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## ABSTRACT

To determine children's "dramatic literacy" and the modal sources of their inferences, a study interviewed 45 Kansas third graders in regard to a theater production of "Monkey, Monkey." Two-thirds of the children reported that third graders in another city would enjoy this production "a lot." A majority found the play easy to understand--attributing this ease both to the play and their cognitive abilities--and preferred theater over television primarily for its "more real" dimension. Children comprehended this play by remembering central dramatic actions and by accurately sequencing the plot's main events. Few children made metaphoric connections from the play's concepts to the world at large, although almost half grasped the main motive, and two-thirds accurately inferred emotions in spite of masks, puppets, and animal make-up. Over half the children reported learning the concept of trusting oneself or good moral behaviors. Children appeared to have both watched and listened to this play by relying equally on the use of visual, verbal/aural, or psychological/contextual cues as bases for their inferences. The more they used visual cues (primarily dramatic actions), the more they also used verbal/aural cues and psychological cues. (Ten tables of data are included, and 32 references are attached. Ten appendixes, including the interview instrument, teachers' evaluations and responses, and a summative evaluation, conclude the report.) (SR)

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THIRD GRADE CHILDREN'S COMPREHENSION OF MONKEY, MONKEY  
AS A FUNCTION OF VERBAL AND VISUAL RECALL

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### Abstract

Forty-five 3rd grade children were individually interviewed in regard to a production of Monkey, Monkey to determine their "dramatic literacy" and the modal sources of their inferences. Two-thirds of the children reported that 3rd graders in another city would enjoy this production "a lot." A majority found this play "easy" to understand, attributing this ease to both the play and their cognitive abilities. Like 5th graders in the 1986 Don Quixote study, they preferred theatre over television primarily for its "more real" live dimension.

Children comprehended this play quite well by remembering central dramatic actions best and by accurately sequencing the plot's main events. When asked to infer the play's main idea, few children spontaneously made metaphoric connections from the play's concepts of bravery, self-reliance, and good moral behaviors (e.g., "people shouldn't steal") to the world at large, perhaps because literal, audio-visual representations induce concrete over abstract inferences. When asked what Monkey King wanted to do during the whole play, over one-third grasped the actor's superobjective of wanting "to live forever," as stated in the dialogue. Almost half repeated this same inference as his motive. About two-thirds of the children accurately inferred characters' emotions in spite of a mask, a puppet, and animal makeup. The majority inaccurately recalled a specific line of dialogue (i.e. the main idea): "You have taught us to be brave and to trust ourselves." In follow-up responses, over half

reported learning the concept of trusting oneself or good moral behaviors. Children's comprehension of the play's main idea was positively related to both their aural recall of dialogue and what they reported learning from the play.

Children appeared to have both watched and listened to this play by relying equally on the use of visual, verbal/aural, or psychological/contextual cues as bases for their inferences. Like 5th graders in the previous study, the more children used visual cues (primarily dramatic actions), the more they also used verbal/aural cues and psychological cues. Likewise, children who evidenced greater inference-making skills by integrating all three modes of processing were likely to find the entire play easier to understand. They were also more likely to report learning the intended concepts of the play the more they relied upon concrete visual and verbal/aural cues. Those who preferred theatre tended to use more available cues, particularly verbal/aural cues, over those who preferred television. Future studies can determine whether younger children comprehend other plays in similar ways.

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## Introduction

In its landmark report on arts education, Toward Civilization (1988), the National Endowment for the Arts recommends that students be tested in theatre using both quantitative and qualitative measures, "including development of prototype questions" (100). Regarding arts research, the NEA urges greater focus on "studies of learner development, behavior, perception, attitude, and knowledge" (117), which assess "how students acquire knowledge of, and learn to interpret, the arts; how students perceive, value, perform, create, and use the arts; and how learning in the arts broadens perspective, gives a sense of the human condition, and fosters reasoning ability" (124). To these ends, the following study sought to assess how children comprehend plays in production by testing expectancies adapted from the National Model Drama/Theatre Curriculum (1987).

In an effort to determine whether the represented medium is the encoded and stored message, researchers have investigated the comparative influence of various media on children's story apprehension (e.g., Brown 1986). Unfortunately, live theatre has been neglected in this cognitive developmental research. The fact that theatre presents living persons in real time before a live audience sets this medium apart from television and film. Empirical studies in theatre have yet to go beyond simple quantitative measures in detailing not only what dramatic messages children retain, but how children use the aural, visual and kinesthetic forms of theatre's symbol system (Goldberg 1983; Saldaña 1987; cf. Rosenblatt 1984). Therefore, to what extent is



children's comprehension of theatre or "dramatic literacy" (Collins 1985) a function of the form and content of play productions, and to what extent is this measure a function of their developmental cognitive abilities?

Whether children's learning from theatre is distinctive from their daily television experience remains wholly speculative and complicated by the fact that both media share numerous dramatic forms (Esslin 1987). Therefore, cognitive developmental research, and television studies in particular, provide many answers and potential solutions to both theoretical questions and methodological dilemmas (Bryant and Anderson 1983; Klein 1988). Specific drama/theatre expectancies for grades K-12, recently published as a National Model Curriculum, also serve as untested theoretical hypotheses. By knowing what theatrical forms children rely on to derive critical inferences about dramatic content, and how plot structures and staging methods influence those responses, directors may stage plays accordingly to ensure children the most valuable aesthetic experience possible.

#### Review of Literature

To these ends, an initial descriptive study was conducted with 5th graders and a theatre production of Don Quixote of La Mancha (Klein 1987). Results indicated that children at this developmental level relied heavily on explicit visual modes, just as they do in television studies. This factor overrode their use and integration of dialogue to derive deeper psychological implications. They interpreted the protagonist's superobjective,

motive, and affective disposition primarily from his visualized dramatic actions rather than from his dialogue or inferred mental state. Because appreciation of the protagonist's actions depended on understanding his highly moral motives, most 5th graders failed to fully grasp the value of his superobjective and the main idea or theme of the play. Yet those children who evidenced greater inference-making skills by using more verbal, visual and psychological means combined were likely to find this challenging play easier to understand.

Most 5th graders in this study preferred theatre over television primarily for its live values, and they reported feeling greater sadness over the protagonist's death than those who preferred television. They were also more likely to perceive an educational purpose to the play, contrary to several television studies which find that children tend to perceive television as less educational and "easier" than print materials because this medium appears so "realistic" (Salomon 1984; Meringoff 1980). In addition, children who preferred theatre also tended to make outside metaphoric connections when inferring the overall concept of the play. Unlike television research (e.g., Vibbert and Meringoff 1981), the children in this study never derived story information from facial expressions given their 25 to 50 foot distance from this proscenium stage. Without these emotion-filled, visual cues to provide additional information into characters' psychological states, children may

have been relying upon dramatic actions to an even greater extent.

These significant findings pointed to the possibility that live theatre may induce greater amounts of invested mental effort over the television medium. Because visual details are physically distant and spread across a proscenium stage, unlike dictated televised shots and close-ups, children may be forced to work harder at integrating dialogue with visual modes in their inference-making endeavors. Whether live, though fictional, characters affect children's emotional responses to a greater degree than recorded versions has been largely ignored by media researchers (e.g., Dorx 1985). Yet one study (Campbell and Campbell 1976, 204) does suggest that live presentations may, in fact, elicit greater attention and superior comprehension over recordings.

Because characters are the agents of dramatic action, research on social cognition provides further indications of children's understanding of characters' behaviors. As Shantz (1983, 499) explains in her definitive literature review on the subject, there is a developmental trend toward inferring the thoughts of others, then intentions and motives, followed less often by inferences about characters' feelings. When analyzing children's comprehension of filmed stories, 6-year-olds tend freely to describe salient movements, observable events and expressive character behaviors. Not until 8 or 9 years of age do children begin to make more frequent inferences about characters'

intentions, feelings and causes of behavior, though causes are still usually attributed to situational factors until preadolescence when dispositional and interpersonal traits are inferred to a greater extent.

Research into children's understanding of emotions indicates that older children do tend to rely on situational or contextual cues more than facial expressions anyway when inferring a character's affective state (Reichenbach and Masters 1983). Even younger 3rd graders use situational cues over facial expressions, because they recognize that a person's facial expression may be incongruent with a particular situation, given that display rules often warrant the disguise of true feelings in public (Camras 1986).

### Purpose of Study

Based on the above findings, the following study sought to replicate the previous theatre study with younger children and a different theatre production to determine resultant differences in information processing and to refine the methodology for future comparative studies (Klein 1987). As in the Don Quixote study with 5th graders, the design of this research was guided by the following basic objectives:

#### a. Basic Objectives

1. To determine how children's learning from theatre is related to comparative media research.
2. To determine the extent to which children already process plays with "dramatic literacy", i.e. what they know about the play they saw and heard (Collins 1985).
3. To determine the ways in which children recognize, perceive and interpret the verbal, aural, visual, and psychological features of the theatre event to comprehend story content (Rosenblatt 1984).
4. To determine whether the visual or verbal aspects of the theatre medium are more important in affecting the process of conceptualization (Davis 1961).
5. To compare children's comprehension or "readings" of a theatre production with the theatre artists' intentions.

b. Theatre Expectancies from the National Model Curriculum

The National Theatre Education Project (1987, 61-70) categorizes specific skills, attitudes, and understandings for children and youth K through 12 in both drama (process) and theatre (product). While many goals overlap intrinsically, the objectives for each area are intended as sequential, developmental steps rather than dogmatic expectancies for specific grade levels. For example, 3rd grade children may be capable of understanding theatre cited for higher grade levels. Below are some selected objectives and expectancies, as they pertain to the goals of this study, with suggested grades levels noted in parentheses:

Overall Goal: To Form Aesthetic Judgments

Objective 1: Dramatic Elements - Identify dramatic elements

1. (Plot) Recognize the beginning, middle, and end of plays (1-3).
2. (Theme) Recognize (1-3) or discuss (4-6) central ideas in plays.
3. (Character) Recognize that characters have different goals and feelings (4-6). Analyze the objectives of characters (7-8).
4. (Dialogue) Interpret dialogue appropriate to characters and situations (7-8).

Objective 2: Theatre Attendance - Respond to live theatre

1. Express personal reactions (1-3) and share perceptions of theatrical experiences (4-6).

2. Recognize emotions evoked by performance (1-3).
3. Describe the actions of characters (1-3).
4. Perceive subtleties in theatre experiences such as voice and movement variance (4-6).
5. Infer motivation for actions taken by characters (4-6).
6. Recognize how character traits are illustrated by dialogue and movement (7-8).
7. Discuss theatre experiences in terms of meaning for self and society (7-8).

Objective 3: Theatre and Other Arts - Explore relationships between theatre and, in the present study, television

1. Recognize that there is a difference between live theatre and television (1-3).
2. Demonstrate awareness that there are similarities and differences between theatre and television (1-3).
3. Compare the conventions of theatre and television (4-6).

Objective 4: Aesthetic Response - Recognize and respond to unique qualities of theatre

1. Discover through observation and experience (1-3)
  - a. the immediacy of live performance.
  - b. that theatre imitates or fantasizes human experience.
  - c. that theatre is a communal experience.
  - d. that theatre allows one to feel kinship with others.

### c. Specific Questions and Hypotheses

Specifically, the following questions operationalize these objectives (above) for the purposes of the interview:

1. Do 3rd grade children perceive a given production to be "easy" or "hard?" Do they attribute the production's ease or difficulty to the play or to themselves? In following up on Salomon's studies (e.g., 1984) which find children investing less mental effort with "easy and realistic" televised stories, this study hopes to point the way regarding children's efforts between theatre and television for future empirical studies. Fifth graders found the play Don Quixote to be "sort of hard," probably because it was an extremely difficult play for this age group. Third graders are expected to find Monkey, Monkey more "easy" because the play contains far more dramatic action and less talk than Don Quixote. (Obviously, direct comparisons cannot be made because two distinct productions are involved.)

Again, because children invest more mental effort when told to watch a story for testing purposes (Salomon and Leigh 1984), children were not told that they would be interviewed in advance of theatre attendance, though parental permission slips for interviewing may have had an influence. In addition, teachers were requested not to use the KU study guides before seeing the play, so as not to influence children's responses.

2. To what extent do 3rd grade children freely recall central dramatic actions over incidental actions, characters and spectacle elements? Like 5th graders, children are expected to



freely remember central dramatic actions best, largely because central actions are the key foci of all drama, and because this play is densely packed with frequent central actions.

3. Do 3rd grade children recognize and sequence the central actions of a given plot correctly? The Monkey King causes many things to happen quickly in a linear fashion with clear cause and effect motivations, with the exception of the Yama scene which occurs coincidentally. Therefore, children are expected to have little trouble sequencing these numerous events, in part, because the frequent changes of locales and characters clearly identifies each photographed scene within the plot structure.

4. Do 3rd grade children recognize, identify and interpret a protagonist's superobjective, motives, affective dispositions, and the play's main idea (or overall conceptual theme)? Like 5th graders, 3rd graders are expected to have difficulty abstracting psychological inferences from throughout the entire story, even though this play is considered much less difficult to grasp than Don Quixote. It is doubtful that they will arrive at the same concepts as the director intends, with the exception of identifying character affect primarily through contextual cues.

5. Do 3rd grade children recognize and infer character emotions from facial expressions and from other situational cues when lacking close-up views of visual details? Without close-up views of visual details, children are expected to rely primarily upon dramatic actions, gross character behaviors and situational contexts when inferring character emotions. The fact that one

character wears a mask and another character is dramatized as a puppet may force them to infer affect from situational cues to a greater extent.

6. Do 3rd grade children process the play from primarily visual modes and/or from verbal and psychological/inferential modes? These children are expected to process their answers primarily from visual modes over psychological inferences due to their lower verbal abilities.

7. Do 3rd grade children make metaphoric connections from the play to their personal lives? Because visual pictures induce literal conceptualizations and because this play is far removed from children's daily lives, children are not expected to automatically think in terms of metaphoric ideas outside the context of the play. Fifth graders were asked to interpret the main point of Don Quixote near the end of the interview. As a result, they tended to rely on their previous answers when stumped. This time, children will be asked to interpret the main idea of the play immediately following their spontaneous recall of best remembered parts near the beginning of the interview.

8. Do 3rd grade children prefer theatre over television and for what reasons? Like 5th graders, children are expected to prefer theatre over television primarily for its live novelty.

Though this study seeks to replicate the Don Quixote study with 5th graders by asking many identical questions (e.g., main idea and superobjective), it will not be altogether possible to compare results between these developmental age groups because

two completely different plays and productions are involved. Therefore, this study is limited to 3rd grade responses to Monkey, Monkey with 5th grade comparisons made when appropriate or feasible.

## Method

### Subjects

Forty-five 3rd grade children from classrooms in three separate schools within one school district were selected from middle-class, socio-economic neighborhoods based upon the willingness of interested principals and teachers. The majority of the children were Caucasian. There were 22 girls and 23 boys whose ages ranged from 8:2 to 10:0 with an average age of 9:1. None were seriously learning disabled or visual- or hearing-impaired.

### Theatre Production

The production, Monkey, Monkey, as staged by the University of Kansas Theatre for Young People (1983), was chosen for its high artistic standards, its classic literary origins, and the availability of younger audiences. This adaptation by Charles Jones (1986) is taken from the first three chapters of a classic 16th century Chinese novel entitled Monkey by Wu Ch'Eng-En. The director altered the play script a bit to follow the original novel (translated by Arthur Waley, 1943) more closely and to take into account the cognitive needs of a 1st through 3rd grade audience for whom the play was chosen. At the same time, the story was thought to be unfamiliar enough to this age group, so that reports of story elements could only result from exposure to the play. Artistically speaking, the production was performed and designed by college students under the direct supervision of faculty members. It ran approximately 50 minutes without intermission.

### a. Synopsis of the Text

After years of fierce storms and blistering sun, the Jade Emperor, supreme god of the universe, and his assistant, the Spirit of the Planet Venus, watch closely as a magical stone-egg "hatches" into a Monkey! The Jade Emperor knows already that this little mischief-maker will bring trouble to his peaceful universe, and he orders Venus to serve as Monkey's guardian angel.

Monkey begins to explore his new life with a group of other monkeys: Kerchin, a grandfather; Zinzue, a grandmother; Ling and Ringa, two young monkeys; and Beadin, the baby. From his new family, he learns how to talk and imitate their movements and how to play the "Da-Pong-Tse" game. He also learns about the Demon of Havoc, a horrible monster who likes to eat monkeys.

After accidentally falling into the nearby river, Monkey encourages his adopted family to explore the river's source. They soon discover a sparkling waterfall. Kerchin proposes that anyone brave enough to go through the waterfall and come back unharmed shall be made their King. Monkey, of course, does so and is crowned Handsome Monkey King. The inside cave of the waterfall becomes the monkeys' home to keep them all safe from the Demon. But Monkey King wants to live forever and to learn the secrets of the gods, like the curse of Yama, King of Death. For this, he must sail across the Great Sea on a raft to study with the all-wise Patriarch Sorcerer.

At the House of Wisdom, Monkey learns how to levitate and fly on the Cloud Trapeze and to change his shape simply by pulling out his hairs. When Monkey brags and jokes around with his new spiritual powers, the Patriarch sends him back home and threatens him to never tell anyone who taught him these powers. He also tells Monkey that "the secrets you most want to know usually have answers hidden deep inside yourself" (16).

Monkey returns home only to find out from Zinzue that all the other monkeys have been kidnapped by the dreadful Demon of Havoc. At the Cave of Briars and Brambles, Monkey fights and kills the Demon by changing into numerous shapes of himself. After returning his family safely back to the Cave of the Falling Waters, he decides that they need weapons to protect themselves from future dangers.

Monkey King pays a visit underwater to the Great Dragon King of the Eastern Sea where he steals his renowned golden weapons. Much to the Dragon's surprise, he also changes a huge iron rod into a smaller wishing staff just his size--a magical weapon which becomes Monkey's trademark.

After giving his monkeys their new weapons, Monkey King is pulled into Yama's Pit of Darkness for his time on earth is up. Instead, Monkey escapes death by erasing his name and the names of his monkey family from Yama's scroll and returns home.

By this time, Yama and the Dragon King complain to the Jade Emperor about Monkey King's pranks. When the Jade Emperor orders Venus to arrest Monkey King, Monkey and his newly-created monkey

army attack Venus, thinking he is another demon. With this third mischief, the Jade Emperor furiously banishes Monkey from his monkey kingdom forever. Furthermore, he orders him to serve as the heaven's stable boy by riding the Royal Dragon Sunrise and Sunset across the sky each day for eternity.

#### b. Textual Content Analysis

The basic elements of drama are the acts and actions within a text using words as the raw materials (Langer 1953). Dramatic action may be defined as "the clash of forces in a play--the continuous conflict between characters" which moves the plot forward (Hodge 1982, 30). Dramatic action is not synonymous with physical movement, though an actor's stage activity illustrates dramatic action. Dialogue, intended to be heard and not read, functions as the subtextual vehicle of action. As agents of the play, characters act or try to act out objectives implied or explicitly stated in the text (Hodge 1982, 26-31).

