a huge wallet and also...and some people may buy a gun and rob you!

<table>
<thead>
<tr>
<th>Scratched beneath the surface:</th>
<th>Students scratched beneath the surface.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Was the Tool Kit used?</td>
<td>1. Yes.</td>
</tr>
<tr>
<td>2. Was there any progress in</td>
<td>2. Yes.</td>
</tr>
<tr>
<td>the inquiry?</td>
<td></td>
</tr>
<tr>
<td>a. Different aspects of the</td>
<td>a. The discussion reflected different</td>
</tr>
<tr>
<td>topic were raised;</td>
<td>aspects of the topic.</td>
</tr>
<tr>
<td></td>
<td>Students articulated various related</td>
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<tr>
<td></td>
<td>problems. They started the discussion</td>
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<td></td>
<td>saying that we can find out if</td>
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<td></td>
<td>something is good based on your senses,</td>
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<td></td>
<td>whether it feels good or not. Then they</td>
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<td></td>
<td>continued to expand the topic into</td>
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<td>different areas such as in war. For</td>
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<td></td>
<td>example, whether violence is good. And</td>
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<td></td>
<td>later they expanded to the area of</td>
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<td></td>
<td>humor and joy by saying that they aren't</td>
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<tr>
<td></td>
<td>good all the time.</td>
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<td></td>
<td>Students reflected mental difficulty in</td>
</tr>
<tr>
<td></td>
<td>some of their statements. For example:</td>
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<tr>
<td></td>
<td>“I don’t think we’ll ever figure</td>
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<tr>
<td></td>
<td>something that is always bad or always</td>
</tr>
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<td></td>
<td>good. Everybody in the world would</td>
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<td></td>
<td>disagree!” “What do you mean by</td>
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<td></td>
<td>something?” “What do you mean by good?”</td>
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<tr>
<td></td>
<td>“When ___ said that onions make you</td>
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<td></td>
<td>cry it is because the smell is</td>
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<tr>
<td></td>
<td>strong and with your eyes it makes it</td>
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<tr>
<td></td>
<td>watery. I don’t know why it water, and</td>
</tr>
<tr>
<td></td>
<td>stings...”</td>
</tr>
</tbody>
</table>

| 114 |
The discussion began to develop an answer. What is good is relative to the perceiver.
<table>
<thead>
<tr>
<th><strong>P4C Hawaii Discussion Topic</strong></th>
<th>Do you think humor and joy should be mindful behavior?</th>
</tr>
</thead>
</table>

**Differentiating parts/problems/questions, and connecting different ideas**

- Yes, you shouldn’t always work, you should enjoy whatever you have to;
- Why kill yourself if you can’t enjoy anything?
- There are bad humor;
- If it was not funny we wouldn’t laugh;
- Humor could be good because if you don’t have fun you won’t be happy;
- Humor can be good and bad;
- Humor could be bad, like laughing at others;

*SPLAT*

- Laughing at others hurts their feelings;
- Some people can’t be serious all the time;
- It ends badly when someone is serious all the time;
- People get sad when you tell jokes about them;

*Do you think there is a difference between humor and joy? Or, can you think of a time or instance where they might not be the same thing? Is humor something different then joy? Does humor have to have joy? Or*
joy has to have humor? Is there sort of a relationship or
do you think somebody just clunk them up there [on
their wall as one of the mindful behaviors] because they
needed a tenth habit of mind? Or do you think they
should not be there? Just thoughts into that whole
humor and joy.

- Both are the same;
- Joy cannot bring humor but humor can bring
  joy;
- Humor and joy are different. I enjoy math but
  that doesn’t make me laugh;

*OMT

- Humor is like laughing;
- They are the same;

*Dr. J. Some of you folks used the word happy. Is there
any difference between happy and joy?

- You are first happy then you enjoy;
- Joy is a bad thing;

*A joke is always considered to be humor? Is there a
difference between that and teasing? Because if you tell
me a joke about me and I don’t think it is funny would
that be considered to be a joke or you are teasing me?
I’m not sure if we are mixing humor with teasing.

- It is a difference of opinions;
- They are different. Teasing is mean;
- If you laugh at others they can laugh at you
  later.
- Humor and joy are good because they make
  people laugh;
- If someone says you don’t like chicken, that is

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not teasing.

