

Mirrors that Talk

Using Video to Improve Early Education

Experience is not the best teacher
One must reflect on experience in order to learn.

Reflection

Teachers of young children seek more from their day than a series of interesting activities. In preschool classrooms today, activities, such as building with blocks, making an envelope from paper, pretending to be the cook in a restaurant, are treated as content for reflection. A teacher may comment to a four year old, "I noticed that you were being very careful" just as the child placed a larger block onto a stack of smaller blocks. "Tell me why you were being so careful." Since the writings of John Dewey educators have come to fully understand the difference between a repetitive experience and an educative experience. The difference lies in the level of reflection that the student applies to the experience. And teachers help; they almost model an internal dialogue that they hope the children will use.

Technology

Technology can support reflection as well as the teacher's comments. As it often happens, the right time to ask a child to reflect passes. The child moves on to another goal or the child does not want to be interrupted or the child forgets the event the teachers wants to revisit. Enter the video camera. The video camera can be used as a tool of the mind, as a tool that enhances reflection. Let the child come to a natural stopping place, rewind the video tape, fold out the small view finder on the Handycam and ask the child then, "Would you like to see what you were doing." Most children respond with delight and interest. In the first place, they love to see themselves on video. The teacher simply adds an educative purpose to this natural interest in self.

The video replay becomes a new mirror, one that both talks and shows the past. Small inexpensive videocams are becoming staples in preschool classrooms interested in helping children reflect on their experiences.

What to film

What activities have been found appropriate for this strategy of teaching? The teacher holding the camera has to decide what to film. Indeed, knowing that the video will be revisited with the children establishes a mind set for particular events. It has been my experience that I look for children trying to reach a goal or solve a problem. Preschools have open ended play periods and one has to find these moments when they occur. So here are three children playing in the sand, damming up the water trickling down the gradual slope of a long flume. The teacher adds several yellow nerf balls which accentuate the ebb and flow of the sand-colored water. The balls pile up behind their damn and one boy says, "They're trapped." It is interesting that the boys had never used the word "trapped" in reference to the water.

What to ask

In this case, one of the boys has "framed" the event as a trap. The teacher with the camera ponders this choice of words and considers how apt it might be. The teacher, even at the risk of over-interpreting the child's level of thought, assumes that this word was a deliberate choice and other words would not do as well, such as "stopped" or "stuck." The teacher also notes what seem to elicit this framing of the event, which was probably the addition of the yellow balls. So now the teacher is curious about the child's choice and rewinds the tape. The teacher has some inkling of an idea why the child found the word "trapped" the perfect descriptor for his attitude toward the event. It is important not to ask the child a question if you do not have such an inkling. Children give general and rather useless answers to general questions such as "Why did you use the word "trapped." " In fact,

most preschoolers can not deal with meta-linguistic questions, that is, questions about words.

Wondering with the Child

The children are quite engaged in their work so the teacher bides her time. At a natural break point in the play, she invites them to look at the target event on the video replay. As the footage advances a quarter-minute beyond the child's comment about being trapped, the teacher pauses the video replay and wonders out loud. "Hmmm, here (pointing to the viewfinder screen) you said that the balls are trapped. Maybe they just stopped?" The vocal child from before complains, "Noooo, they're really trapped." The child has reaffirmed his commitment to this descriptor, but also he has denied the appropriateness of "stopped." From this point on the teacher reflects on their choices or not, depending entirely on the children's interest in the game. The teacher might move to the second level by saying, "They looked like they have just stopped to me" with the speculation that the child might counter with "No, it wants to get out, so it's trapped." But even if one can not progress to this second level, think about what has been gained from the first.

Uncovering the children's concepts

Video revisiting can be used to help the children explicate their concepts. Concepts are implied by statements and actions, they are not the words or acts themselves. In the case of yellow balls the word "trapped" implies that some forward motion is continually being thwarted. "Stopped" does not carry this dynamic persistence. A concept can be found in a rule of dramatic play, such as "You have to sit down before I can take your order." The concept will be the rationale for the rule, such as "you're not really a customer in this restaurant until you make a commitment to a seat."