Therefore, within every play, key central dramatic actions drive the protagonist toward his future destiny. With these basic concepts in mind, seven central actions of the text were identified and selected for the study's seriation task (see Appendix 2). The Monkey King's objectives are stated below for each scene, and cogent bits of dialogue (sometimes edited) summarize the main action as captured in each photograph. It is also important here to identify whether each audio-visual scene communicates its concept either explicitly or implicitly, visually and/or verbally, because the transparency of each

concept greatly affects children's encoding and retrieval of the information. At the same time, care was also taken to ensure that dialogue did not provide verbal answers to subsequent inferential questions. (Numbers in parentheses refer to page numbers in Jones' script.)

1. The birth scene: To bring chaos to an ordered world.

The Jade Emperor and Venus say, "What will the stone explode to be? Now! . . . A MONKEY!!" (2)

Monkey's objective and his birth are implied by the nature of his monkey characteristics and the word "explode." Visually, he bursts from the "stone" and implies as if he will bring trouble through his facial expression and bodily movements.

2. The waterfall/king scene: To prove his bravery and become King by going through the waterfall.

Monkey says, "Grandfather, what has become of your pledge that anyone who could manage to get through the waterfall and back again should be your King?"

Kerchin says, "I crown you, Magical Monkey Who Was Born From a Stone, as the Monkey King." (10)

The dialogue explicitly states Monkey King's objective here, and Kerchin puts a crown on Monkey's head to imply kingship.

3. The school scene: To learn how to live forever and become Immortal with Taoist magic.

The Teacher says, "What is the use of your being here if, instead of listening to my lectures, you jump and dance like a maniac?"



Monkey King says, "I am listening with all my might and you have taught me such wonderful mysteries." (14)

The dialogue implies Monkey King's objective here. Visually, the Patriarch/Teacher is talking to Monkey King in the "schoolroom" setting, which also implies Monkey's educational objectives.

4. The Demon scene: To avenge the monkeys by killing the Demon of Havoc.

Monkey King says, "Cursed Demon, stand your ground and eat old Monkey's fist! Change to ME!!" (18)

Though Monkey King's dialogue implies his vengeance, the ensuing battle with the Demon communicates explicitly.

5. The Dragon scene: To obtain weapons and the magical wishing staff, so that the monkeys may protect themselves from future danger.

Monkey King says, "Thank you kindly, old Dragon. Now I'll just borrow a few more weapons for my monkeys and be off."

Dragon King says, "Shark skins! I've been robbed. Help, Sea Guards to the rescue." (22)

The Dragon King's dialogue states Monkey King's objective here explicitly, though Monkey uses the word "borrow," as an implied joke for stealing. Visually, Monkey King steals the weapons, as the Dragon King and Sea Guards chase after him frantically.

6. The Yama scene: To erase his own and the other monkey names from Yama's scroll in order to escape death.

Yama says, "Your name is written on my scroll. You are cursed with death."

Monkey King says, "Then I shall cross my name out."

(\*22)

The dialogue explicitly states the action here, and Monkey King erases the names from the scroll. At the same time, this abstract concept of death is communicated implicitly. [\*Note: This scene was moved to its proper chronological sequence in the novel which differs from the playwright's original choice after the school scene.]

7. The punishment scene: To bravely pay for his wrongdoing by leaving his monkey family.

Monkey King says, "My dear Emperor, I am truly, truly, sorry and I shall bravely pay for my wickedness with any punishment you think fit."

Jade Emperor says, "I hereby banish you forever from the Cave of the Falling Waters." (24)

The dialogue explicitly communicates, as Monkey King kneels contritely before the Jade Emperor. Jade Emperor's lambast also serves as the climax of the play followed by a quick resolution.

### c. The Director's Intentions

According to the director, Monkey King's overall superobjective is to live forever by becoming an Immortal or Buddha. In this adaptation, he gets his wish by riding the Royal Dragon Sunrise and Sunset each day across the sky, though his separation from his monkey family punishes him as a more primary

focus. The overall main idea or theme of the play is that each person must recognize and develop his or her own potential through self-reliance and discover how these talents may be used for the good of the whole. Essentially, each person inevitably has his or her own place in the world order. Under no circumstances is a person allowed to steal or destroy another's property, though he may kill an enemy who threatens his and others' existence. In other words, the end does not always justify the means in every case.

#### d. The Actor's Intentions

When asked for his superobjective, or what he wanted to do throughout the entire play, the actor playing the role of the Monkey King provided several goals. Becoming King of the monkeys was not enough for him. Overall, he wanted to live forever by achieving immortality as a requirement for becoming an omniscient god. His ultimate motive was to take over the Jade Emperor's position in the universe, so that he and his monkeys could rule the universe forever.

#### e. The Designers' Intentions

The play script calls for a Westernized, "story theatre" style of Peking Chinese Opera conventions. Rather than design such a fragmentary unit setting to depict all locales, the director and designer agreed that young children desire and need a more literal depiction of each scenic location. Therefore, a three-sided setting was designed to revolve on the stage's turntable: 1. a series of steps and platforms representing

Granite Mountain served as Monkey's birthplace, the House of Wisdom, and Yama's Pit of Darkness through colored lighting changes against its neutral coloring; 2. a cave-like opening served as the outside of the waterfall and the Demon's cave, when the waterfall material was removed; and, 3. the green-colored inside of the waterfall cave. The top-most platform of the entire unit served as the high vantage point for the Jade Emperor and Venus, with a "Tree of Life" trunk to represent Monkey's life as a universal motif. This entire unit was located at one downstage end of the turntable, so that when Monkey travelled the sea on his raft at the edge of the revolve, the unit setting moved away from him as if at a greater distance. The underwater scene at the Dragon King's palace took place on the orchestra pit downstage by raising and lowering the pit as needed.

Lighting effects with gobo-casting shadows created the illusion of Monkey's magic: his transformation into a pine tree, his transformation of himself or other monkeys in his battle with the Demon, and his levitation in the school scene through the use of a spotlight.

Sound effects were recorded and created to assist in communicating locales and to add to the overall mood of various scenes. The sound of Chinese-like musical instruments helped to communicate the time and place of "long ago" China. For about twenty minutes before the show began (as children were seated), sound and lighting effects indicated the "blistering sun and

thunderstorms" which created Monkey's stone birth. The sound of water added to the waterfall and underwater scenes.

Costumes were designed to differentiate among animal, god and human characters. The monkeys wore unitards (without tails in keeping with the Japanese macaque prototype). After the second school scene, Monkey King appeared in more human-looking Chinese clothes to indicate his growing knowledge of human ways. Special care was taken to ensure that the actors playing two roles (Jade Emperor/Demon, Venus/Patriarch, Students/Sea Guards) were completely disguised by facial hair, head pieces or masks, and differentiated voices and physical movement.

The director was concerned that young children might not be able to separate the two "evil" characters, Yama and the Demon. Therefore, rather than use an actor for Yama, this character was depicted as a puppet-like creature with one huge eyelid which moved as it "spoke" over the top of a wall.

### Procedure

Four 3rd grade children from schools other than the those of the formal study were interviewed the day after a dress rehearsal as a pilot study to check the wording of questions within a given 15 minute time frame and to train interviewers and assistants.

Children in the present study were bussed from their respective schools to the auditorium (seating 1168) for matinee performances on three different days. All classrooms sat in the center front orchestra about 25 to 30 feet from the proscenium

line. Programs were distributed after the performance on the bus ride home or at school.

Since testing was not possible immediately following the performances, individual, 15 minute interviews were conducted on the day following the school's theatre attendance in separate, quiet rooms at the respective schools. Each child was picked up from his or her classroom to begin an informal acquaintance and introduction on the way to the interview room. The child sat next to the interviewer and the assistant sat on the other side further away. All interviews were tape-recorded for later scoring purposes. After the interview, the child was thanked and escorted back to the classroom. (See Appendix 1 for Interview).

#### Response Measures

##### 1. Familiarization with Story

This story is quite popular and familiar to children in Asian cultures. Therefore, children were asked whether or not they already knew the story to determine whether previous knowledge might influence their responses.

##### 2. Enjoyment as a Whole

Rather than ask to what extent the children themselves enjoyed the story, children were asked to rate the play on a 3 point scale in terms of children from another city to arrive at more objective responses.

##### 3. Difficulty and Attribution

Children were asked their personal opinions about the ease or difficulty in understanding this particular production and

why. If the child did not know why, they were asked whether or not this aspect was due to the play itself or metacognitive factors.

#### 4. Best Recall

Children were asked to recall what they remembered best from the play and stopped after three main responses. Central and incidental actions, dialogue, characterizations, and theatrical spectacle elements were then culled from their responses to determine perceptual salience.

Television studies indicate that children tend to miss information which occurs "offstage" as discussed in dialogue. For example, in the Don Quixote study, most 5th graders could not identify Dulcinea, an offstage character, even though her identity was explicitly described and mentioned 24 times in the performance text. In Jones' text of Monkey, Monkey, Zinzue tells Monkey King that the other monkeys have been kidnapped by the Demon of Havoc without even dramatizing this event. To test this concept, the director decided to add a non-verbal scene of the monkeys' kidnapping just before the scene which tells of the event in order to discover whether children would recall the kidnapping or conversational scene.

#### 5. Plot Sequencing Task

Children were asked to sequence only the central actions from the plot, rather than additional incidental actions as in the Don Quixote study. To determine children's verbal and visual behavior in cognitive processing, half the children were asked to

sequence color photographs and half were asked to sequence from written dialogue. (See Textual Content Analysis above.)

Color photographs of specific moments from 7 selected central actions were taken at each of the three dress rehearsals. Each shot visualized, as closely as possible, the exact size and perspective of the center front viewing experience. Care was taken to ensure that all necessary characters and scenery were included in each shot. Photographs were blown up to 5 x 7 inches for easier detail observation. Each photograph was color-coded in the bottom right-hand corner on both front and back.

Short lines of dialogue, roughly averaging 3 to 4 sentences, were chosen to best represent each dramatic action shown in the photograph. Each line of dialogue began simply with "(Character name) says." Lines of dialogue were typed and pasted on the back of each corresponding photograph.

Two independent adult raters, who had seen a performance, were asked to sequence the 7 photographs and lines of dialogue separately in both text and picture. Neither person reported trouble in making the correct identifications, with the exception of the Yama photo which made it difficult to discern the Monkey King against the red lighting effects.

Children were told that the photographs (or lines of dialogue, if the photographs were face up) on the back of each card could be used at any time to help them remember scenes. When using the verbal side, children read the dialogue aloud or the interviewer read it for them to ensure verbal understanding.



The sequence array was presented in the same random order for each child. After the child finished sequencing, the assistant recorded the final sequence order. In addition, the assistant observed the child's behavior during this task. Each time the child flipped a card over to look at the photograph or to read the dialogue on the back side, the assistant check-marked the particular card's color code on a separate scoring sheet. This information further indicated children's preferences for verbal or visual processing.

#### 6. Inference Questions

The interview primarily stressed broad inference questions regarding the play as a whole to test children's overall dramatic literacy and integration of thematic concepts from implicit content. Children were asked to interpret the main idea (or "moral") of the play immediately following their best recall of the plot to determine whether or not they spontaneously made any metaphoric connections. They were also asked to identify and interpret Monkey King's superobjective (what he wanted to do throughout the play) and his motives for doing such.

Rather than ask children to recall their feelings about characters, children were asked to interpret the feelings of the masked Dragon King, Yama, a puppet, and the Monkey King from three high emotional intensity scenes from the play. Adult independent raters scored the characters' affective states at these moments during dress rehearsals in order to compare affective word choices against children's responses. After the

production run was over, the actors involved were also asked their emotions (or intentions of emotion) at these moments for further comparisons.

To determine verbal, visual and psychological bases for all the above inference questions, children were asked "How do you know?" after each question to substantiate their reasoning.

#### 7. Aural Recall

To further validate children's attention and comprehension of dialogue, children were asked to recall what Kerchin said he and the other monkeys learned from the Monkey King at the end of the play. In the text, Kerchin explicitly says, "Go in peace, Magical Monkey who was born from a stone. You have taught us to be brave and to trust ourselves" (24). This notion is also implied throughout the performance by the contrasting behaviors of the monkeys from the beginning of the play to the end. The actor playing Kerchin also added a visual implication to his dialogue by throwing down his weapon near the end of his line.

Children were then asked whether they learned "the same thing, nothing, or something different" and how they learned this. These questions were asked to determine how they received this information and how their answers would compare with their interpretations of the play's main idea asked earlier.

#### 8. Media Preferences

Finally, children were asked if they would prefer to watch this production on stage or on television and to give the reasons for their preferences.

### Scoring

Descriptive statistics were the primary method used to analyze children's responses. Frequencies were calculated for forced-choice answers. Open-ended responses were categorized and coded according to the frequency of specific answers for each inferential question. One-tail Pearson correlations were computed for all variables before collapsing them into more general indices.

The seriation task was scored on the basis of the number of correct cards placed in front of each card. For example, if cards were ordered 1, 2, 3, 5, 6, 4, 7, the scoring would be as follows: Card 7 - 6 points; Card 4 - 3 points (because 5 and 6 come after); Card 6 - 4 points; Card 5 - 3 points; Card 3 - 2 points; Card 2 - 1 point for a total of 19 points. The highest possible score by this method is 21 points, so that as the score increases, so does sequencing accuracy.

A coding system developed by Meringoff (1980, 244; Vibbert and Meringoff 1981, 20-21; Banker and Meringoff 1982, 51-52) was adapted to determine children's bases for their inferences ("How do you know?"). Specific dramatic actions were separated from generalized acting behaviors. Each time a child responded in each of the following categories, they were given one point. For example, if a child mentioned 3 different dramatic actions by Monkey King, then they received 3 points under that category. Below are listed the specific categories used with examples of

each: [NOTE: Some categories were used only for specific inference questions.]

Visual Bases Within the Play

EXAMPLES:

- |   |  |
|---|--|
| 1-Monkey King's dramatic actions                      | "MK <u>stole</u> some weapons."        |
| 2-Monkey King's general acting behavior               | "MK <u>acted</u> weird."               |
| 3-Monkey King's physical gestures                     | "MK <u>bowed</u> down."                |
| 4-Monkey King's past actions (use for MK Affect only) |  |
| 5-MK and monkeys' dramatic actions                    | "They <u>fought</u> bad guys."         |
| 6-MK and monkeys' acting behavior                     | "They <u>acted</u> silly."             |
| 7-Dragon King's dramatic actions                      | "DK <u>chased</u> MK."                 |
| 8-Dragon King's general acting behavior               | " <u>The way</u> DK <u>acted</u> ."    |
| 9-Dragon King's physical gestures                     | "DK <u>covered his eyes</u> ."         |
| 10-Dragon King's appearance                           | "DK <u>looked really awful</u> ."      |
| 11-Yama's dramatic actions                            | "Yama <u>vanished</u> to Pit."         |
| 12-Yama's eyelid movement                             | "Her eye <u>blinked</u> ."             |
| 13-Yama's appearance                                  | " <u>The way</u> Yama <u>looked</u> ." |
| 14-Others' dramatic actions                           | "Demon <u>captured</u> monkeys."       |
| 15-Others' general acting behavior                    | "Demon <u>acted that way</u> ."        |
| 16-Scenery  | "They had a <u>house</u> ."            |
| 17-Lighting effects                                   | " <u>Lights</u> in Yama's eye."        |

Verbal and Aural Bases in Play

- 1-Monkey King's dialogue quoted
- 2-MK's inflection used
- 3-Monkey King's dialogue
- 4-Monkey King's tone of voice
- 5-Dragon King's dialogue quoted
- 6-DK's inflection used
- 7-Dragon King's dialogue
- 8-Dragon King's tone of voice
- 9-Yama's dialogue quoted
- 10-Yama's inflection used
- 11-Yama's dialogue
- 12-Yama's tone of voice
- 13-Others' dialogue quoted
- 14-Others' inflection used
- 15-Others' dialogue
- 16-Others' tone of voice
- 17-Used words or information gleaned only from dialogue

(e.g., "slaves," "House of Wisdom")

## EXAMPLES:

- "MK said, '...'"
- [noted in transcript]
- "MK said he ..."
- "MK was crying."
- "DK said, '...'"
- [noted in transcript]
- "DK told him to ..."
- "DK screamed at MK."
- "Yama said, '...'"
- [noted in transcript]
- "Yama told him to ..."
- "Yama screamed at him."
- "Jade King said, '...'"
- [noted in transcript]
- "Jade said he was wrong."
- "Jade yelled at MK."

Psychological Bases in Play

1-Monkey King's motives/wishes

2-Monkey King's thoughts

3-Monkey King's traits

4-Monkey King's opinions

5-Monkey King's feelings (not for MK Affect) "MK was not afraid."

6-Monkey King's internal state

7-Monkey King and monkeys' traits

8-Monkey King and monkeys' opinions

9-monkeys' feelings

10-Dragon King's motives/wishes

11-Dragon King's thoughts

12-Dragon King's traits

13-Dragon King's opinions

14-Yama's motives/wishes

15-Yama's thoughts

16-Yama's traits

17-Yama's opinions

18-Yama's internal state

19-Others' motives/wishes

20-Others' feelings

21-Others' internal state

22-Others' inferred behavior

23-Others' sensory perceptions

## EXAMPLES:

"MK wanted to ...""MK thought he was ...""MK was smart.""MK didn't like ...""MK felt like he ...""They were brave.""They didn't like ...""They were afraid.""DK wanted to ...""DK didn't think he ...""DK was mean.""DK didn't like MK.""Yama wanted MK to die.""Yama didn't think ...""Yama had big powers.""Yama didn't like it.""Yama was hurting.""Jade wanted MK to ...""DK felt happy.""The monkeys were safe.""Bad guys did wrong.""Demon couldn't see MK."

Contextual Bases (used only for Affect questions)

3-Elaborates on both causes and consequences of emotion

e.g., "It was the worst thing he'd ever done, and now he had to leave his family."

2-Elaborates on future consequences and events

e.g., "Yama couldn't put the curse of death on him."

1-Elaborates on causes of emotional state due to past actions

e.g., "Nobody had ever stolen from Dragon King before."

Inside Play General Knowledge (used only for Main Idea question)

e.g., "It was mostly talking about monkeys."

After running frequencies and correlations, these categories were collapsed into total visual, verbal/aural, and psychological bases to run further statistics against other variables (see Appendix 5).

## Results

The findings reported here are organized according to the previous description of the responses measures with some discussion in reference to the questions and hypotheses raised earlier.

### 1. Familiarization with the Story

None of the 45 children was familiar with this story.

### 2. Enjoyment of the Production

Of all the children, 67% stated that 3rd graders in another city would like this play "a lot," 31% said they would like it "a little bit," and one child said they would not like it at all.