Tool Kit use = 45

Examples:

W=0

- I think humor should be a mindful behavior because you should be like, ah, happy and like working sometimes, not always, like you shouldn’t always be working;

R=19

- I think it is good and bad cause I think it’s good because humor makes people laugh but then sometimes adult humor, like the show ____ told us, that is bad;

- They are both the same cause humor, like, if you are making a joke and other people are enjoying it, like, ah, but is also not bad, you can also tell really really bad joke about somebody and they won’t laugh;

A=0

I=11

- If you don’t want them, why kill yourself to get them?

- If you start telling jokes about other people and they are right by you, they might get sad or something;

- If you make jokes about someone else, they start joking about you.

T=0

E=14

- ...like last week for our (unable to transcribe) project, we were given a book and Ms. ____ and us discussed that you shouldn’t work all day, enjoy whatever you have to;
...if someone trips and falls in front of everybody and everybody starts laughing and the other person is still on the floor, then it is hurting other people;

- I enjoy math but that doesn’t make me laugh;
- Like, sometimes people make up jokes of you like if you believe in (unable to transcribe) and then people say like: “Don’t go believing things”, then people start laughing and that person cries.

- I was watching a show before because it also had humor and stuff but it was a really bad humor.

Examples:

- If you have humor and joy you could make other people happy and joyful too!
- I think teasing is kind of mean, like if you are laughing at someone else. I think that is teasing, and then, like, it is a joke you created about them;
- Sometimes if you make jokes about someone else, they start joking about you.

Scratched beneath the surface: Students scratched beneath the surface.

1. Was the Tool Kit used? 1. Yes.
2. Was there any progress in the inquiry? 2. Yes.

a. Different aspects of the a. The discussion reflected different aspects of the topic.
Students articulated various related problems. They stated that humor and joy were part of our lives, that we can’t be serious or working all the time. Then they added that humor can be bad sometimes. They raised the issue of hurting people’s feelings.

Students reflected doubt or mental difficulty in some of their statements. For example: “I think it is different because humor is like, ah, like, ah, laughing, ah, bring happy (unable to transcribe), and I think humor has to… I just think they are different. I don’t know how to explain it but I think they are different in many ways.” “I think teasing is kind of mean, like if you are laughing at someone else I think it is teasing, and then, like if it is a joke, I think there is a difference.”

b. There was connection of ideas; b. The discussion connected different ideas. Right after a student gave the counterexample that humor can be bad, students’ statements started to reflect also on the negative sides of humor.

c. The discussion began to develop an answer c. There was no attempt to use the statements given to formulate an answer at the end.
Appendix O: Grade 4 Fourth Group Analysis

Mr.M. 12/13/05 (End of the Semester)

<table>
<thead>
<tr>
<th>P4C Hawaii Discussion Topic</th>
<th>What is a person?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiating parts/problems/questions, and connecting different ideas</td>
<td>Shortened statements of new ideas and teacher’s interventions:</td>
</tr>
<tr>
<td>- A human;</td>
<td>- A human;</td>
</tr>
<tr>
<td>- An animal;</td>
<td>- An animal;</td>
</tr>
<tr>
<td>- Someone who has feelings;</td>
<td>- Someone who has feelings;</td>
</tr>
<tr>
<td>- Living things;</td>
<td>- Living things;</td>
</tr>
<tr>
<td>- Plants and animals are living things;</td>
<td>- Plants and animals are living things;</td>
</tr>
<tr>
<td>- We are all humans, living things but we have different personalities;</td>
<td>- We are all humans, living things but we have different personalities;</td>
</tr>
<tr>
<td>- What is the difference between human and person?</td>
<td>- What is the difference between human and person?</td>
</tr>
<tr>
<td>- If a person dies he/she continues to be a person;</td>
<td>- If a person dies he/she continues to be a person;</td>
</tr>
<tr>
<td>- If a flower dies it is not going to be a flower anymore;</td>
<td>- If a flower dies it is not going to be a flower anymore;</td>
</tr>
</tbody>
</table>

*There are such things as human and person. We haven’t made the differentiation. Let us just call it a person, if a person needs to be alive to be a person. If a person dies is it still a person?*

- Yes, a dead person;
- People keep their personalities when dead;
- Personality comes from the word person;
- If the person turns into a ghost the person still
has personality because he/she has mind;
- Flower doesn’t have personality because it is not a human. Maybe it has flowerality?
- When you die you go to Heaven;
- What if you don’t?