In one instance I was walking with a delightful young lad named Charlie, almost five, who had a video camera at home. He saw me in the classroom filming here and there. I noticed his interest in my work so I asked him what I should film. He takes a look around the room and walks to the climbing loft where the children had been working the previous day. He holds out the fishnetting that they had tacked to the side of the loft to enhance its nautical theme and says, "Here" He walks me to other parts of the room, but then peels off to play with a friend. Some minutes later, during a quiet time, I asked Charlie to look at the video with me. He agreed without reluctance. When we got to the segment here he holds out the fishnet and says "Here" I ask him, "Why did you show me that fishnet?" Charlie, without losing a beat from question to answer says, "Because we just put it up."

In these few moments I had uncovered something about Charlie's concept of news. He understood that a video camera is meant for newsworthy items. I suspected this before I asked him to explain his choice of the fishnet. I was curious about the rationale for his choice, his concept of what makes an item newsworthy. He answered my question as clearly as a seasoned journalist. "because we just put it up." Let me elaborate the deep structure of his thinking to wit, *because this item was not here yesterday therefore it is new and new things are news and also because we children ourselves worked hard to get it up.* News is what is new and relevant news pertains to work done by the person interviewed. Indeed, the video tool has generated a context for high-leveled thinking.

The Importance of Time and Place

What I have described so far uses video replay at the scene of the play. I have called this Instant Video Revisiting (see article on the web at <http://ecrp.uiuc.edu/v1n2/forman.html>, in the electronic journal Early Childhood Research and Practice). In Instant Video Revisiting the child interrupts her play but does not leave the space that has been captured on the video tape. For young children, talking about an experience portrayed in the

video tape occurs with great fluency and detail. After all the child is still among the objects and is still in the space shown on the tape. It's like walking inside a photograph and handling the objects. Ruben was asked to explain why he was splashing a fish in the water basin. He not only can talk about his play, but also can re-enact the play with his hands using the very objects under discussion. Thus the fact that the replay occurs "in situ" not only reduces the time interval between performance of the act and recall of the act, but it also provides the child with the exact references he needs for expression. Granted, one can ask a child to explain his play even without a video camera, but as I explained earlier, children often do not want to be interrupted or they forget the details or they do not understand which aspect of their play you mean. The video tape solves each of these problems. There is yet another reason to use video revisiting. The children think at a higher level. The next section elaborates.

Meta-Cognitive Thinking

The physical occurrence is "down-loaded" unto the video. The child does not have to remember those details. The presence of the objects used in the play gives the child a convenient set of symbols now used as a language. Yes language. The fish Ruben arcs through the air to tell me that "The big whale eats the fish" now has a linguistic status, a symbol used for telling the story. The status of the fish has changed from a toy used to represent a predatory fish to a toy used to communicate to someone else what the predatory fish intends to do.

This shift from pretense to telling-about-pretense is profound. I have noticed that in instant video revisiting, even young children can make this shift from physical description to telling a listener about the intention of a protagonist or to the purpose of an action. The child is not describing the action (no need to, the video tape has downloaded the details in the replay). The child understands that it is redundant to recount the action, rather he explain the action. For this the child often needs to think about thinking, i.e. assume a

meta-cognitive stance to the task. So when Ruben says, "The big whale eats the fish" he is saying more than "The big whale splashes in the water." Rubin is telling me something about what the whale is trying to do. There is nothing in this arcing movement which physically symbolizes "eating" the way a child does by smacking his lips. In this episode, the "eating" is the intention of the chase, the purpose. This shift to the purposive, the intentional seems to occur more easily with instant video revisiting and less easily without this tool of the mind, the video camera

Video Replay in Delayed Settings

We have seen this shift from telling to explaining in other activities. Once we asked children during circle time if they knew how to do a somersault. Several children volunteered to demonstrate their ability. We video taped their forward rolls. These demonstrations were not treated by the children as an attempt to instruct or to explain. The children were simply showing that they could perform the requisite moves. We then asked them to freeze-frame the video tape of themselves doing a forward roll and to print out three frames that would help someone understand more clearly what they had done. We used a Sony Video Printer to do this. These four year old children knew what we were asking. They understood that they needed to capture (frame grab if you will) three pictures at different times, preferably one each at the beginning, the middle, and the end. They seemed to know that three pictures all grabbed at the beginning of the sequence would not "tell the story." In fact most children paid particularly attention to that middle photo grabbed from the video just as the feet were the highest in the air!