### 3. Difficulty and Attribution

Table 1

#### Frequencies of Ratings of Difficulty and Attribution

<u>Difficulty</u>	<u>Attribution</u>				<u>N</u>
	<u>Play</u>	<u>Both</u>	<u>Self</u>	<u>Don't Know</u>	
Real hard	0	0	1		1
Sort of hard	6	2	2	1	11
Sort of easy	9	10	3	1	23
Real easy	5	3	2		10
<hr/>					
<u>N</u>	20	15	8	2	45
<u>%</u>	44	33	18	4	

As Table 1 illustrates, 73% of the children found this play "sort of easy" or "real easy" to understand, and they attributed this ease rather evenly to the play (42%) or both play and metacognitive factors combined (39%) (e.g., "I understood the meaning of the words"). Those who found it "sort of hard" or



"real hard" (27%) attributed their difficulty to the play (50%) or both factors and metacognitive reasons (42%) combined. Apparently children, especially boys ( $r = -.25$ ,  $p .05$ ), tended to attribute their understanding mostly to the play itself (44%) over their own cognitive abilities (18%). Interrater reliability for coding attribution was 82%.

#### 4. Best Recall

Children's free responses to what they remembered best from the production concentrated largely on central dramatic actions from the play as Tables 2 and 3 indicate. Interrater reliability was 90% for best recall categories.

Table 2

#### Frequencies & Percentages of Best Recall Categories

<u>Best Recall Categories</u>	<u>Freq.</u>	<u>%</u>	<u>% of children</u>
Central Dramatic Actions	92	69	84
Incidental Actions	12	9	22
Characters (w/out actions)	18	13	18
Spectacle Elements	12	9	11
Totals	134	100%	

Note. While most children provided at least 3 responses, some provided none or 4 responses, which explains why the total frequency is 134, and why the percentage of children exceeds 100%.

Table 3

Frequencies & Percentages of Best Recall of Central Actions

<u>Central Actions</u>	<u>Freq.</u>	<u>%</u>
Monkey was born from a stone	5	5
Monkey became King (by going through the waterfall)	6	7
Monkey King found a new home behind the waterfall	7	8
Monkey King traveled the sea (to go to school)	9	10
Monkey King went to school and learned magic	13	14
Yama wanted to kill Monkey King	4	4
The Demon kidnapped the monkeys	11	12
Monkey King battled the Demon of Havoc	8	9
Monkey King stole weapons from Dragon King	22	24
Monkey King erased names on Yama's scroll	2	2
Last Scene (variations of events)	5	5
Total Central Actions	92	100%

From Tables 2 and 3, it becomes apparent that most children (64%) tended to focus primarily on the central dramatic actions of a play (69%) at least once, rather than on spectacular effects of theatrical productions (9%), as some directors might expect. Of all the central dramatic actions, Monkey King's stealing of the Dragon King's weapons captured the most salient and frequent response (24%) by almost half of the children. As hypothesized, no children recalled that Zinzue told Monkey King about the Demon's kidnapping; rather 24% did find the Demon's kidnapping of the monkeys itself most salient.

While these responses indicate overwhelming visual attention to dramatic actions, 36% of the children did use verbal aspects of the play by paraphrasing or quoting character dialogue (2 mentions), describing what characters said (3), or using words which could only be gleaned from the dialogue (11). Seventeen percent of the responses coded for Best Recall involved use of dialogue. For example, one child remembered verbatim the dialogue in which Monkey repeated and imitated every word that Kerchin spoke. Other children recalled such bits of dialogue as "slaves," "the monkey who was born from a stone," "pine tree," "Handsome Monkey King," and "the Demon of Havoc." Interrater reliability was 84% for use of dialogue.

#### 5. Plot Sequencing Task

Children were assigned to either a visual (photographs) or verbal (dialogue) condition for sequencing the plot. In general, they performed well in sequencing the central events of the plot, preferring to use photographs only slightly more than dialogue. Table 4 indicates children's recognition of individual scenes and, by implication, their attention levels throughout the play by summarizing the correct placement of each of the seven cards in the sequence. Two children were removed from the analysis because they did not complete the task. Most children tended to stay with the condition they were given ( $r = .56, p < .001$ ). However, 26% of the children originally assigned to the verbal condition preferred to switch sequencing the array with

photographs instead. Children who changed conditions were separated as a third group for analysis.

Table 4

Percentages & Means of Correct Scene Placement by Condition

<u>Scene</u>	<u>Condition</u>			<u>Total %</u>
	<u>Visual</u>	<u>Verbal</u>	<u>Verbal to Visual</u>	
Birth	100	80	100	91
King	86	70	73	76
School	82	70	36	64
Demon	41	30	18	31
Dragon	36	40	18	31
Yama	50	60	18	42
Ending	82	90	64	76
<u>Mean</u>	68	63	47	59

As predicted by mnemonic studies, children recognized the beginning and ending of the plot best. Their sequencing accuracy diminished considerably after a strong primacy showing, though 59% of their scene placements were correct. Sequencing scores ranged from 21 to 10 with 73% of the children achieving high scores between 21 and 18. Visual condition scores ranged from 21 to 13; verbal condition scores ranged from 21 to 12; and those who switched conditions had scores ranging from 20 to 10. Ten children (23%) achieved perfect scores--seven in the visual condition and three in the verbal condition. There was a marginally significant correlation ( $p < .06$ ) between those children

who said that 3rd graders in another city would enjoy this play "a lot" and those who achieved higher sequencing scores.

Surprisingly, children who started with the verbal condition but switched to the visual condition fared worse than the children who stayed primarily in the verbal or visual conditions. There was a main effect of condition on sequencing scores  $F(2,40) = 4.2, p < .05$ , as Table 5 indicates.

Table 5

Plot Sequencing Scores by Condition

<u>Condition</u>	<u>Mean</u>	<u>Median</u>	<u>Mode</u>	<u>N of children</u>
Visual only	19.2	19	21	22
Verbal only	18.8	19	18	10
Verbal to Visual	16.6	17/16	20/14	11
Totals	18.2	19	21	43

Table 6 summarizes children's turning behavior for each card in all conditions.

Table 6

Number of Card Turns by Condition

<u>Turns to:</u>	<u>Given photo</u> (text under)		<u>Given text</u> (photo under)		<u>Given text</u> (used photo)		<u>Totals</u>	
	<u>Vis</u>	<u>Ver</u>	<u>Vis</u>	<u>Ver</u>	<u>Vis</u>	<u>Ver</u>	<u>Vis</u>	<u>Ver</u>
<u>Scene</u>								
Birth	1	5	7	5	14	6	22	16
King	2	6	11	10	19	10	32	26
School	1	5	16	15	21	13	38	33
Demon	0	4	21	19	22	13	43	36
Dragon	2	6	12	10	19	12	33	28
Yama	4	6	14	12	20	11	38	29
Ending	2	6	7	6	22	16	31	28
<u>Subtotals</u>	12	38	88	77	137	81	237	196
<u>Totals</u>	50		165		218		433	
<u>Prop.</u>	.24	.76	.53	.47	.63	.37		
<u>P of GT</u>	.02	.09	.20	.18	.32	.19	.55	.45

Note. The last row represents the proportion of the grand total (GT = 433).

Children's behavior in turning cards may suggest their modal preferences when watching and listening to this play. When given photographs, fewer children deemed it necessary to use the dialogue in order to receive and integrate additional information. By contrast, when given dialogue, most children preferred to use the photographs as well, particularly the 11 children (half of the verbal condition) who preferred to switch

conditions entirely. Surprisingly, the children who switched conditions seemed to have greater difficulty integrating the dialogue with the photographs, and their sequencing scores varied more than in the other two conditions.

Turning cards was related to correct placement for some scenes. Children who correctly placed the second card (Monkey is crowned king) tended to turn this card most frequently to either the visual ( $r = .42, p < .01$ ) or verbal side ( $r = .33, p < .05$ ). The same tendency held true for the third card (Monkey King learns at school) (turns to visual  $r = .32, p < .05$ ; turns to verbal  $r = .44, p < .01$ ). The more children accurately placed the last card in its proper sequence (Monkey King receives his punishment), the less they turned it to the visual ( $r = -.41, p < .01$ ) or verbal side ( $r = -.47, p < .001$ ).

## 6. Inferences

Children were asked several inference questions followed by "How do you know?" to determine the modal bases for their responses and their levels of "dramatic literacy."

### a. Main Idea of the Play

When asked about the main idea or "moral" of the play, most children hesitated, in part, because they may not have understood the concept of a main idea. Nine children (20%) did not know or were unable to verbalize the main idea of the entire play.

Interrater reliability for coding Main Idea was 90%.

Of the remaining responses, most children (75%) failed to make spontaneous metaphoric connections from the concepts in the

play to the world at large. Only 25% made accurate inferential leaps by recognizing and applying universal concepts. The highest level of dramatic literacy was achieved by four children who grasped the script's notion of bravery or self-reliance. They realized "That if you really want to try something, you can do it," and that even "a little person can be brave." Because the Monkey King had much "faith in himself," the play also showed that "you don't need weapons. You can defend yourself." Seven children gleaned notions of good moral behavior, primarily that people shouldn't steal. Other examples here included: "You have to be truthful," "Don't be greedy," "Be a good monkey," and "No one can be the smartest thing in the world."

With these exceptions, one-third of the children discussed some concrete aspect or action of the Monkey King in particular, perhaps because literal, audio-visual representations induce concrete inferences. For example, the main idea was "about a monkey that comes out of a rock. He becomes king, and then he goes to school, and he floats and changes into a tree, and he gets punished and he has to go up into the clouds." Others noted that "Monkey was very mischievous," and that the play was about "a monkey going out on his adventures and trying to learn how to live forever."

Another 22% made other concrete inferences about all monkeys in general. For example, one child surmised that the main idea was "about monkeys trying to live without being endangered . . . and the Monkey King wanted to live forever." Others recognized



"how monkeys can be useful," "how monkeys can be brave," and that "monkeys can be real smart."

When asked how they knew their response to the main idea, visual bases were used 43% of the time (20 mentions), primarily Monkey King's dramatic actions ( $r = .29, p < .05$ ) and others' actions ( $r = .33, p < .01$ ). Psychological bases were used 30% of the time (14 mentions), primarily Monkey King's motives ( $r = .29, p < .05$ ), his opinions and feelings (both  $r = .27, p < .05$ ), and all the monkeys' feelings ( $r = .27, p < .05$ ). Verbal bases were used much less often (13%, for 6 mentions), primarily by citing what Monkey King said ( $r = .27, p < .05$ ) or by quoting others' dialogue ( $r = .33, p < .01$ ). General inside-play information (e.g., "it showed how...") was also used less often. Eighteen children (40%) did not know how they knew the main idea. Interrater reliability for inferences about the main idea was 98%.

In general, most children exhibited adequate levels of "dramatic literacy" when inferring the main idea based on the explicit aural and visual cues of the production and several implicit intentions of the director. As expected, no child specifically inferred the director's intention that "each person inevitably has his or her place in the world order," though many children did grasp themes of self-reliance and good moral behaviors as was hoped.

#### b. Monkey King's Superobjective

As noted above, several children used Monkey King's intentions to interpret the main idea of the play. Moreover,

when asked what Monkey King wanted to do during the whole play, 36% accurately gleaned his primary superobjective. Of these, 27% grasped the actor's intentions of wanting "to live forever" (and "to be brave" or "superb"), perhaps, in part, because Monkey King explicitly stated this objective five times in the text (pp. 10, 11, 14). In fact, one child noted that "He got his wish" when the Jade Emperor "took him up into heaven so he could learn how to live forever." The remaining 9% recognized that he wanted to learn Yama's "secrets," and the "secrets hidden inside of him" or "already in his heart" as explicitly stated in the dialogue (pp. 11, 14, 16). Boys tended to infer these superobjectives more than girls ( $r = -.28, p < .05$ ). No child reported the actor's related intention of wanting to become an Immortal or Buddha, so that he and his monkeys could rule the entire universe forever. Later in the interview, one child did recall the word "immortal," though she said she did not understand the term.

The majority of children (64%) cited less accurate superobjectives for Monkey King. These were coded in descending order of relevance. Twenty percent felt that he only wanted to go to school to learn magic tricks in general "to get more smart," to "learn how to fly," and "to learn to defend and fight for himself . . . to float." Twenty-two percent believed he wanted to help his monkeys and to "protect his people" in various ways by teaching them "how to be brave and fight," "and get weapons for his friends." "He wanted to try and save his monkeys in his family to take care of them [because] he didn't want them

to die from the [Demon]." In general, "he wanted to be good to the other monkeys" and "to make [them] more secure their life." A minority (7%) thought he wanted to "be famous," "to be bigger," or "to be the smartest monkey in the world, because he wanted to be able to prove [to] himself that he was the smartest monkey in the world." Finally, 11% of the children cited objectives achieved early on in the play. For example, Monkey King wanted "to see the waterfall," "to find the end of the river," "to go out and discover more things in the mountain," "to become king," and "to be like the other monkeys." Two children (4%) did not know his superobjective. Interrater reliability for coding superobjective was 94%.

When asked how they knew Monkey King's superobjective, visual bases were used 44% of the time (32 mentions), especially Monkey King's dramatic actions (25). However, children who based their inferences primarily on his dramatic actions ( $r = -.26$ ,  $p < .05$ ) or acting behavior ( $r = -.27$ ,  $p < .05$ ) were less likely to identify accurately his superobjective as wanting to live forever. By contrast, verbal bases, used 36% of the time (26 mentions), were related to identifying Monkey King's superobjective accurately ( $r = .38$ ,  $p = .01$ ) because Monkey King explicitly stated his future intentions as "I want to live forever." In fact, the more children relied on what he said, the less they relied on his actions ( $r = -.26$ ,  $p < .05$ ). In addition, children recalled the Patriarch's dialogue regarding "secrets" (e.g., "It's in you" or "It's all deep in your soul").

Psychological bases were used 19% of the time (14 mentions), with seven children automatically supplying Monkey King's motives as well. Five children did not know how they knew Monkey King's superobjective. Interrater reliability for coding children's reasons for inferring a superobjective was 97%.

### c. Monkey King's Motives

Many children spontaneously supplied a motive in their superobjective responses. Consequently, responses to Monkey King's motives appear circular and confounded among previous answers. In fact, four children were not asked this question, because the interviewer felt the child had already answered it above under Monkey's superobjective.

Why would children confuse and integrate a character's superobjective (future intentions of behavior) with his motives (past causes of behavior)? Acting theory provides a possible explanation. Every dramatic action (effect) is the result of a preceding action (cause). From an actor's perspective, characters behave purposefully in future-oriented ways by seeking "to win victories" or superobjectives throughout the play based on their situations at any given moment. Therefore, rather than ask "why" a character behaves as he does (past causes), actors must ask "what for?" (i.e. "for what intention, for what anticipated result") from a first-person perspective (Cohen 1978, 35). Yet when viewing plays from a third-person perspective, audiences see and hear those intended results, some of which occurred in earlier parts of the play (now in the past, so to

speak). Therefore, while superobjectives and motives are two distinctly separate entities for actors, they appear to be identical to audiences, especially when child audiences are asked to reflect back (into the past) on the play as a whole.

Therefore, when children were asked why Monkey King wanted to do what they had stated as his superobjective(s), almost half (49%) repeated the essence of their previous superobjective responses ( $r = .32, p < .05$ ). By contrast, 27% offered a different notion from their superobjective responses, perhaps indicating a higher ability to distinguish motives from superobjectives as from an actor's first-person perspective. Those children who relied on Monkey King's explicit dialogue when inferring his superobjective tended to be the most accurate when inferring his motive ( $r = .46, p < .01$ ). Seven children, two of whom did not know his superobjective, did not know his motives. These results suggest that many 3rd graders had difficulty separating and inferring motivational (past) causes from a protagonist's (future-driven) intentional, behavioral effects. Finally, there was a positive relationship between inferences made regarding both Monkey King's motive and the main idea of the entire play ( $r = .30, p < .05$ ). Interrater reliability for coding motive was 88%.

Concerning the accuracy of inferences, 24% either repeated (8) or recognized (3) that Monkey King wanted to live forever, or to "find the secrets hidden inside of him" (1) as the primary motive behind his superobjective actions. Those who repeated this same response indicated that Monkey King wanted to live

forever because: "he didn't want to be in the grave" or "he never wanted to die;" "he thought kings could live forever" or so that "he could stay king for the rest of his life;" "he wanted to see what would happen if he lived forever;" and, "so that [Yama] wouldn't put him on his death list, and there would be no more monkeys." Those who saw his motive as wanting to live forever, reported his superobjective as wanting "to learn the secrets of [Yama]," and "to learn and go to school." Again, those children who were most accurate in identifying these motives tended not to use Monkey King's dramatic actions when inferring his superobjective ( $r = -.43, p < .01$ ). Two children had no idea why he wanted to live forever.

Another 22% repeated (8) or reported (2) his motives as helping his monkeys because: "he didn't want them to die" and "he wanted to teach his friends and family [to defend themselves] so they wouldn't have to be frightened by that Demon;" and, "because he was part of the family." Other motives included wanting "the monkeys to have a better life," because "he liked the other monkeys."

Another 18% either repeated (2) or assigned such motives as personal gain or pure enjoyment (6). To repeat, Monkey King intended to "be famous . . . so everybody could know him real well," and "he wanted to be the smartest monkey in the world . . . because he was able and would make the best king." Other children assigned these personal motives from the following different superobjectives: "He wanted to be the king to do what

he wanted to do [and to] learn some more magic . . . because no other monkey knew so much magic," or "so he could free himself from all the bad people." "He wanted to be like the other monkeys . . . because he likes the way the monkeys would play;" and, he wanted to go to school "to be not silly." When at a loss for a motive, one child replied, "He just wanted to," and another stated quite simply, "He wanted to live as long as he could . . . because he wanted to be king the longest."

Three children stated his motives as wanting only to go to school as a repeat (2) or a new notion (1), so he could "learn how to do everything the other kids could learn how to do;" "learn how to change sizes;" and "because he wasn't learning nothing from his family. He didn't have no school in his life so he had to go to a different life where school is." The remaining two children repeated objectives and motives which occurred early in the play.

Children's causal reasoning behind Monkey King's superobjective intentions shows their ability to create logical motives both from the concrete information given in the production and from their own personal perspectives. Many answers may reflect how children themselves would think if they were confronted with such situations, and they reveal how family, school, and peer relationships are foremost and relevant to children's concerns.

## 7. Character Affect

Children were asked to infer the emotions of three characters at three particular moments in the play. Interrater reliability for coding character affect ranged from 95% to 99%.

### a. Dragon King's Affect

When asked how the Dragon King felt after Monkey King stole the wishing staff and weapons, 73% found him primarily angry ("mad," "mean," or "furious"), contrary to the actor's opinion of his emotion. (The Dragon King actor felt "mostly disgruntled and peeved . . . not especially angry" because Monkey King stole his weapons "right from under my nose.") Other emotions cited were "surprised" or "amazed" (2) (as the actor also intended), "sad" or "depressed" (4), "scared" (1) or "ashamed" (1), and such vague words as "bad," "awful," and "destroyed" (4).