*Ok, we started the subject what is a person, and I actually would like a little verification, I’m still confused if there is a difference between a human and a person.
- The difference between human and person is that person has personality. When we are talking about humans we are all the same, and if we talk about persons we are all different;

*Basically we’re differentiating them by classification, right? You’re saying human is a broader qualification where a person would be a subcategory under that. For example, if we had dogs, a Golden Retriever. Can you give me a similar comparison?
- Person is unique because it has personality and human is every human being...
- If you are dead you are just a piece of sand;

* [Teacher reads the dictionary definition that the students found]
- Maybe human and person are the same thing;
- There is nothing about personality;
- Dictionary says they are the same thing;
- Is the dictionary right? How old is it?
- What do you mean by what makes a person?
- What do you mean person or human?
- Do you mean that even if you are dead you still have your personality?

R=19

- Because if we weren't living we would not have been talking here!
- Because human, they are all human but person can have different personalities and none of us has the same personality;
- My reason for saying it is because like just as when we said, when a flower is dead it is still a flower, so a person dead is still a person, dead.

A=0

I=11

- If a person doesn't have feelings I don't think it is a person;
- If you are a scuba diver than you can breathe under water;
- If a flower dies it is not going to be a flower anymore;

T=11

- How do you know a person has feelings?
- How do you know humans are living things?
- How do you know for sure?
- How do you know people have personalities if they are dead?

E=6

- Every human has a heart, lungs and all that, not every person has the same personality;
- Some books like, like “Monsters under my bed”,
it would mention books, books that are already written; it would mention books, books that are already written;

- ...kind of like Mr. ___ was saying about the dogs but we are talking about humans so like a person is unique because has personality and human is every human being.

C=3

- Not all people have feelings, some people are odd. Nobody is the same;
- If you are a scuba diver than you can breath under water;
- Animals and plants are living things.

Examples:

- Like what really makes a human or what makes a person? Because human, they are all human but person can have different personalities and none of us has the same personality. So what do you mean: person or human? Because they are two different things;

- I think that because of the dictionary. I think both mean the same thing because it says people are human, and human are people so I think that might mean the same thing because it mentions each other. It is kind of like some books, some books they mentioned, like, that, other books that has been written already, like, so... I kind of think that.

Scratched beneath the surface: Students scratched beneath the surface.
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Was the Tool Kit used?</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Was there any progress in the inquiry?</td>
<td>Yes</td>
</tr>
<tr>
<td>a. Different aspects of the topic were raised;</td>
<td>The discussion reflected different aspects of the topic.</td>
</tr>
<tr>
<td></td>
<td>Students tried to find out whether human and person is the same thing.</td>
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<tr>
<td></td>
<td>They articulated the characteristics of a person or human alive and dead</td>
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<td></td>
<td>and compared with a flower. Students often showed a state of doubt and</td>
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<td></td>
<td>mental difficulty. Example: “Student: How do you know for sure? What</td>
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<td></td>
<td>do you mean by a person? Because like animals and plants are living</td>
</tr>
<tr>
<td></td>
<td>things! Does that make them people? What is the definition of person?</td>
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<tr>
<td></td>
<td>“Student: We didn’t find anything about personality. Yes, so where</td>
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<td></td>
<td>personality fits into the whole thing?”</td>
</tr>
<tr>
<td>b. There was connection of ideas;</td>
<td>Students connected different ideas. Example:</td>
</tr>
<tr>
<td></td>
<td>Student: So they still are person when they die right?</td>
</tr>
<tr>
<td></td>
<td>Student: I think so, because if they are not a person I don’t know if</td>
</tr>
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<td></td>
<td>they can have personality. Because isn’t the word personality from</td>
</tr>
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<td></td>
<td>the word person?</td>
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<td></td>
<td>Student: Person, person-ality!”</td>
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<td></td>
<td>Later on in the discussion:</td>
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<td></td>
<td>Student: How do you know flower hasn’t personality?</td>
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<tr>
<td></td>
<td>Student: Cause it is not a human.</td>
</tr>
<tr>
<td></td>
<td>Student: Flower doesn’t have personality cause it is not human.</td>
</tr>
<tr>
<td></td>
<td>Maybe it has flowerality.”</td>
</tr>
<tr>
<td>c. The discussion began to develop an answer</td>
<td>The discussion began to develop an answer. Students tried to summarize</td>
</tr>
<tr>
<td></td>
<td>what they learned from the</td>
</tr>
</tbody>
</table>

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dictionary with what they said to formulate an answer.