Rhea prints three photos of her somersault.

The story continues. When talking about her three video prints, Rhea decided to act out what she was trying to say. "First you put your hands down on the floor (she bends over at the waist with palms on the floor). Then, ... I'm not going to do it, ... then you start to roll over on your head (she leans over as far into the roll as she can without rolling over on her back). Then you come back up (now she executes the roll and looks up at us at the end)." The key phrase is "I am not going to do it." Rhea has successfully framed this moment as one of instructing or explaining, rather than just demonstrating her ability. She is breaking the performance down into segments so that the audience will understand. Video can serve as a reviewable mirror that improves the children's reflection on their experience and supports high-level thinking.

A Tool for Teacher Development

The children are not the only beneficiaries of video as a tool for reflection. Teachers interested in reflective practice have begun to use video in their classrooms. These uses go beyond filming the school play or trip to the farm. As part of the move toward more authentic assessment of what children have learned and as part of the movement to deconstruct what children know before one tries to teach, video has become a great means towards these ends. Teachers are filming young children in the block corner building with blocks, in the sand table making channels for water, on the playground organizing games, and in the art area trying to draw their theory of how something works. Then the teachers review these video clips in staff meetings to figure out what concepts are hidden in these open-ended encounters. From this analysis, teachers can plan a more educational follow-up activity for the next day.

For example, the teachers in one school, in reviewing a video of two children playing checkers, discovered that the two children were using

entirely different rules about what it means to win. Nevertheless, this difference did not cause a break-down in play. The teachers wondered how this could be. A second review of the video revealed that the first child was counting "number of pieces jumped" and the second child was counting "number of pieces moved." Neither of these rules got in the way of the other. It also became clear that the over-arching objective for both children was just to be with a friend in this rather affirming mode of playing a board game with rules. The first child did not "correct" the second child's rule and always waited for his turn to look for pieces to jump. By studying the video the teachers came to a greater understanding of how the interest to affiliate can create a wonderful elasticity of the rules. Yet, the rules are there and become more schematic and regular as the play proceeds. So the teachers decided not to instruct the children on the set of correct rules, but decided to support both children's invention of rules that maintain the flow of play. Such insight could not have come without the video tool.

A Tool for All Teachers

Let me end with a dream. It is my dream that these wonderful video clips that teachers make of the their own children can be used to create a database on the web accessible to teachers everywhere. This is how it could work and indeed is how I have begun to do it. Video tapes of children at play and teachers at work can be digitized so that they can then be stored on a computer or on a server for the world wide web. The video clips are tagged according to broad categories such as age (one year old, four year old, etc), media (voice, blocks, markers, etc.), concepts (causality, classification), format (play, game, lesson, etc.) and strategies of solving problems (detour, selection, opposition, etc.) This tagged data based can be queried by a teacher from a remote site. The query might be, "Show me cases of three year and five year olds playing games in the playground." The query will return a set of video clips that the teacher can watch on demand. These clips show, in a fully contextualized manner, how three year olds differ from five year olds in the type and structure of games that they play and invent.

Another teacher might query the video database as follows. "Show me the stages of learning to toss a ball" and the database will return eight short video clips arranged chronologically to portray these stages of motor development. While yet another teacher might query: "Give me examples of both helpful and less helpful ways to talk to young children." The data base could be sort of the "Ask Jeeves" of child development and early education. There are many reasons why digital video is the correct media asset for this task.

Digital video can be edited or marked to focus on the target concept only. Digital video can be distributed over the web and queried by the end user. Digital video can help teachers learn to recognize theoretical concepts and developmental milestones in the full context of a busy classroom or in spontaneous, open-ended play. This fantastic tool has been under-utilized in our mission to help young adults apply the collected knowledge of child development experts. Theory and research findings remain separate from classroom and child rearing practice. Expertise will remain the province of the few until we help teachers and parents read the full texture and complexity of real, flowing encounters with children

Please email me at GEForman@aol.com if you are interested in this massive project to build a video database for parents and teachers.