When asked how they knew the Dragon King felt that way, children relied heavily on verbal and aural cues (52 mentions) for 39% of the total bases. They primarily commented on Dragon King's tone of voice (18) (e.g., his "screaming," "yelling," and "roaring") ( $r = .26, p < .05$ ). They also paraphrased or, in some cases, quoted his dialogue directly from the performance text (11), or described what he said (10), and some even used his similar inflections (5). For example, children paraphrased him as saying, "Oh, he's stealing them," "He took my weapons," "Guards, get him," "You can't take those weapons," "I've been robbed," and, "Curse you." Another recalled his exact dialogue when "he wanted [Monkey King] to go to a different sea and get



their [weapons] instead of his" (p. 22 "You might try another sea"). One child paraphrased Monkey King's exact words as, "I wish I could, that this wishing staff was just my size" (p. 22). As another child put it, "If he wasn't mad, he wouldn't have gone to the [Jade Emperor] and said he's been robbed."

Because the Dragon King's face was masked, it was expected that children would rely more on verbal/aural than visual cues to determine his emotional state. Yet visual means did account for 35% of the total bases, primarily from both Monkey King's dramatic actions (17) (e.g., stealing the weapons) and Dragon King's dramatic actions (10) and his physical gestures (8) (e.g., chasing Monkey to get his weapons back). The more children inferred his anger, the less they tended to use his gestures ( $r = -.41, p < .01$ ).

Psychological bases represented 17% of the total. Most of these were inferences about the Dragon King's motives (9), thoughts (5), and opinions (5). However, motives and opinions were negatively related to inferences about his affect (respectively,  $r = -.25, p < .05$ ;  $r = -.40, p < .01$ ). Here, children inferred that "he felt like he was gonna kill him;" and he "wished he had all of his things back." In fact, "he was being robbed by somebody he didn't even know," perhaps a reference to Dragon King's later implicit lines to the Jade Emperor about not knowing of Monkey before this incident (p. 23).

While the majority of children relied mostly on explicit verbal and visual means combined (74%), a few children also based

their affect choices upon contextual cues (8%). Children's consideration of contextual causes and consequences helps to explain why a few children inferred and chose particular emotions (Stein and Jewett 1986). For example, the Dragon King felt "mad" because "they were his weapons," and "he didn't have that much." He was "amazed" because "nobody has ever been able to steal his things before, because if they tried, they couldn't." He was "sad" because, not only did he lose his valuable possessions, "he didn't think anybody would steal from him because he was a dragon. Usually, animals won't steal stuff from dragons." He was also sad "because he worked very hard to get those weapons to defense him and now he didn't have enough weapons to defense him." One child considered him "scared" based on future consequences "because the Monkey could use his own weapons on the Dragon King and the Dragon King wouldn't have anything to use." In general, there was a negative relationship between inferences made about the Dragon King's affect and their use of contextual consequences ( $r = -.26, p < .05$ ) and both consequences and causes ( $r = -.38, p < .01$ ).

In summary, these results suggest that children may have been induced to use verbal and aural cues slightly more than visual cues in their inference-making endeavors because: 1) the Dragon's face was covered by an immobile mask to prevent the use of facial expressions in determining affect; 2) many children found this scene to be salient (in best recall); 3) this scene took place on the orchestra pit, closest to children in

proximity, where auditory attention levels may have increased; and, 4) the actor's highly charged performance as a new dangerous character late in the story may have captured greater respect and attention. Interrater reliability for coding Dragon King's affect inference bases was 97%.

#### b. Yama's Affect

Before presenting the results here, it is interesting to note children's verbal references to Yama's sex as either "he" or "she." For example, one child caught herself saying "he," but quickly changed and emphasized "she" instead. Though Yama was referred as the "King of Death" only four times in the text (pp. 10, 11, 14, 16), this character was performed and vocalized by a female puppeteer. As a result, in roughly equal proportions, both girls and boys used the male pronoun over half of the time (51%) and the female pronoun a third of the time (33%) (16% did not refer to any sex). It appears then that most children either took the word "King" at face value or they ascribed male attributes to this representation of death. At the same time, one third of the children either ignored or didn't hear the word "King," and instead they ascribed female attributes on the basis of the actress's voice alone.

When asked how Yama felt after Monkey King erased the names from Yama's scroll, 64% found her (or him) to be angry ("mad," "mean" or "disgusted") in keeping with the actress's intention. Other emotions cited were sadness (8), surprise (1), or such

vague words as "bad," "horrible," "terrible," "upset," "awful," or "sick" (8).

Because of her puppet nature, children used verbal and aural means (38%) to a greater extent, similar to the Dragon King findings. Again, they relied primarily on Yama's tone of voice (15) (e.g., her "yelling," "hollering," "screaming," and "moaning"), though the relationship was not significant. They also relied on what she said (7), or they quoted her (7) and used her inflections (5). Children paraphrased her textual dialogue (e.g., "My wonderful scrolls ruined" and "The records can't be recorded" p. 23) as: "My eye, my eye;" "Oh, no, my scrolls;" "You ruined my scroll;" and, "These things can never be written back over again."

Visual means accounted for only 22% of the total bases with heavy reliance on Monkey King's dramatic actions (12) (e.g., turning on the light and erasing names), as well as Yama's dramatic actions (2), her eyelid movement (5), her appearance (3) (i.e. "how she looked"), and the lighting effects (3) which hurt her eyes.

While 60% relied on both explicit verbal and visual means combined, only 22% used psychological bases such as Yama's motives (8), opinions (4), internal state (4), thoughts (2) and traits (1). For example, "She didn't want him to scribble his name out because he was on the bad list because he stole them weapons [and] he thought he was being good." "She just wanted to get revenge" because Monkey King "wanted to find out her

secrets." "Since he had big powers, he didn't think anybody could beat him at something, but the Monkey King did." There was a negative relationship between choices of Yama's affect and the use of psychological cues such as Yama's motives ( $r = -.28$ ,  $p < .05$ ) and her internal state ( $r = -.34$ ,  $p < .01$ ).

In basing Yama's affect on contextual cues (17% of the total bases), 5 children cited causes, 8 mentioned consequences, and 6 noted both causes and consequences. For example, Yama felt "mad" or "sad" because "her scroll was ruined," and "no one had ever erased anything from the scroll before." As a consequence, Yama "couldn't get [the names] put back on his scroll," "couldn't put the curse of death on [Monkey King]," "couldn't kill the people," so that "the monkeys would get away with it," and "they'd live forever." As implied by the dialogue, many children inferred both past and future events: "It probably took [Yama] a long, long time to write the names down, and then, if they get erased, he has to write them all over again." In general, several children empathized with Yama's anger or sadness as summarized by this child: "Like you lost your favorite thing or you just took like an hour to do something and someone just ruined it."

Again, verbal and aural bases were used to infer Yama's affect almost twice as often (38%) as visual (22%), psychological (22%) or contextual (17%) bases. Because Yama was characterized as a huge eyeball puppet whose only salient movement involved opening and shutting her eyelid, bases for inferences were expected to be similar to those for the masked Dragon King. Yet

children did ascribe human dimensions to this metaphoric character (who represented death) by inferring her emotional state from both psychological and contextual cues combined (39%) about equally as well. Interrater reliability for coding Yama's affect inference bases was 98%.

### c. Monkey King's Affect

When asked how Monkey King felt when the Jade Emperor yelled at and punished him at the end of the play, 78% reported that he felt "sad" or "sorry." By contrast, the actor reported feeling surprised and fearful of Jade Emperor's omnipotence, even though the character explicitly stated his sorrow and begged for forgiveness ("I am truly, truly, truly sorry and I shall bravely pay for my wickedness with any punishment you think fit" p. 24). Other emotions cited were scared (2) and such vague words as "bad," "destroyed," "dumb," "messed up," or "hurt" (7). One child did not know Monkey King's affect.

Here, children used visual means (29% of the total bases) emphasizing Monkey King's dramatic actions (8) (e.g., attacking Venus), his acting behavior (6), his physical gestures (12) (e.g., begging on his knees and walking slowly up the steps), and his past actions (7) (e.g., stealing the Dragon's weapons and erasing Yama's scroll).

Verbal/aural means accounted for 25% of the total bases and included quoting what Monkey King said (6), describing what he said (4), and his tone of voice (8) (e.g., his "crying").

Several children also noted the Dragon King's sardonic laughter as if to say, "Oh, yes, he's finally gotten hurt."

Psychological bases were used equally often (25%) by inferring Monkey King's motives or wishes (13), his internal state (10), thoughts (4), and traits (2). In particular, "he didn't want to leave his family because people don't usually want to leave their family." Another child recalled that "He didn't want to be banished from the earth," as emphasized by the Jade Emperor actor in his dialogue ("I hereby banish you forever . . ." p. 24).

Children used contextual cues (21% of the total bases) to infer Monkey King's affect by citing past causes (13), future consequences (10), and both causes and consequences (6). Given Monkey King's crimes of stealing weapons, erasing Yama's scroll, and attacking Venus, he naturally felt sad and sorry because: "he did something that he wasn't supposed to;" "he never stole nothing like that and he didn't know it was bad;" "he didn't know [Venus] was his messenger;" "he was never punished like that;" and, "he broke up his family." As stated twice by the Jade Emperor ("This property did not belong to you" p. 24), "he took something that wasn't his." He also felt "scared" "because the [Jade Emperor] was gonna punish him." As a consequence, "he had to return [the weapons];" "he had to leave his friends and he had to do a lot of work now;" "and he couldn't live forever." As stated once by the Jade Emperor (p. 24), "he was going to be the

stable boy." Interrater reliability for coding Monkey King's affect inference bases was 97%.

In summary, children's responses may indicate their identification and emotional empathy with Monkey King's consequential punishment for his wrong-doing. Just as the director had hoped, children seemed to focus on his separation from his monkey family as the worst punishment of all.

#### 8. Aural Recall and What Children Reported Learning

When asked to recall what Kerchin said he and the other monkeys learned from the Monkey King (Aural Recall), 27% accurately remembered the essence of his explicit dialogue: "You have taught us to be brave and to trust ourselves" (p. 24). Simultaneously, the actor threw his weapon to the ground, implying visually that he no longer needed weapons. Another 38% remembered inaccurately, and 35% could not remember Kerchin's dialogue at all. Interrater reliability for coding accuracy of aural recall was 95%, and reliability for coding what children remembered was 92%.

Of the 12 children who accurately remembered Kerchin's dialogue, half reported learning the same thing ( $\rho = .67$ ,  $p < .001$ ), 4 said they learned something different, and 2 admitted learning nothing. Of the 17 children who recalled the dialogue inaccurately, 4 said they learned the same thing, 11 reported learning something different, and again 2 admitted learning nothing. The 16 children who could not remember the dialogue were asked what they had learned from the play.



In the final analysis, 20% of the children reported learning something about bravery and trusting in oneself from Kerchin's dialogue or from the play as a whole. The following examples reflect these ideas in the children's own words: "You have to believe in yourself or you can never do anything." "I learned the same thing (i.e. "To be brave by themselves") from when he felt like he should be punished. Because when I do something wrong, I feel like I ought to be grounded." "I learned that one, it doesn't pay to be bad. And the other thing was you don't need weapons. All you need to do is have courage." "I learned that being brave is a powerful thing that you have to take a lot of practice to do it."

One-third of the children (33%) reported learning examples of good moral behavior, primarily that people should not steal. As one child put it: "Just because you're a Monkey King doesn't mean you can do anything like steal stuff," while another added "[particularly when] it's not your property." Children also learned "not to be mischievous" or "mean," and that "we shouldn't fight" because "by fighting you can kill somebody." Additional behaviors entailed the following: "not to act wacko and crazy and not to run around in a classroom [while] something's being taught to you;" "that you can get punished for taking stuff from your enemies;" "that spells and evilness doesn't always go right, because if you try some and if they work, they can backfire;" "You have weapons inside yourself. . . . I learned that you can't always get what you want [and] that sometimes you can't be too

greedy, or do some other things like take stuff away or just fight your way out;" and, you "can really be quite smart when [you] don't notice." A total of 37 children (82%) reported learning something from the play. Interrater reliability for coding what concepts children reported learning was 83%.

Nineteen children were not asked how they learned the above information due to interviewer error. Of the 26 children who were asked how they learned the above information, 11 cited the consequences of Monkey King's actions often, "because Monkey King showed us that it ain't right to steal." Thirteen children also frequently admitted identifying with his character in some way, and 2 mentioned their effort or enjoyment. Such visual bases as Monkey King's dramatic actions (12), his acting behavior (3), and his gestures (2) were also used, as were verbal/aural means (4) and psychological means (3) to a lesser extent.

Examples of how children learned through identification include the following: "Because Monkey King got punished and I wouldn't want to get punished," or "Because when he stole something and then had to give it back; well, I'd feel the same way. I just couldn't do it without returning it." "I don't need weapons, or I don't need to learn how to do something to fight." "You shouldn't really fight your way out. You should either talk it out or think it out." "Because of the story of the Monkey King. . . . He just taught me when he taught them that being brave is powerful. He didn't really know how to say it, but by acting he kinda showed it." "Because how they were acting. It

felt like it was just you. It felt like I was the Monkey King, and I was doing that and I did all those bad things. Sometimes, I take my brother's stuff." All in all, one child summarized it best: "My mom says if you have enough faith in yourself, the faith as big as a mustard seed, you can move mountains. And [Monkey King] had that faith, so he could fly and change himself into things. That's how I learned it."

In summary, 53% of the children reported learning such abstract concepts as trusting oneself or good moral behaviors. Another 29% gleaned general information about fictional monkeys, other notions about the Monkey King in particular (e.g., he "really wanted to be king and stay alive"), that the play was funny, or that "there might be magic left in the world." The remaining 18% either could not remember learning anything or said they learned nothing.

Children's reports of the main idea of the play were positively related both to their aural recall of Kerchin's dialogue (essentially the main idea) ( $r = .42, p < .01$ ) and to what they reported learning from the play ( $r = .34, p < .05$ ). In fact, those who were most accurate at inferring the main idea were also most accurate at remembering Kerchin's dialogue ( $r = .44, p < .01$ ), they remembered more concepts relevant to this dialogue ( $r = .48, p < .001$ ), and they tended to report learning the same concept ( $r = .33, p < .05$ ). Those who were most accurate when remembering Kerchin's dialogue also tended to use Monkey King's dramatic actions when inferring the main idea ( $r = .26, p = .05$ ). See

Table 7 for a summary of these relationships. High correlations are sometimes a function of coding (refer to Appendix 5).

Table 7

Relationships Between Comprehension Variables

	MIA	Sup	SuA	Mot	MA	ARA	Rem	CLr
MI	.94***	.01	-.01	.30*	.23	.36**	.42**	.34*
MIA		-.03	.03	.23	.18	.44**	.48***	.33*
Sup			.84***	.32*	.68***	-.06	-.12	-.07
SuA				.15	.66***	-.09	-.15	-.07
Mot					.91***	.47***	.44**	.03
MA						.23	.17	-.06
ARA							.96***	.59***
Rem								.62***

Note. Abbreviations in the table are explained below.

MI = Main Idea

MIA = Main Idea Accuracy

Sup = Superobjective

SuA = Superobjective Accuracy

Mot = Motive

MA = Motive Accuracy

ARA = Aural Recall Accuracy (Kerchin's dialogue/Main Idea)

Rem = What Child Remembered

CLr = What Child Reported Learning

All correlations are one-tailed.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

In addition, children who reported learning the play's intended concepts thought that other children would enjoy the play "a lot" ( $r = .27, p < .05$ ), and they attributed slightly more ease ( $r = -.26, p < .05$ ) than difficulty in comprehension to the play itself over metacognitive factors ( $r = .26, p < .05$ ).

## 9. Summary of Modal Bases Used for Inferences and Comprehension

Table 8 summarizes the frequencies and percentages of visual, verbal/aural, psychological, general knowledge, and contextual bases children used to make inferences about the main idea, Monkey King's superobjective, and three characters' emotions. (See Appendix 6 for specific sub-category breakdowns.)

Table 8

Frequencies and Percentages of Bases for Inferences

	<u>Visual</u>		<u>Verbal</u>		<u>Psych</u>		<u>Knowa</u>		<u>Contxtb</u>		<u>Tot f</u>	<u>DKc</u>
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>		
MainIdea	20	43	6	13	14	30	6	13			46	18
Superobj	32	44	26	36	14	19					72	5
Drag Aff	46	35	52	39	23	17			11	8	132	1
Yama Aff	25	22	43	38	25	22			19	17	112	2
MK Aff	40	29	34	25	34	25			29	21	137	1
<u>Totals</u>	163	33	161	32	110	22	6	01	59	12	499	27

a - General Knowledge used for Main Idea only.

b - Contextual cues used for Affect only.

c - "Don't know."

Children processed the play rather equally among visual (33%), verbal/aural (32%) and psychological, general knowledge, and contextual cues combined (35%).

When categories are collapsed into three primary bases for inferences, 80% of the children used visual bases 1 to 7 times ( $M = 4.0$ ,  $SD = 2.7$ ), 76% used verbal bases 3 to 13 times ( $M = 8.3$ ,  $SD = 5.0$ ), and 69% used psychological bases 1 to 6 times ( $M =$

3.1, SD = 3.1). As in the Quixote study, the more children used all visual cues combined, the more they also tended to use both verbal ( $r = .43, p < .001$ ) and psychological cues ( $r = .36, p < .01$ ). Unlike the Quixote study, no significant relationship was found between verbal and psychological bases used in inference questions.

However, the more children used verbal cues to make inferences, the easier they rated their comprehension of the play ( $r = -.43, p < .001$ ), and the more they attributed this ease to the play itself over their own cognitive efforts ( $r = .25, p < .05$ ). Conversely, those who used fewer verbal cues, rated the play harder to understand. In fact, the more children used verbal cues, the higher their level of general comprehension (combining all responses to major inference questions) ( $r = .39, p < .007$ ). (See collapsing of all variables in Appendix 5.) Like 5th graders in the Quixote study, the more these 3rd graders used all modes of cognitive processing combined, the easier they rated their comprehension of the play ( $r = -.36, p < .01$ ) and the more they attributed their comprehension to the play ( $r = .25, p < .05$ ) rather than their own efforts.

Modal bases for inferences were related to children's photo sequencing scores, but only for those who switched conditions during the sequencing task (from verbal to visual): the more these children relied on visual cues to make inferences, the lower their sequencing score ( $r = -.53, p < .05$ ). In other words, while these 11 children appear to prefer visual processing, it is

possible that they had trouble integrating visual and verbal modes simultaneously when processing the play. For children who sequenced photos in the visual condition only, correlations were moderate (approx. .30) but only marginally significant between scores and both visual ( $p < .08$ ) and verbal ( $p < .07$ ) bases used. By contrast, for children who remained in the verbal condition, no significant relationships were found between sequencing scores and use of verbal or visual bases.

Children reported learning the major intended concepts of the play to a greater extent when they used both visual ( $r = .42$ ,  $p < .01$ ) and verbal cues ( $r = .58$ ,  $p < .001$ ) to make inferences, and particularly when they integrated all three major modes of processing ( $r = .57$ ,  $p < .001$ ). This collapsed variable, Total Cognitive Processing, is positively related to each mode individually (visual  $r = .76$ , verbal  $r = .82$ , psychological  $r = .57$ , all  $p < .001$ ).

#### 10. Children's Preferences for Theatre or Television

When asked if they would prefer to see a production of Monkey, Monkey on stage or on television at home, 78% preferred live theatre. Interestingly, this percentage replicates the same finding in the Don Quixote study. Those who preferred theatre also stated that 3rd graders in another city would enjoy this production "a lot" ( $r = .34$ ,  $p < .01$ ).

Of all the positive reasons for preferring theatre ( $N = 67$ ), children primarily recognized its live, "more real," values (17) ( $r = .38$ ,  $p < .01$ ), and the fact that "you can see the people in

person" (9) (39% combined). For example, one child noted how "The play's more alive, more real, and it just feels like you're really in the play when you're in the theatre watching it." Other children noted theatre's "closer," more immediate feeling (7): "You feel emotions," "because [the actors] show a little more feeling . . . and how they really kinda make you feel." Other positive reasons included theatre's better sight values (11) (e.g., "bigger" size of proscenium, in color, and no static) ( $r = .29, p < .05$ ), its better sound values (9), its "amazing" scenery and lighting effects (7), and, surprisingly, a sense of "more action and movement" (5). Other children appreciated "no electricity bill" (1) and a sense of not having things "cut off" (i.e. edited or censored) (1).

Conversely, negative television reasons ( $N = 35$ ) included the fact that television is recorded, and therefore, "not real" (9), and that "on TV you can get blind if you get closer" (2). Children also blamed their television sets (or lack thereof) for being smaller, black and white, fuzzy, and not being able to get certain channels (5). Worse sight (6) and sound values (5), commercials (2), and less viewer activity (1) were also cited as negative reasons. Others recognized camera devices which "change" the story (4). For example, "On TV you can't really see what they're doing, because sometimes they don't show it," and "Sometimes [the camera] goes around and you wouldn't be able to see if it's a good movie." Another child noted, "Some TV's cut things off that people should not use in front of their family



. . . and on TV it might not last long as this [play] does" (1).

The remaining 22% preferred television for several reasons (N = 15), primarily for its greater home comfort and viewer control (5) ( $r = -.43, p < .01$ ). For instance, during commercials, you can get something to eat or drink, go to the bathroom, or "you can lay down on a couch instead of just sitting in those hard seats." With television, "they'd probably skip some parts" (1), and "you don't have to pay money" (2). In addition, "you can turn it up as high or low as you want" (2), "you don't have to drive as far" (1), and your "parents could see it" (1). Other children simply preferred "faster movement" (1), "make-believe people" (1), and the camera's viewpoint (1).

Conversely, negative theatre reasons (N = 5) included the fact that the play was "sorta loud" (1), and "you can't just turn it off" (1). Another child hated "travelling in busses" to see the production (1), while another disliked theatre because "you couldn't doze off cuz you're tired" (1).

Finally, children who preferred theatre over television tended to use more verbal cues ( $r = .44, p < .001$ ) when processing inferences about the play. Also, they tended to integrate all three modes of processing more than those who preferred television over theatre ( $r = .32, p < .05$ ).

### Summary of Findings

#### 1. Children's Overall Evaluations of Monkey, Monkey

When asked to rate how much 3rd graders in another city would enjoy this production, 67% said "a lot," 31% said "a little bit," and one child said "not at all." Almost three-quarters (73%) found this play "sort of easy" or "real easy" to understand, and they attributed this ease rather evenly to the play (42%) or both play and metacognitive factors combined (39%) (e.g., "I understood the meaning of the words"). Boys tended to attribute their understanding to the play itself (44%) over their own cognitive abilities (18%) more than did girls ( $r = -.25$ ,  $p < .05$ ).

#### 2. Children's Overall Dramatic Literacy and their Verbal and Visual Recall

Most children (84%) best recalled visualized central dramatic actions (69%) over incidental actions (9%), characters (13%), and spectacle elements (9%); however, 36% did paraphrase or quote dialogue words 17% of the time. These results are consistent with television research which finds that children of all ages exhibit better verbal recall of character actions over dialogue when given audio-visual stories (e.g., Meringoff, et al. 1983). The foundation of drama lies in dramatic action (i.e. what characters do or try to do). Thus, it is not surprising that children should focus on this salient visual feature in both theatre and television.

When children were asked to sequence seven central events of the plot from either photographs and/or dialogue, 73% achieved the highest scores possible (between 21 and 18). On the average, 59% of their scene placements were correct. Across all three conditions, children turned from dialogue to photographs a little over half of the time (55%), but neither verbal or visual starting conditions adversely affected sequencing scores to a significant degree.

When asked to infer the main idea of the whole play, the majority (75%) did not make spontaneous, abstract, metaphoric connections from the concepts in the play to the world at large. Only one-quarter made accurate inferential leaps by recognizing the script's notion of bravery or self-reliance and by applying notions of good moral behavior (e.g., "people shouldn't steal"). Instead, over half (56%) discussed some concrete aspect of the Monkey King in particular or all monkeys in general, perhaps because literal, audio-visual representations induce concrete inferences. Nine children (20%) either did not know the main idea or were unable to verbalize it. Children knew the main idea primarily through visual cues (43% of all cues used), particularly Monkey King's dramatic actions ( $r = .29, p < .05$ ), or psychological inferences (30%).

When asked what Monkey King wanted to do during the whole play, 36% gleaned an accurate superobjective by grasping the actor's primary or related intentions of wanting "to live forever," as explicitly stated in the dialogue. The majority

(42%) felt that he only wanted to go to school to learn in general, or that he wanted to help his monkeys in various ways. Few (7%) thought he wanted personal gain, while others (11%) cited objectives achieved early on in the play. Two children did not know or could not verbalize his superobjective. For the most part, children understood Monkey King's superobjective either through visual cues (44%), primarily his visualized dramatic actions, or through verbal cues (36%), particularly his explicit dialogue ( $r = .38, p < .01$ ). In keeping with the philosophical nature of his superobjective, the more children relied on what he said, the less they needed to rely on his actions ( $r = -.26, p < .05$ ). In fact, children were less likely to state accurately his intention to live forever if they based their inferences primarily on his dramatic actions ( $r = -.26, p < .05$ ).

When asked why Monkey King wanted to do what they had stated above (his motives), 27% offered a novel notion from their superobjective responses, while almost half (49%) repeated their previous superobjective ideas ( $r = .32, p < .05$ ). Seven children did not know or could not verbalize his motives. Twenty-four percent correctly recognized that Monkey King behaved as he did primarily because he wanted to live forever. These children were most accurate in inferring his motive when they relied on his explicit dialogue ( $r = .46, p < .01$ ) rather than his dramatic actions ( $r = -.43, p < .01$ ) to infer his superobjective. Another 22% attributed his intended behaviors to helping his monkeys,

while 18% believed his motives were purely for reasons of personal gain or enjoyment. The remaining five children stated less accurate motives. There was a positive relationship between inferences made regarding Monkey King's motive and the main idea of the entire play ( $r = .30, p < .05$ ).

Children exhibited good comprehension of character affect, and 42% correctly identified all three characters' emotions. When asked how the (masked) Dragon King felt after Monkey King stole the wishing staff and weapons, 73% found him angry, using both visual (35%) and verbal/aural (39%) cues, primarily his tone of voice ( $r = .26, p < .05$ ). When asked how Yama (the eyelid puppet) felt after Monkey King erased the names from the scroll, 64% found her to be angry as well, primarily through verbal/aural cues (38%). When asked how Monkey King felt when the Jade Emperor yelled at and punished him at the end of the play, 78% reported that he felt sad or "sorry." Contrary to their inferences about the other two characters, they used visual (29%), verbal/aural (25%), psychological (25%), and contextual (21%) cues almost equally.

When asked to recall what Kerchin said he and the other monkeys learned from the Monkey King, 27% accurately remembered the essence of his explicit dialogue ("You have taught us to be brave and to trust ourselves"). Another 38% remembered inaccurately, and 35% could not remember at all. A follow-up question asking what children had learned from the play revealed that over half (53%) reported learning the concept of trusting

oneself or good moral behaviors. Another 29% gleaned more concrete information about monkeys or Monkey King in particular. The remaining 18% either could not remember learning anything or said they learned nothing. Of the 26 children who were asked how they learned the above concepts, 22% cited the consequences of Monkey King's actions (e.g., his punishment or separation from his family), 26% reported identifying with his character in various ways, and 24% cited Monkey King's dramatic actions.

Children who inferred the play's main idea accurately also remembered Kerchin's dialogue accurately (also the main idea) ( $r = .44, p < .01$ ). Their main idea inferences were related to what they remembered of Kerchin's dialogue ( $r = .48, p < .001$ ), and the concepts they reported learning ( $r = .33, p < .05$ ). Moreover, they reported that children would enjoy the play "a lot" in another city ( $r = .27, p < .05$ ), and they attributed slightly more ease ( $r = -.26, p < .05$ ) than difficulty in comprehension to the play itself over their own cognitive efforts ( $r = .26, p < .05$ ).

When asked about the bases for inferences about the play, children used visual (33%), verbal/aural (32%), and psychological/contextual means (35%) almost equally. As in the Don Quixote study, the more children used visual cues, the more they also used verbal ( $r = .43, p < .001$ ) and psychological cues ( $r = .36, p < .01$ ). Furthermore, the more children used verbal cues, the easier they rated their comprehension of the play ( $r = -.43, p < .001$ ), and they attributed this ease to the play itself over their own cognitive efforts ( $r = .25, p < .05$ ). Likewise, those

who used fewer verbal cues to make inferences rated the play harder to understand. Finally, the more children used verbal cues, the higher their level of general comprehension ( $r = .39$ ,  $p < .01$ ). These findings suggest that either more verbal cues were necessary to make inferences about this particular play and/or that these children listened intently and recalled more verbal and aural information to process this production. Like the 5th graders in the Don Quixote study, the more these 3rd graders integrated all three modes (visual, verbal/aural and psychological/contextual) in their cognitive processing, the easier they rated their understanding of the play ( $r = -.36$ ,  $p < .01$ ), and the more they attributed this ease to the play itself ( $r = .25$ ,  $p < .05$ ).

As might be expected, the more children integrated all modes of processing, the more they reported learning the major intended concepts of the play ( $r = .57$ ,  $p < .001$ ), particularly when they relied on concrete visual and verbal/aural cues in this production (respectively  $r = .42$ ,  $p < .01$ ;  $r = .58$ ,  $p < .001$ ).

### 3. Children's Preferential Reasons for Theatre over Television

Finally, given a chance to see Monkey, Monkey again, children said they would prefer to watch it in a theatre (78%) than on television (22%), primarily for its "more real" live values (39%) ( $r = .38$ ,  $p < .01$ ). It is interesting to note that the same percentage of children in the Don Quixote study preferred theatre to television, and they cited the same reason for this choice. Those who preferred television did so primarily

for this medium's greater home comfort and viewer control ( $r = -.43, p < .01$ ).

Children who preferred theatre over television stated that 3rd graders in another city would enjoy this production "a lot" ( $r = .24, p < .01$ ). They also used more verbal/aural cues ( $r = .44, p < .001$ ) when processing inferences about the play, and they integrated all three modes of processing to a greater extent than those who preferred television ( $r = .32, p < .05$ ).

#### Discussion

Considering the nature of children's inferences and how they understood this play, it appears that the audience both watched and listened carefully. Children's enjoyment of the play and their preference for theatre over television may also suggest high attention levels during the performance--a factor which is likely to influence comprehension and recall.

Comparing interview responses to theatre objectives in the National Model Drama/Theatre Curriculum, most 3rd graders either met or exceeded expectations at or for their grade level by expressing and sharing their perceptions of this theatrical experience (with a stranger, no less). Over half to three-quarters of the children were able to recognize and identify central dramatic actions, the sequential order of the plot, and characters' emotions. Roughly one-third were able to recognize, identify, interpret, or in some cases, analyze character actions, objectives, and motives when asked to do so directly. They exhibited excellent levels of "dramatic literacy" by describing



explicit dramatic actions and dialogue, in particular, and by translating those performance cues into verbalized statements and psychological inferences--ironically, in almost imitative, "monkey-like" fashion. Over one-third of the children were also able to recognize and identify a major difference between theatre and television--that is, theatre's live dimension. Children also identified other similarities and differences, while some were able to compare conventions between the two media. At the same time, children indicated an astute understanding of the key differences between theatre and television, and they also exhibited low awareness of common theatrical conventions shared by television.

The only area of weakness lies in children's failure to make spontaneous metaphoric connections from the fictive world of Monkey, Monkey to their personal lives and the world at large. This may be due, in part, to children's confusion or inability to recognize or discuss the main ideas in plays. The fact that children were not asked to abstract connections directly may also restrict and limit these findings (e.g., "Does the Monkey King remind you of anyone you know?"). Nevertheless, over half of the children reported learning the major concepts and themes of this play, suggesting an ability to grasp main ideas depending on how questions are phrased.

Comprehension levels compared favorably with the artistic intentions of the director, performers and designers, and in some cases, individual responses exceeded expectations. Contrary to

the findings in the Don Quixote study, it would appear that children do listen to plays as much as they watch them, as long as the dialogue informs and reinforces each subsequent dramatic action throughout the performance. Like 5th graders, the more these 3rd graders relied on visual cues, the more they listened to dialogue and vocal inflections to increase their inference-making efforts. Likewise, the more they integrated all available cues in the production, the more they reported learning the symbolic concepts of this play with easier levels of understanding.

In general, the Quixote performance text relied heavily on implicit actions and dialogue to communicate its major themes, while the Monkey text contained more explicit dialogue about its universal messages and more frequent central dramatic actions to support those themes in its plot structure. Therefore, children's ability to draw inferences about characters, events and the main ideas of plays depends on whether or not key abstract ideas are presented implicitly or explicitly via aural and visual cues. In other words, what children see and hear is precisely what they retain best.

The results of this theatre study could inform the debate concerning the visual superiority hypothesis in television research. Studies consistently reveal that when given a choice between visual or auditory modes, children prefer to process stories visually, especially at younger ages, and visual presentation can either increase or decrease comprehension levels

(e.g., Hayes and Birnbaum 1980). However, as the present study demonstrates, the given stimulus determines the nature of how it is processed. Thus, the use of televised stories without systematic content analyses have confounded the results of many studies. Essentially, the central issue is whether or not the visual and auditory modes within a stimulus reinforce, highlight, contradict, or distract from one another in presenting central dramatic actions and critical story information (e.g., Calvert, et al. 1988). The nature of the comprehension task also determines the modality used in cognitive processing (Meringoff, et al. cited in Bryant and Anderson 1983). Story information will be recalled visually or aurally, depending on its initial visual or auditory presentation, the child's encoding at the time of presentation, and the modality through which it is later retrieved. For example, comprehension abilities are challenged when visual information (e.g., dramatic actions) is retrieved in visually in the mind's eye, and then translated in verbal or propositional form during an oral interview (cf. Kosslyn 1980, 416).

Children's frequent use of dialogue and aural cues in this study may be explained by the fact that verbal and aural information was necessary to answer inference questions regarding Monkey King's superobjective, the affect of three, "face-less" characters, and children's aural recall of explicit dialogue. Still, it may well be that live performers in theatre induce greater attention to spoken dialogue and vocal inflections

without the visual distractions of television's camera conventions. The fact that children who preferred theatre over television tended to use and integrate more verbal cues in their cognitive processing provides minimal support for this hypothesis. Until theatre and television are compared directly, theories regarding key differences in comprehension between these two media will remain speculative.

#### Recommendations to Elementary Teachers

By implication, children's "dramatic readings" of this play in performance also speaks highly of the individual elementary teachers who are teaching them basic language arts skills. By encouraging students to ask the 5 W questions about art (Who, What, Where, Why, When and How), critical thinking, problem-solving, and inductive reasoning skills can be enhanced after attending theatre. To combat the tendency to draw inferences from only concrete audio-visual information, teachers might also encourage their students to look for associations and recognize analogies between characters in given situations and students' personal lives. By exploring such similarities and differences, students may come to a greater understanding of how theatre represents the universal human condition for audiences of any age.

#### Future Research Directions

While this descriptive study sheds light on several exploratory questions regarding children's comprehension of

theatre in general, additional questions may be raised for future empirical or naturalistic inquiry:

1. How do children make meaning of theatre productions?
2. What realities (fictional and actual) do they perceive and construct?
3. Do children believe what they see and hear or do they see and hear what they already believe?

Theatre directors have a responsibility to keep child audiences returning to the theatre as adults. Knowledge about these audiences should come from the voices of children themselves, rather than solely from the speculations of well-meaning adult educators and researchers. Though children sometimes lack the verbal capacity to report their complete understanding and appreciation of theatre, researchers can employ numerous methods to ease these inherent problems. By interviewing small groups of children, perhaps on a yearly basis, educators and theatre producers alike may assess more closely the success (or failure) of specific theatre productions in engaging children's hearts and minds.

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Appendix 1: Monkey, Monkey INTERVIEW

Child's Name \_\_\_\_\_ Subject # \_\_\_\_\_

Age \_\_\_\_\_ Sex: \_\_\_\_\_

School: \_\_\_\_\_

Date: Wednesday Thursday Friday

Introduction: (done on way to interview room)

I'm glad that you could come to see the play Monkey, Monkey yesterday. When people see plays, they get lots of different ideas about the story and the way it was done.

May I ask you some questions about what you think about the play and have you put some cards in order?

[Child's assent] (yes) (no)

1. Did you already know the story of Monkey, Monkey before you saw the play yesterday?
    - (no)
    - (yes) How did you know that story? (TV, book, film, parent, teacher, or write in other)
  
  2. Do you think 3rd graders in another city would like this play
    - (3) a lot
    - (2) a little bit (or OK), or
    - (1) not at all?
    - (write in volunteered information:)
  
  3. Was this play ( ) easy or ( ) hard to understand?
    - (if both:) Was it (2) sort of easy or (3) sort of hard?
    - a. Was it
      - (1) real easy
      - (2) sort of easy
      - (4) real hard
      - (3) sort of hard

[BE IN ROOM FOR TAPE RECORDING BY THIS TIME]

    - b. Why was it (the above) to understand?
- [If child doesn't know why, prompt with:]
- |  |   |
|--|---|
| <p>Was it easy/sort of easy because</p> <p>(2) it was an easy play or because</p> <p>(1) you concentrated (i.e. you watched and listened well)?</p> <p>(both)</p> <p>(write in volunteered information:)</p> | <p>Was it hard/sort of hard because</p> <p>(2) it was a hard play or because</p> <p>(1) you didn't concentrate (i.e. you didn't watch or listen very closely)?</p> <p>(both)</p> <p>(write in volunteered information:)</p> |
|--|---|

4. Tell me some things you remember best from the play.

[Probe for 3 things: "What else do you remember?" or stop child after 3 things.]

1.

2.

3.

5. What do you think is the moral of the play?

[prompt: What's the main idea or message of the play?]

(don't know, even after prompting, skip to sequencing task.)

How do you know (that's the moral/main idea/message of the play)?

6. Sequencing Task (maximum time: 7 minutes)

VISUAL

VERBAL

Here's some (pictures taken/sentences said) at different times during the play. They're all mixed up. I want you to put them in order. So, the first thing that happens goes here (show), then the next here (show), and so on (show), and then the last thing here (show). To help you remember, there are (sentences of what the characters said/pictures) on the back (show). Some words are hard; so when you use the sentences, I will read them to you. [WHEN VERBAL SIDE IS UP] Let's read each one first.

7. During the whole play, what did the Monkey King, the main character, want to do?  
(If child doesn't know, even after probing, skip to #9)

How do you know that?

8. Why did he do that?

9. [SHOW PHOTOS (3) FOR EACH OF THE FOLLOWING:]  
a. When Monkey King stole the wishing staff and weapons from the Dragon King, how did the Dragon King feel?

How do you know the Dragon King felt that way?

- b. AFTER Monkey King erased the names from Yama's scroll and ran away, how did Yama feel?

How do you know Yama felt that way?

c. When the Jade Emperor yelled at and punished Monkey King at the end of the play, how did Monkey King feel?

[If child says, "He felt bad,"  
ask "What do you mean by 'bad'?" ]

How do you know he felt that way?

10. a. At the end of the play, what did Kerchin say he and the other monkeys learned from the Monkey King?

[If child doesn't know or can't remember, ask:  
c. What did you learn? [then skip to #11]

b. Did you learn  
(1) the same thing,  
d. How did you learn that?

(2) nothing, or

(3) something different?  
c. What did you learn?

d. How did you learn that?

11. If you could see Monkey, Monkey again this Saturday, would you rather
- (2) go to see it as a play on a stage (like you did yesterday)
  - or
  - (1) watch a production of it on television at home?

What's the difference?            [IF RUNNING OUT OF TIME, DON'T PROBE]

[TV=

[TH=

Debriefing: (stand up and start to leave)

Okay, we're done. Let's go back to your classroom now. Thank you so much for all your help. You really know a lot about this play and your ideas have really helped me a lot.

Assistant Scoring Sheet

Subject # \_\_\_\_\_

Audio Tape counter starting at # \_\_\_\_\_

STARTING CONDITION: (circle one) VISUAL    VERBAL

TURNING STRATEGY: (Check mark each time child turns card over.  
Use top boxes for within starting condition and bottom boxes for  
switching conditions entirely.)

Given random:


# of turns

CHILD'S FINAL ORDER: (Write in name of color in each square.)

ACTUAL CONDITION: (circle one)    VISUAL    VERBAL

--	--	--	--	--	--	--

**Appendix 2: Photographs Used in Sequencing Task**

DOCUMENT RESUME

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AUTHOR Klein, Jeanne; Fitch, Marguerite  
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 IDENTIFIERS Childrens Theater; Drama in Education; Theater Research; \*Verbal Recall; \*Visual Recall

ABSTRACT

To determine children's "dramatic literacy" and the modal sources of their inferences, a study interviewed 45 Kansas third graders in regard to a theater production of "Monkey, Monkey." Two-thirds of the children reported that third graders in another city would enjoy this production "a lot." A majority found the play easy to understand--attributing this ease both to the play and their cognitive abilities--and preferred theater over television primarily for its "more real" dimension. Children comprehended this play by remembering central dramatic actions and by accurately sequencing the plot's main events. Few children made metaphoric connections from the play's concepts to the world at large, although almost half grasped the main motive, and two-thirds accurately inferred emotions in spite of masks, puppets, and animal make-up. Over half the children reported learning the concept of trusting oneself or good moral behaviors. Children appeared to have both watched and listened to this play by relying equally on the use of visual, verbal/aural, or psychological/contextual cues as bases for their inferences. The more they used visual cues (primarily dramatic actions), the more they also used verbal/aural cues and psychological cues. (Ten tables of data are included, and 32 references are attached. Ten appendixes, including the interview instrument, teachers' evaluations and responses, and a summative evaluation, conclude the report.) (SR)

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THIRD GRADE CHILDREN'S COMPREHENSION OF MONKEY, MONKEY  
AS A FUNCTION OF VERBAL AND VISUAL RECALL

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### Abstract

Forty-five 3rd grade children were individually interviewed in regard to a production of Monkey, Monkey to determine their "dramatic literacy" and the modal sources of their inferences. Two-thirds of the children reported that 3rd graders in another city would enjoy this production "a lot." A majority found this play "easy" to understand, attributing this ease to both the play and their cognitive abilities. Like 5th graders in the 1986 Don Quixote study, they preferred theatre over television primarily for its "more real" live dimension.

Children comprehended this play quite well by remembering central dramatic actions best and by accurately sequencing the plot's main events. When asked to infer the play's main idea, few children spontaneously made metaphoric connections from the play's concepts of bravery, self-reliance, and good moral behaviors (e.g., "people shouldn't steal") to the world at large, perhaps because literal, audio-visual representations induce concrete over abstract inferences. When asked what Monkey King wanted to do during the whole play, over one-third grasped the actor's superobjective of wanting "to live forever," as stated in the dialogue. Almost half repeated this same inference as his motive. About two-thirds of the children accurately inferred characters' emotions in spite of a mask, a puppet, and animal makeup. The majority inaccurately recalled a specific line of dialogue (i.e. the main idea): "You have taught us to be brave and to trust ourselves." In follow-up responses, over half

reported learning the concept of trusting oneself or good moral behaviors. Children's comprehension of the play's main idea was positively related to both their aural recall of dialogue and what they reported learning from the play.

Children appeared to have both watched and listened to this play by relying equally on the use of visual, verbal/aural, or psychological/contextual cues as bases for their inferences. Like 5th graders in the previous study, the more children used visual cues (primarily dramatic actions), the more they also used verbal/aural cues and psychological cues. Likewise, children who evidenced greater inference-making skills by integrating all three modes of processing were likely to find the entire play easier to understand. They were also more likely to report learning the intended concepts of the play the more they relied upon concrete visual and verbal/aural cues. Those who preferred theatre tended to use more available cues, particularly verbal/aural cues, over those who preferred television. Future studies can determine whether younger children comprehend other plays in similar ways.

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## Introduction

In its landmark report on arts education, Toward Civilization (1988), the National Endowment for the Arts recommends that students be tested in theatre using both quantitative and qualitative measures, "including development of prototype questions" (100). Regarding arts research, the NEA urges greater focus on "studies of learner development, behavior, perception, attitude, and knowledge" (117), which assess "how students acquire knowledge of, and learn to interpret, the arts; how students perceive, value, perform, create, and use the arts; and how learning in the arts broadens perspective, gives a sense of the human condition, and fosters reasoning ability" (124). To these ends, the following study sought to assess how children comprehend plays in production by testing expectancies adapted from the National Model Drama/Theatre Curriculum (1987).

In an effort to determine whether the represented medium is the encoded and stored message, researchers have investigated the comparative influence of various media on children's story apprehension (e.g., Brown 1986). Unfortunately, live theatre has been neglected in this cognitive developmental research. The fact that theatre presents living persons in real time before a live audience sets this medium apart from television and film. Empirical studies in theatre have yet to go beyond simple quantitative measures in detailing not only what dramatic messages children retain, but how children use the aural, visual and kinesthetic forms of theatre's symbol system (Goldberg 1983; Saldaña 1987; cf. Rosenblatt 1984). Therefore, to what extent is

children's comprehension of theatre or "dramatic literacy" (Collins 1985) a function of the form and content of play productions, and to what extent is this measure a function of their developmental cognitive abilities?

Whether children's learning from theatre is distinctive from their daily television experience remains wholly speculative and complicated by the fact that both media share numerous dramatic forms (Esslin 1987). Therefore, cognitive developmental research, and television studies in particular, provide many answers and potential solutions to both theoretical questions and methodological dilemmas (Bryant and Anderson 1983; Klein 1988). Specific drama/theatre expectancies for grades K-12, recently published as a National Model Curriculum, also serve as untested theoretical hypotheses. By knowing what theatrical forms children rely on to derive critical inferences about dramatic content, and how plot structures and staging methods influence those responses, directors may stage plays accordingly to ensure children the most valuable aesthetic experience possible.

#### Review of Literature

To these ends, an initial descriptive study was conducted with 5th graders and a theatre production of Don Quixote of La Mancha (Klein 1987). Results indicated that children at this developmental level relied heavily on explicit visual modes, just as they do in television studies. This factor overrode their use and integration of dialogue to derive deeper psychological implications. They interpreted the protagonist's superobjective,



motive, and affective disposition primarily from his visualized dramatic actions rather than from his dialogue or inferred mental state. Because appreciation of the protagonist's actions depended on understanding his highly moral motives, most 5th graders failed to fully grasp the value of his superobjective and the main idea or theme of the play. Yet those children who evidenced greater inference-making skills by using more verbal, visual and psychological means combined were likely to find this challenging play easier to understand.

Most 5th graders in this study preferred theatre over television primarily for its live values, and they reported feeling greater sadness over the protagonist's death than those who preferred television. They were also more likely to perceive an educational purpose to the play, contrary to several television studies which find that children tend to perceive television as less educational and "easier" than print materials because this medium appears so "realistic" (Salomon 1984; Meringoff 1980). In addition, children who preferred theatre also tended to make outside metaphoric connections when inferring the overall concept of the play. Unlike television research (e.g., Vibbert and Meringoff 1981), the children in this study never derived story information from facial expressions given their 25 to 50 foot distance from this proscenium stage. Without these emotion-filled, visual cues to provide additional information into characters' psychological states, children may

have been relying upon dramatic actions to an even greater extent.

These significant findings pointed to the possibility that live theatre may induce greater amounts of invested mental effort over the television medium. Because visual details are physically distant and spread across a proscenium stage, unlike dictated televised shots and close-ups, children may be forced to work harder at integrating dialogue with visual modes in their inference-making endeavors. Whether live, though fictional, characters affect children's emotional responses to a greater degree than recorded versions has been largely ignored by media researchers (e.g., Dorr 1985). Yet one study (Campbell and Campbell 1976, 204) does suggest that live presentations may, in fact, elicit greater attention and superior comprehension over recordings.

Because characters are the agents of dramatic action, research on social cognition provides further indications of children's understanding of characters' behaviors. As Shantz (1983, 499) explains in her definitive literature review on the subject, there is a developmental trend toward inferring the thoughts of others, then intentions and motives, followed less often by inferences about characters' feelings. When analyzing children's comprehension of filmed stories, 6-year-olds tend freely to describe salient movements, observable events and expressive character behaviors. Not until 8 or 9 years of age do children begin to make more frequent inferences about characters'

intentions, feelings and causes of behavior, though causes are still usually attributed to situational factors until preadolescence when dispositional and interpersonal traits are inferred to a greater extent.

Research into children's understanding of emotions indicates that older children do tend to rely on situational or contextual cues more than facial expressions anyway when inferring a character's affective state (Reichenbach and Masters 1983). Even younger 3rd graders use situational cues over facial expressions, because they recognize that a person's facial expression may be incongruent with a particular situation, given that display rules often warrant the disguise of true feelings in public (Camras 1986).

### Purpose of Study

Based on the above findings, the following study sought to replicate the previous theatre study with younger children and a different theatre production to determine resultant differences in information processing and to refine the methodology for future comparative studies (Klein 1987). As in the Don Quixote study with 5th graders, the design of this research was guided by the following basic objectives:

#### a. Basic Objectives

1. To determine how children's learning from theatre is related to comparative media research.
2. To determine the extent to which children already process plays with "dramatic literacy", i.e. what they know about the play they saw and heard (Collins 1985).
3. To determine the ways in which children recognize, perceive and interpret the verbal, aural, visual, and psychological features of the theatre event to comprehend story content (Rosenblatt 1984).
4. To determine whether the visual or verbal aspects of the theatre medium are more important in affecting the process of conceptualization (Davis 1961).
5. To compare children's comprehension or "readings" of a theatre production with the theatre artists' intentions.

**b. Theatre Expectancies from the National Model Curriculum**

The National Theatre Education Project (1987, 61-70) categorizes specific skills, attitudes, and understandings for children and youth K through 12 in both drama (process) and theatre (product). While many goals overlap intrinsically, the objectives for each area are intended as sequential, developmental steps rather than dogmatic expectancies for specific grade levels. For example, 3rd grade children may be capable of understanding theatre cited for higher grade levels. Below are some selected objectives and expectancies, as they pertain to the goals of this study, with suggested grades levels noted in parentheses:

**Overall Goal: To Form Aesthetic Judgments**

**Objective 1: Dramatic Elements - Identify dramatic elements**

1. (Plot) Recognize the beginning, middle, and end of plays (1-3).
2. (Theme) Recognize (1-3) or discuss (4-6) central ideas in plays.
3. (Character) Recognize that characters have different goals and feelings (4-6). Analyze the objectives of characters (7-8).
4. (Dialogue) Interpret dialogue appropriate to characters and situations (7-8).

**Objective 2: Theatre Attendance - Respond to live theatre**

1. Express personal reactions (1-3) and share perceptions of theatrical experiences (4-6).

2. Recognize emotions evoked by performance (1-3).
3. Describe the actions of characters (1-3).
4. Perceive subtleties in theatre experiences such as voice and movement variance (4-6).
5. Infer motivation for actions taken by characters (4-6).
6. Recognize how character traits are illustrated by dialogue and movement (7-8).
7. Discuss theatre experiences in terms of meaning for self and society (7-8).

Objective 3: Theatre and Other Arts - Explore relationships between theatre and, in the present study, television

1. Recognize that there is a difference between live theatre and television (1-3).
2. Demonstrate awareness that there are similarities and differences between theatre and television (1-3).
3. Compare the conventions of theatre and television (4-6).

Objective 4: Aesthetic Response - Recognize and respond to unique qualities of theatre

1. Discover through observation and experience (1-3)
  - a. the immediacy of live performance.
  - b. that theatre imitates or fantasizes human experience.
  - c. that theatre is a communal experience.
  - d. that theatre allows one to feel kinship with others.

### c. Specific Questions and Hypotheses

Specifically, the following questions operationalize these objectives (above) for the purposes of the interview:

1. Do 3rd grade children perceive a given production to be "easy" or "hard?" Do they attribute the production's ease or difficulty to the play or to themselves? In following up on Salomon's studies (e.g., 1984) which find children investing less mental effort with "easy and realistic" televised stories, this study hopes to point the way regarding children's efforts between theatre and television for future empirical studies. Fifth graders found the play Don Quixote to be "sort of hard," probably because it was an extremely difficult play for this age group. Third graders are expected to find Monkey, Monkey more "easy" because the play contains far more dramatic action and less talk than Don Quixote. (Obviously, direct comparisons cannot be made because two distinct productions are involved.)

Again, because children invest more mental effort when told to watch a story for testing purposes (Salomon and Leigh 1984), children were not told that they would be interviewed in advance of theatre attendance, though parental permission slips for interviewing may have had an influence. In addition, teachers were requested not to use the KU study guides before seeing the play, so as not to influence children's responses.

2. To what extent do 3rd grade children freely recall central dramatic actions over incidental actions, characters and spectacle elements? Like 5th graders, children are expected to

freely remember central dramatic actions best, largely because central actions are the key foci of all drama, and because this play is densely packed with frequent central actions.

3. Do 3rd grade children recognize and sequence the central actions of a given plot correctly? The Monkey King causes many things to happen quickly in a linear fashion with clear cause and effect motivations, with the exception of the Yama scene which occurs coincidentally. Therefore, children are expected to have little trouble sequencing these numerous events, in part, because the frequent changes of locales and characters clearly identifies each photographed scene within the plot structure.

4. Do 3rd grade children recognize, identify and interpret a protagonist's superobjective, motives, affective dispositions, and the play's main idea (or overall conceptual theme)? Like 5th graders, 3rd graders are expected to have difficulty abstracting psychological inferences from throughout the entire story, even though this play is considered much less difficult to grasp than Don Quixote. It is doubtful that they will arrive at the same concepts as the director intends, with the exception of identifying character affect primarily through contextual cues.

5. Do 3rd grade children recognize and infer character emotions from facial expressions and from other situational cues when lacking close-up views of visual details? Without close-up views of visual details, children are expected to rely primarily upon dramatic actions, gross character behaviors and situational contexts when inferring character emotions. The fact that one



character wears a mask and another character is dramatized as a puppet may force them to infer affect from situational cues to a greater extent.

6. Do 3rd grade children process the play from primarily visual modes and/or from verbal and psychological/inferential modes? These children are expected to process their answers primarily from visual modes over psychological inferences due to their lower verbal abilities.

7. Do 3rd grade children make metaphoric connections from the play to their personal lives? Because visual pictures induce literal conceptualizations and because this play is far removed from children's daily lives, children are not expected to automatically think in terms of metaphoric ideas outside the context of the play. Fifth graders were asked to interpret the main point of Don Quixote near the end of the interview. As a result, they tended to rely on their previous answers when stumped. This time, children will be asked to interpret the main idea of the play immediately following their spontaneous recall of best remembered parts near the beginning of the interview.

8. Do 3rd grade children prefer theatre over television and for what reasons? Like 5th graders, children are expected to prefer theatre over television primarily for its live novelty.

Though this study seeks to replicate the Don Quixote study with 5th graders by asking many identical questions (e.g., main idea and superobjective), it will not be altogether possible to compare results between these developmental age groups because

two completely different plays and productions are involved. Therefore, this study is limited to 3rd grade responses to Monkey, Monkey with 5th grade comparisons made when appropriate or feasible.

## Method

### Subjects

Forty-five 3rd grade children from classrooms in three separate schools within one school district were selected from middle-class, socio-economic neighborhoods based upon the willingness of interested principals and teachers. The majority of the children were Caucasian. There were 22 girls and 23 boys whose ages ranged from 8:2 to 10:0 with an average age of 9:1. None were seriously learning disabled or visual- or hearing-impaired.

### Theatre Production

The production, Monkey, Monkey, as staged by the University of Kansas Theatre for Young People (1988), was chosen for its high artistic standards, its classic literary origins, and the availability of younger audiences. This adaptation by Charles Jones (1986) is taken from the first three chapters of a classic 16th century Chinese novel entitled Monkey by Wu Ch'Eng-En. The director altered the play script a bit to follow the original novel (translated by Arthur Waley, 1943) more closely and to take into account the cognitive needs of a 1st through 3rd grade audience for whom the play was chosen. At the same time, the story was thought to be unfamiliar enough to this age group, so that reports of story elements could only result from exposure to the play. Artistically speaking, the production was performed and designed by college students under the direct supervision of faculty members. It ran approximately 50 minutes without intermission.

### a. Synopsis of the Text

After years of fierce storms and blistering sun, the Jade Emperor, supreme god of the universe, and his assistant, the Spirit of the Planet Venus, watch closely as a magical stone-egg "hatches" into a Monkey! The Jade Emperor knows already that this little mischief-maker will bring trouble to his peaceful universe, and he orders Venus to serve as Monkey's guardian angel.

Monkey begins to explore his new life with a group of other monkeys: Kerchin, a grandfather; Zinzue, a grandmother; Ling and Ringa, two young monkeys; and Beadin, the baby. From his new family, he learns how to talk and imitate their movements and how to play the "Da-Pong-Tse" game. He also learns about the Demon of Havoc, a horrible monster who likes to eat monkeys.

After accidentally falling into the nearby river, Monkey encourages his adopted family to explore the river's source. They soon discover a sparkling waterfall. Kerchin proposes that anyone brave enough to go through the waterfall and come back unharmed shall be made their King. Monkey, of course, does so and is crowned Handsome Monkey King. The inside cave of the waterfall becomes the monkeys' home to keep them all safe from the Demon. But Monkey King wants to live forever and to learn the secrets of the gods, like the curse of Yama, King of Death. For this, he must sail across the Great Sea on a raft to study with the all-wise Patriarch Sorcerer.

At the House of Wisdom, Monkey learns how to levitate and fly on the Cloud Trapeze and to change his shape simply by pulling out his hairs. When Monkey brags and jokes around with his new spiritual powers, the Patriarch sends him back home and threatens him to never tell anyone who taught him these powers. He also tells Monkey that "the secrets you most want to know usually have answers hidden deep inside yourself" (16).

Monkey returns home only to find out from Zinzue that all the other monkeys have been kidnapped by the dreadful Demon of Havoc. At the Cave of Briars and Brambles, Monkey fights and kills the Demon by changing into numerous shapes of himself. After returning his family safely back to the Cave of the Falling Waters, he decides that they need weapons to protect themselves from future dangers.

Monkey King pays a visit underwater to the Great Dragon King of the Eastern Sea where he steals his renowned golden weapons. Much to the Dragon's surprise, he also changes a huge iron rod into a smaller wishing staff just his size--a magical weapon which becomes Monkey's trademark.

After giving his monkeys their new weapons, Monkey King is pulled into Yama's Pit of Darkness for his time on earth is up. Instead, Monkey escapes death by erasing his name and the names of his monkey family from Yama's scroll and returns home.

By this time, Yama and the Dragon King complain to the Jade Emperor about Monkey King's pranks. When the Jade Emperor orders Venus to arrest Monkey King, Monkey and his newly-created monkey

army attack Venus, thinking he is another demon. With this third mischief, the Jade Emperor furiously banishes Monkey from his monkey kingdom forever. Furthermore, he orders him to serve as the heaven's stable boy by riding the Royal Dragon Sunrise and Sunset across the sky each day for eternity.

#### b. Textual Content Analysis

The basic elements of drama are the acts and actions within a text using words as the raw materials (Langer 1953). Dramatic action may be defined as "the clash of forces in a play--the continuous conflict between characters" which moves the plot forward (Hodge 1982, 30). Dramatic action is not synonymous with physical movement, though an actor's stage activity illustrates dramatic action. Dialogue, intended to be heard and not read, functions as the subtextual vehicle of action. As agents of the play, characters act or try to act out objectives implied or explicitly stated in the text (Hodge 1982, 26-31).

Therefore, within every play, key central dramatic actions drive the protagonist toward his future destiny. With these basic concepts in mind, seven central actions of the text were identified and selected for the study's seriation task (see Appendix 2). The Monkey King's objectives are stated below for each scene, and cogent bits of dialogue (sometimes edited) summarize the main action as captured in each photograph. It is also important here to identify whether each audio-visual scene communicates its concept either explicitly or implicitly, visually and/or verbally, because the transparency of each

concept greatly affects children's encoding and retrieval of the information. At the same time, care was also taken to ensure that dialogue did not provide verbal answers to subsequent inferential questions. (Numbers in parentheses refer to page numbers in Jones' script.)

1. The birth scene: To bring chaos to an ordered world.

The Jade Emperor and Venus say, "What will the stone explode to be? Now! . . . A MONKEY!!" (2)

Monkey's objective and his birth are implied by the nature of his monkey characteristics and the word "explode." Visually, he bursts from the "stone" and implies as if he will bring trouble through his facial expression and bodily movements.

2. The waterfall/king scene: To prove his bravery and become King by going through the waterfall.

Monkey says, "Grandfather, what has become of your pledge that anyone who could manage to get through the waterfall and back again should be your King?"

Kerchin says, "I crown you, Magical Monkey Who Was Born From a Stone, as the Monkey King." (10)

The dialogue explicitly states Monkey King's objective here, and Kerchin puts a crown on Monkey's head to imply kingship.

3. The school scene: To learn how to live forever and become immortal with Taoist magic.

The Teacher says, "What is the use of your being here if, instead of listening to my lectures, you jump and dance like a maniac?"

Monkey King says, "I am listening with all my might and you have taught me such wonderful mysteries." (14)

The dialogue implies Monkey King's objective here. Visually, the Patriarch/Teacher is talking to Monkey King in the "schoolroom" setting, which also implies Monkey's educational objectives.

4. The Demon scene: To avenge the monkeys by killing the Demon of Havoc.

Monkey King says, "Cursed Demon, stand your ground and eat old Monkey's fist! Change to ME!!" (18)

Though Monkey King's dialogue implies his vengeance, the ensuing battle with the Demon communicates explicitly.

5. The Dragon scene: To obtain weapons and the magical wishing staff, so that the monkeys may protect themselves from future danger.

Monkey King says, "Thank you kindly, old Dragon. Now I'll just borrow a few more weapons for my monkeys and be off."

Dragon King says, "Shark skins! I've been robbed. Help, Sea Guards to the rescue." (22)

The Dragon King's dialogue states Monkey King's objective here explicitly, though Monkey uses the word "borrow," as an implied joke for stealing. Visually, Monkey King steals the weapons, as the Dragon King and Sea Guards chase after him frantically.

6. The Yama scene: To erase his own and the other monkey names from Yama's scroll in order to escape death.



Yama says, "Your name is written on my scroll. You are cursed with death."

Monkey King says, "Then I shall cross my name out."

(\*22)

The dialogue explicitly states the action here, and Monkey King erases the names from the scroll. At the same time, this abstract concept of death is communicated implicitly. [\*Note: This scene was moved to its proper chronological sequence in the novel which differs from the playwright's original choice after the school scene.]

7. The punishment scene: To bravely pay for his wrongdoing by leaving his monkey family.

Monkey King says, "My dear Emperor, I am truly, truly, sorry and I shall bravely pay for my wickedness with any punishment you think fit."

Jade Emperor says, "I hereby banish you forever from the Cave of the Falling Waters." (24)

The dialogue explicitly communicates, as Monkey King kneels contritely before the Jade Emperor. Jade Emperor's lambast also serves as the climax of the play followed by a quick resolution.

#### c. The Director's Intentions

According to the director, Monkey King's overall superobjective is to live forever by becoming an Immortal or Buddha. In this adaptation, he gets his wish by riding the Royal Dragon Sunrise and Sunset each day across the sky, though his separation from his monkey family punishes him as a more primary

focus. The overall main idea or theme of the play is that each person must recognize and develop his or her own potential through self-reliance and discover how these talents may be used for the good of the whole. Essentially, each person inevitably has his or her own place in the world order. Under no circumstances is a person allowed to steal or destroy another's property, though he may kill an enemy who threatens his and others' existence. In other words, the end does not always justify the means in every case.

#### d. The Actor's Intentions

When asked for his superobjective, or what he wanted to do throughout the entire play, the actor playing the role of the Monkey King provided several goals. Becoming King of the monkeys was not enough for him. Overall, he wanted to live forever by achieving immortality as a requirement for becoming an omniscient god. His ultimate motive was to take over the Jade Emperor's position in the universe, so that he and his monkeys could rule the universe forever.

#### e. The Designers' Intentions

The play script calls for a Westernized, "story theatre" style of Peking Chinese Opera conventions. Rather than design such a fragmentary unit setting to depict all locales, the director and designer agreed that young children desire and need a more literal depiction of each scenic location. Therefore, a three-sided setting was designed to revolve on the stage's turntable: 1. a series of steps and platforms representing

Granite Mountain served as Monkey's birthplace, the House of Wisdom, and Yama's Pit of Darkness through colored lighting changes against its neutral coloring; 2. a cave-like opening served as the outside of the waterfall and the Demon's cave, when the waterfall material was removed; and, 3. the green-colored inside of the waterfall cave. The top-most platform of the entire unit served as the high vantage point for the Jade Emperor and Venus, with a "Tree of Life" trunk to represent Monkey's life as a universal motif. This entire unit was located at one downstage end of the turntable, so that when Monkey travelled the sea on his raft at the edge of the revolve, the unit setting moved away from him as if at a greater distance. The underwater scene at the Dragon King's palace took place on the orchestra pit downstage by raising and lowering the pit as needed.

Lighting effects with gobo-casting shadows created the illusion of Monkey's magic: his transformation into a pine tree, his transformation of himself or other monkeys in his battle with the Demon, and his levitation in the school scene through the use of a spotlight.

Sound effects were recorded and created to assist in communicating locales and to add to the overall mood of various scenes. The sound of Chinese-like musical instruments helped to communicate the time and place of "long ago" China. For about twenty minutes before the show began (as children were seated), sound and lighting effects indicated the "blistering sun and

thunderstorms" which created Monkey's stone birth. The sound of water added to the waterfall and underwater scenes.

Costumes were designed to differentiate among animal, god and human characters. The monkeys wore unitards (without tails in keeping with the Japanese macaque prototype). After the second school scene, Monkey King appeared in more human-looking Chinese clothes to indicate his growing knowledge of human ways. Special care was taken to ensure that the actors playing two roles (Jade Emperor/Demon, Venus/Patriarch, Students/Sea Guards) were completely disguised by facial hair, head pieces or masks, and differentiated voices and physical movement.

The director was concerned that young children might not be able to separate the two "evil" characters, Yama and the Demon. Therefore, rather than use an actor for Yama, this character was depicted as a puppet-like creature with one huge eyelid which moved as it "spoke" over the top of a wall.

#### Procedure

Four 3rd grade children from schools other than the those of the formal study were interviewed the day after a dress rehearsal as a pilot study to check the wording of questions within a given 15 minute time frame and to train interviewers and assistants.

Children in the present study were bussed from their respective schools to the auditorium (seating 1188) for matinee performances on three different days. All classrooms sat in the center front orchestra about 25 to 30 feet from the proscenium

line. Programs were distributed after the performance on the bus ride home or at school.

Since testing was not possible immediately following the performances, individual, 15 minute interviews were conducted on the day following the school's theatre attendance in separate, quiet rooms at the respective schools. Each child was picked up from his or her classroom to begin an informal acquaintance and introduction on the way to the interview room. The child sat next to the interviewer and the assistant sat on the other side further away. All interviews were tape-recorded for later scoring purposes. After the interview, the child was thanked and escorted back to the classroom. (See Appendix 1 for Interview).

#### Response Measures

##### 1. Familiarization with Story

This story is quite popular and familiar to children in Asian cultures. Therefore, children were asked whether or not they already knew the story to determine whether previous knowledge might influence their responses.

##### 2. Enjoyment as a Whole

Rather than ask to what extent the children themselves enjoyed the story, children were asked to rate the play on a 3 point scale in terms of children from another city to arrive at more objective responses.

##### 3. Difficulty and Attribution

Children were asked their personal opinions about the ease or difficulty in understanding this particular production and

why. If the child did not know why, they were asked whether or not this aspect was due to the play itself or metacognitive factors.

#### 4. Best Recall

Children were asked to recall what they remembered best from the play and stopped after three main responses. Central and incidental actions, dialogue, characterizations, and theatrical spectacle elements were then culled from their responses to determine perceptual salience.

Television studies indicate that children tend to miss information which occurs "offstage" as discussed in dialogue. For example, in the Don Quixote study, most 5th graders could not identify Dulcinea, an offstage character, even though her identity was explicitly described and mentioned 24 times in the performance text. In Jones' text of Monkey, Monkey, Zinzue tells Monkey King that the other monkeys have been kidnapped by the Demon of Havoc without even dramatizing this event. To test this concept, the director decided to add a non-verbal scene of the monkeys' kidnapping just before the scene which tells of the event in order to discover whether children would recall the kidnapping or conversational scene.

#### 5. Plot Sequencing Task

Children were asked to sequence only the central actions from the plot, rather than additional incidental actions as in the Don Quixote study. To determine children's verbal and visual behavior in cognitive processing, half the children were asked to

sequence color photographs and half were asked to sequence from written dialogue. (See Textual Content Analysis above.)

Color photographs of specific moments from 7 selected central actions were taken at each of the three dress rehearsals. Each shot visualized, as closely as possible, the exact size and perspective of the center front viewing experience. Care was taken to ensure that all necessary characters and scenery were included in each shot. Photographs were blown up to 5 x 7 inches for easier detail observation. Each photograph was color-coded in the bottom right-hand corner on both front and back.

Short lines of dialogue, roughly averaging 3 to 4 sentences, were chosen to best represent each dramatic action shown in the photograph. Each line of dialogue began simply with "(Character name) says." Lines of dialogue were typed and pasted on the back of each corresponding photograph.

Two independent adult raters, who had seen a performance, were asked to sequence the 7 photographs and lines of dialogue separately in both text and picture. Neither person reported trouble in making the correct identifications, with the exception of the Yama photo which made it difficult to discern the Monkey King against the red lighting effects.

Children were told that the photographs (or lines of dialogue, if the photographs were face up) on the back of each card could be used at any time to help them remember scenes. When using the verbal side, children read the dialogue aloud or the interviewer read it for them to ensure verbal understanding.

The sequence array was presented in the same random order for each child. After the child finished sequencing, the assistant recorded the final sequence order. In addition, the assistant observed the child's behavior during this task. Each time the child flipped a card over to look at the photograph or to read the dialogue on the back side, the assistant check-marked the particular card's color code on a separate scoring sheet. This information further indicated children's preferences for verbal or visual processing.

#### 6. Inference Questions

The interview primarily stressed broad inference questions regarding the play as a whole to test children's overall dramatic literacy and integration of thematic concepts from implicit content. Children were asked to interpret the main idea (or "moral") of the play immediately following their best recall of the plot to determine whether or not they spontaneously made any metaphoric connections. They were also asked to identify and interpret Monkey King's superobjective (what he wanted to do throughout the play) and his motives for doing such.

Rather than ask children to recall their feelings about characters, children were asked to interpret the feelings of the masked Dragon King, Yama, a puppet, and the Monkey King from three high emotional intensity scenes from the play. Adult independent raters scored the characters' affective states at these moments during dress rehearsals in order to compare affective word choices against children's responses. After the



production run was over, the actors involved were also asked their emotions (or intentions of emotion) at these moments for further comparisons.

To determine verbal, visual and psychological bases for all the above inference questions, children were asked "How do you know?" after each question to substantiate their reasoning.

#### 7. Aural Recall

To further validate children's attention and comprehension of dialogue, children were asked to recall what Kerchin said he and the other monkeys learned from the Monkey King at the end of the play. In the text, Kerchin explicitly says, "Go in peace, Magical Monkey who was born from a stone. You have taught us to be brave and to trust ourselves" (24). This notion is also implied throughout the performance by the contrasting behaviors of the monkeys from the beginning of the play to the end. The actor playing Kerchin also added a visual implication to his dialogue by throwing down his weapon near the end of his line.

Children were then asked whether they learned "the same thing, nothing, or something different" and how they learned this. These questions were asked to determine how they received this information and how their answers would compare with their interpretations of the play's main idea asked earlier.

#### 8. Media Preferences

Finally, children were asked if they would prefer to watch this production on stage or on television and to give the reasons for their preferences.

### Scoring

Descriptive statistics were the primary method used to analyze children's responses. Frequencies were calculated for forced-choice answers. Open-ended responses were categorized and coded according to the frequency of specific answers for each inferential question. One-tail Pearson correlations were computed for all variables before collapsing them into more general indices.

The seriation task was scored on the basis of the number of correct cards placed in front of each card. For example, if cards were ordered 1, 2, 3, 5, 6, 4, 7, the scoring would be as follows: Card 7 - 6 points; Card 4 - 3 points (because 5 and 6 come after); Card 6 - 4 points; Card 5 - 3 points; Card 3 - 2 points; Card 2 - 1 point for a total of 19 points. The highest possible score by this method is 21 points, so that as the score increases, so does sequencing accuracy.

A coding system developed by Meringoff (1980, 244; Vibbert and Meringoff 1981, 20-21; Banker and Meringoff 1982, 51-52) was adapted to determine children's bases for their inferences ("How do you know?"). Specific dramatic actions were separated from generalized acting behaviors. Each time a child responded in each of the following categories, they were given one point. For example, if a child mentioned 3 different dramatic actions by Monkey King, then they received 3 points under that category. Below are listed the specific categories used with examples of

each: [NOTE: Some categories were used only for specific inference questions.]

Visual Bases Within the Play

EXAMPLES:

1-Monkey King's dramatic actions	"MK <u>stole</u> some weapons."
2-Monkey King's general acting behavior	"MK <u>acted</u> weird."
3-Monkey King's physical gestures	"MK <u>bowed</u> down."
4-Monkey King's past actions (use for MK Affect only)	
5-MK and monkeys' dramatic actions	"They <u>fought</u> bad guys."
6-MK and monkeys' acting behavior	"They <u>acted</u> silly."
7-Dragon King's dramatic actions	"DK <u>chased</u> MK."
8-Dragon King's general acting behavior	" <u>The way</u> DK <u>acted</u> ."
9-Dragon King's physical gestures	"DK <u>covered his eyes</u> ."
10-Dragon King's appearance	"DK <u>looked really awful</u> ."
11-Yama's dramatic actions	"Yama <u>vanished</u> to Pit."
12-Yama's eyelid movement	"Her eye <u>blinked</u> ."
13-Yama's appearance	" <u>The way</u> Yama <u>looked</u> ."
14-Others' dramatic actions	"Demon <u>captured</u> monkeys."
15-Others' general acting behavior	"Demon <u>acted that way</u> ."
16-Scenery	"They had a <u>house</u> ."
17-Lighting effects	" <u>Lights</u> in Yama's eye."

Verbal and Aural Bases in Play

- 1-Monkey King's dialogue quoted
- 2-MK's inflection used
- 3-Monkey King's dialogue
- 4-Monkey King's tone of voice
- 5-Dragon King's dialogue quoted
- 6-DK's inflection used
- 7-Dragon King's dialogue
- 8-Dragon King's tone of voice
- 9-Yama's dialogue quoted
- 10-Yama's inflection used
- 11-Yama's dialogue
- 12-Yama's tone of voice
- 13-Others' dialogue quoted
- 14-Others' inflection used
- 15-Others' dialogue
- 16-Others' tone of voice
- 17-Used words or information gleaned only from dialogue

(e.g., "slaves," "House of Wisdom")

**EXAMPLES:**

- "MK said, '...'"
- [noted in transcript]
- "MK said he ..."
- "MK was crying."
- "DK said, '...'"
- [noted in transcript]
- "DK told him to ..."
- "DK screamed at MK."
- "Yama said, '...'"
- [noted in transcript]
- "Yama told him to ..."
- "Yama screamed at him."
- "Jade King said, '...'"
- [noted in transcript]
- "Jade said he was wrong."
- "Jade yelled at MK."

**Psychological Bases in Play**

1-Monkey King's motives/wishes

2-Monkey King's thoughts

3-Monkey King's traits

4-Monkey King's opinions

5-Monkey King's feelings (not for MK Affect) "MK was not afraid."

6-Monkey King's internal state

7-Monkey King and monkeys' traits

8-Monkey King and monkeys' opinions

9-monkeys' feelings

10-Dragon King's motives/wishes

11-Dragon King's thoughts

12-Dragon King's traits

13-Dragon King's opinions

14-Yama's motives/wishes

15-Yama's thoughts

16-Yama's traits

17-Yama's opinions

18-Yama's internal state

19-Others' motives/wishes

20-Others' feelings

21-Others' internal state

22-Others' inferred behavior

23-Others' sensory perceptions

**EXAMPLES:**"MK wanted to ...""MK thought he was ...""MK was smart.""MK didn't like ...""MK felt like he ...""They were brave.""They didn't like ...""They were afraid.""DK wanted to ...""DK didn't think he ...""DK was mean.""DK didn't like MK.""Yama wanted MK to die.""Yama didn't think ...""Yama had big powers.""Yama didn't like it.""Yama was hurting.""Jade wanted MK to ...""DK felt happy.""The monkeys were safe.""Bad guys did wrong.""Demon couldn't see MK."

Contextual Bases (used only for Affect questions)

3-Elaborates on both causes and consequences of emotion

e.g., "It was the worst thing he'd ever done, and now he had to leave his family."

2-Elaborates on future consequences and events

e.g., "Yama couldn't put the curse of death on him."

1-Elaborates on causes of emotional state due to past actions

e.g., "Nobody had ever stolen from Dragon King before."

Inside Play General Knowledge (used only for Main Idea question)

e.g., "It was mostly talking about monkeys."

After running frequencies and correlations, these categories were collapsed into total visual, verbal/aural, and psychological bases to run further statistics against other variables (see Appendix 5).

## Results

The findings reported here are organized according to the previous description of the responses measures with some discussion in reference to the questions and hypotheses raised earlier.

### 1. Familiarization with the Story

None of the 45 children was familiar with this story.

### 2. Enjoyment of the Production

Of all the children, 67% stated that 3rd graders in another city would like this play "a lot," 31% said they would like it "a little bit," and one child said they would not like it at all.

### 3. Difficulty and Attribution

Table 1

#### Frequencies of Ratings of Difficulty and Attribution

<u>Difficulty</u>	<u>Attribution</u>				<u>N</u>
	<u>Play</u>	<u>Both</u>	<u>Self</u>	<u>Don't Know</u>	
Real hard	0	0	1		1
Sort of hard	6	2	2	1	11
Sort of easy	9	10	3	1	23
Real easy	5	3	2		10
<hr/>					
<u>N</u>	20	15	8	2	45
<u>%</u>	44	33	18	4	

As Table 1 illustrates, 73% of the children found this play "sort of easy" or "real easy" to understand, and they attributed this ease rather evenly to the play (42%) or both play and metacognitive factors combined (39%) (e.g., "I understood the meaning of the words"). Those who found it "sort of hard" or

"real hard" (27%) attributed their difficulty to the play (50%) or both factors and metacognitive reasons (42%) combined. Apparently children, especially boys ( $r = -.25$ ,  $p .05$ ), tended to attribute their understanding mostly to the play itself (44%) over their own cognitive abilities (18%). Interrater reliability for coding attribution was 82%.

#### 4. Best Recall

Children's free responses to what they remembered best from the production concentrated largely on central dramatic actions from the play as Tables 2 and 3 indicate. Interrater reliability was 90% for best recall categories.

Table 2

#### Frequencies & Percentages of Best Recall Categories

<u>Best Recall Categories</u>	<u>Freq.</u>	<u>%</u>	<u>% of children</u>
Central Dramatic Actions	92	69	84
Incidental Actions	12	9	22
Characters (w/out actions)	18	13	18
Spectacle Elements	12	9	11
Totals	134	100%	

Note. While most children provided at least 3 responses, some provided none or 4 responses, which explains why the total frequency is 134, and why the percentage of children exceeds 100%.



Table 3

Frequencies & Percentages of Best Recall of Central Actions

<u>Central Actions</u>	<u>Freq.</u>	<u>%</u>
Monkey was born from a stone	5	5
Monkey became King (by going through the waterfall)	6	7
Monkey King found a new home behind the waterfall	7	8
Monkey King traveled the sea (to go to school)	9	10
Monkey King went to school and learned magic	13	14
Yama wanted to kill Monkey King	4	4
The Demon kidnapped the monkeys	11	12
Monkey King battled the Demon of Havoc	8	9
Monkey King stole weapons from Dragon King	22	24
Monkey King erased names on Yama's scroll	2	2
Last Scene (variations of events)	5	5
Total Central Actions	92	100%

From Tables 2 and 3, it becomes apparent that most children (84%) tended to focus primarily on the central dramatic actions of a play (69%) at least once, rather than on spectacular effects of theatrical productions (9%), as some directors might expect. Of all the central dramatic actions, Monkey King's stealing of the Dragon King's weapons captured the most salient and frequent response (24%) by almost half of the children. As hypothesized, no children recalled that Zinzue told Monkey King about the Demon's kidnapping; rather 24% did find the Demon's kidnapping of the monkeys itself most salient.

While these responses indicate overwhelming visual attention to dramatic actions, 36% of the children did use verbal aspects of the play by paraphrasing or quoting character dialogue (2 mentions), describing what characters said (3), or using words which could only be gleaned from the dialogue (11). Seventeen percent of the responses coded for Best Recall involved use of dialogue. For example, one child remembered verbatim the dialogue in which Monkey repeated and imitated every word that Kerchin spoke. Other children recalled such bits of dialogue as "slaves," "the monkey who was born from a stone," "pine tree," "Handsome Monkey King," and "the Demon of Havoc." Interrater reliability was 84% for use of dialogue.

#### 5. Plot Sequencing Task

Children were assigned to either a visual (photographs) or verbal (dialogue) condition for sequencing the plot. In general, they performed well in sequencing the central events of the plot, preferring to use photographs only slightly more than dialogue. Table 4 indicates children's recognition of individual scenes and, by implication, their attention levels throughout the play by summarizing the correct placement of each of the seven cards in the sequence. Two children were removed from the analysis because they did not complete the task. Most children tended to stay with the condition they were given ( $r = .56, p < .001$ ). However, 26% of the children originally assigned to the verbal condition preferred to switch sequencing the array with

photographs instead. Children who changed conditions were separated as a third group for analysis.

Table 4

Percentages & Means of Correct Scene Placement by Condition

<u>Scene</u>	<u>Condition</u>			<u>Total %</u>
	<u>Visual</u>	<u>Verbal</u>	<u>Verbal to Visual</u>	
Birth	100	80	100	91
King	86	70	73	76
School	82	70	36	64
Demon	41	30	18	31
Dragon	36	40	18	31
Yama	50	60	18	42
Ending	82	90	64	76
<u>Mean</u>	68	63	47	59

As predicted by mnemonic studies, children recognized the beginning and ending of the plot best. Their sequencing accuracy diminished considerably after a strong primacy showing, though 59% of their scene placements were correct. Sequencing scores ranged from 21 to 10 with 73% of the children achieving high scores between 21 and 18. Visual condition scores ranged from 21 to 13; verbal condition scores ranged from 21 to 12; and those who switched conditions had scores ranging from 20 to 10. Ten children (23%) achieved perfect scores--seven in the visual condition and three in the verbal condition. There was a marginally significant correlation ( $p < .06$ ) between those children

who said that 3rd graders in another city would enjoy this play "a lot" and those who achieved higher sequencing scores.

Surprisingly, children who started with the verbal condition but switched to the visual condition fared worse than the children who stayed primarily in the verbal or visual conditions. There was a main effect of condition on sequencing scores  $F(2,40) = 4.2, p < .05$ , as Table 5 indicates.

Table 5

Plot Sequencing Scores by Condition

<u>Condition</u>	<u>Mean</u>	<u>Median</u>	<u>Mode</u>	<u>N of children</u>
Visual only	19.2	19	21	22
Verbal only	18.8	19	18	10
Verbal to Visual	16.6	17/16	20/14	11
Totals	18.2	19	21	43

Table 6 summarizes children's turning behavior for each card in all conditions.

Table 6

Number of Card Turns by Condition

<u>Turns to:</u>	<u>Given photo</u> (text under)		<u>Given text</u> (photo under)		<u>Given text</u> (used photo)		<u>Totals</u>	
	<u>Vis</u>	<u>Ver</u>	<u>Vis</u>	<u>Ver</u>	<u>Vis</u>	<u>Ver</u>	<u>Vis</u>	<u>Ver</u>
<u>Scene</u>								
Birth	1	5	7	5	14	6	22	16
King	2	6	11	10	19	10	32	26
School	1	5	16	15	21	13	38	33
Demon	0	4	21	19	22	13	43	36
Dragon	2	6	12	10	19	12	33	28
Yama	4	6	14	12	20	11	38	29
Ending	2	6	7	6	22	16	31	28
<u>Subtotals</u>	12	38	88	77	137	81	237	196
<u>Totals</u>	50		165		218		433	
<u>Prop.</u>	.24	.76	.53	.47	.63	.37		
<u>P of GT</u>	.02	.09	.20	.18	.32	.19	.55	.45

Note. The last row represents the proportion of the grand total (GT = 433).

Children's behavior in turning cards may suggest their modal preferences when watching and listening to this play. When given photographs, fewer children deemed it necessary to use the dialogue in order to receive and integrate additional information. By contrast, when given dialogue, most children preferred to use the photographs as well, particularly the 11 children (half of the verbal condition) who preferred to switch

conditions entirely. Surprisingly, the children who switched conditions seemed to have greater difficulty integrating the dialogue with the photographs, and their sequencing scores varied more than in the other two conditions.

Turning cards was related to correct placement for some scenes. Children who correctly placed the second card (Monkey is crowned king) tended to turn this card most frequently to either the visual ( $r = .42, p < .01$ ) or verbal side ( $r = .33, p < .05$ ). The same tendency held true for the third card (Monkey King learns at school) (turns to visual  $r = .32, p < .05$ ; turns to verbal  $r = .44, p < .01$ ). The more children accurately placed the last card in its proper sequence (Monkey King receives his punishment), the less they turned it to the visual ( $r = -.41, p < .01$ ) or verbal side ( $r = -.47, p < .001$ ).

## 6. Inferences

Children were asked several inference questions followed by "How do you know?" to determine the modal bases for their responses and their levels of "dramatic literacy."

### a. Main Idea of the Play

When asked about the main idea or "moral" of the play, most children hesitated, in part, because they may not have understood the concept of a main idea. Nine children (20%) did not know or were unable to verbalize the main idea of the entire play.

Interrater reliability for coding Main Idea was 90%.

Of the remaining responses, most children (75%) failed to make spontaneous metaphoric connections from the concepts in the

play to the world at large. Only 25% made accurate inferential leaps by recognizing and applying universal concepts. The highest level of dramatic literacy was achieved by four children who grasped the script's notion of bravery or self-reliance. They realized "That if you really want to try something, you can do it," and that even "a little person can be brave." Because the Monkey King had much "faith in himself," the play also showed that "you don't need weapons. You can defend yourself." Seven children gleaned notions of good moral behavior, primarily that people shouldn't steal. Other examples here included: "You have to be truthful," "Don't be greedy," "Be a good monkey," and "No one can be the smartest thing in the world."

With these exceptions, one-third of the children discussed some concrete aspect or action of the Monkey King in particular, perhaps because literal, audio-visual representations induce concrete inferences. For example, the main idea was "about a monkey that comes out of a rock. He becomes king, and then he goes to school, and he floats and changes into a tree, and he gets punished and he has to go up into the clouds." Others noted that "Monkey was very mischievous," and that the play was about "a monkey going out on his adventures and trying to learn how to live forever."

Another 22% made other concrete inferences about all monkeys in general. For example, one child surmised that the main idea was "about monkeys trying to live without being endangered . . . and the Monkey King wanted to live forever." Others recognized

"how monkeys can be useful," "how monkeys can be brave," and that "monkeys can be real smart."

When asked how they knew their response to the main idea, visual bases were used 43% of the time (20 mentions), primarily Monkey King's dramatic actions ( $r = .29, p < .05$ ) and others' actions ( $r = .33, p < .01$ ). Psychological bases were used 30% of the time (14 mentions), primarily Monkey King's motives ( $r = .29, p < .05$ ), his opinions and feelings (both  $r = .27, p < .05$ ), and all the monkeys' feelings ( $r = .27, p < .05$ ). Verbal bases were used much less often (13%, for 6 mentions), primarily by citing what Monkey King said ( $r = .27, p < .05$ ) or by quoting others' dialogue ( $r = .33, p < .01$ ). General inside-play information (e.g., "it showed how...") was also used less often. Eighteen children (40%) did not know how they knew the main idea. Interrater reliability for inferences about the main idea was 98%.

In general, most children exhibited adequate levels of "dramatic literacy" when inferring the main idea based on the explicit aural and visual cues of the production and several implicit intentions of the director. As expected, no child specifically inferred the director's intention that "each person inevitably has his or her place in the world order," though many children did grasp themes of self-reliance and good moral behaviors as was hoped.

#### b. Monkey King's Superobjective

As noted above, several children used Monkey King's intentions to interpret the main idea of the play. Moreover,



when asked what Monkey King wanted to do during the whole play, 36% accurately gleaned his primary superobjective. Of these, 27% grasped the actor's intentions of wanting "to live forever" (and "to be brave" or "superb"), perhaps, in part, because Monkey King explicitly stated this objective five times in the text (pp. 10, 11, 14). In fact, one child noted that "He got his wish" when the Jade Emperor "took him up into heaven so he could learn how to live forever." The remaining 9% recognized that he wanted to learn Yama's "secrets," and the "secrets hidden inside of him" or "already in his heart" as explicitly stated in the dialogue (pp. 11, 14, 16). Boys tended to infer these superobjectives more than girls ( $r = -.28, p < .05$ ). No child reported the actor's related intention of wanting to become an Immortal or Buddha, so that he and his monkeys could rule the entire universe forever. Later in the interview, one child did recall the word "immortal," though she said she did not understand the term.

The majority of children (64%) cited less accurate superobjectives for Monkey King. These were coded in descending order of relevance. Twenty percent felt that he only wanted to go to school to learn magic tricks in general "to get more smart," to "learn how to fly," and "to learn to defend and fight for himself . . . to float." Twenty-two percent believed he wanted to help his monkeys and to "protect his people" in various ways by teaching them "how to be brave and fight," "and get weapons for his friends." "He wanted to try and save his monkeys in his family to take care of them [because] he didn't want them

to die from the [Demon]." In general, "he wanted to be good to the other monkeys" and "to make [them] more secure their life." A minority (7%) thought he wanted to "be famous," "to be bigger," or "to be the smartest monkey in the world, because he wanted to be able to prove [to] himself that he was the smartest monkey in the world." Finally, 11% of the children cited objectives achieved early on in the play. For example, Monkey King wanted "to see the waterfall," "to find the end of the river," "to go out and discover more things in the mountain," "to become king," and "to be like the other monkeys." Two children (4%) did not know his superobjective. Interrater reliability for coding superobjective was 94%.

When asked how they knew Monkey King's superobjective, visual bases were used 44% of the time (32 mentions), especially Monkey King's dramatic actions (25). However, children who based their inferences primarily on his dramatic actions ( $r = -.26$ ,  $p < .05$ ) or acting behavior ( $r = -.27$ ,  $p < .05$ ) were less likely to identify accurately his superobjective as wanting to live forever. By contrast, verbal bases, used 36% of the time (26 mentions), were related to identifying Monkey King's superobjective accurately ( $r = .38$ ,  $p = .01$ ) because Monkey King explicitly stated his future intentions as "I want to live forever." In fact, the more children relied on what he said, the less they relied on his actions ( $r = -.26$ ,  $p < .05$ ). In addition, children recalled the Patriarch's dialogue regarding "secrets" (e.g., "It's in you" or "It's all deep in your soul").

Psychological bases were used 19% of the time (14 mentions), with seven children automatically supplying Monkey King's motives as well. Five children did not know how they knew Monkey King's superobjective. Interrater reliability for coding children's reasons for inferring a superobjective was 97%.

### c. Monkey King's Motives

Many children spontaneously supplied a motive in their superobjective responses. Consequently, responses to Monkey King's motives appear circular and confounded among previous answers. In fact, four children were not asked this question, because the interviewer felt the child had already answered it above under Monkey's superobjective.

Why would children confuse and integrate a character's superobjective (future intentions of behavior) with his motives (past causes of behavior)? Acting theory provides a possible explanation. Every dramatic action (effect) is the result of a preceding action (cause). From an actor's perspective, characters behave purposefully in future-oriented ways by seeking "to win victories" or superobjectives throughout the play based on their situations at any given moment. Therefore, rather than ask "why" a character behaves as he does (past causes), actors must ask "what for?" (i.e. "for what intention, for what anticipated result") from a first-person perspective (Cohen 1978, 35). Yet when viewing plays from a third-person perspective, audiences see and hear those intended results, some of which occurred in earlier parts of the play (now in the past, so to

speak). Therefore, while superobjectives and motives are two distinctly separate entities for actors, they appear to be identical to audiences, especially when child audiences are asked to reflect back (into the past) on the play as a whole.

Therefore, when children were asked why Monkey King wanted to do what they had stated as his superobjective(s), almost half (49%) repeated the essence of their previous superobjective responses ( $r = .32, p < .05$ ). By contrast, 27% offered a different notion from their superobjective responses, perhaps indicating a higher ability to distinguish motives from superobjectives as from an actor's first-person perspective. Those children who relied on Monkey King's explicit dialogue when inferring his superobjective tended to be the most accurate when inferring his motive ( $r = .46, p < .01$ ). Seven children, two of whom did not know his superobjective, did not know his motives. These results suggest that many 3rd graders had difficulty separating and inferring motivational (past) causes from a protagonist's (future-driven) intentional, behavioral effects. Finally, there was a positive relationship between inferences made regarding both Monkey King's motive and the main idea of the entire play ( $r = .30, p < .05$ ). Interrater reliability for coding motive was 88%.

Concerning the accuracy of inferences, 24% either repeated (8) or recognized (3) that Monkey King wanted to live forever, or to "find the secrets hidden inside of him" (1) as the primary motive behind his superobjective actions. Those who repeated this same response indicated that Monkey King wanted to live

forever because: "he didn't want to be in the grave" or "he never wanted to die;" "he thought kings could live forever" or so that "he could stay king for the rest of his life;" "he wanted to see what would happen if he lived forever;" and, "so that [Yama] wouldn't put him on his death list, and there would be no more monkeys." Those who saw his motive as wanting to live forever, reported his superobjective as wanting "to learn the secrets of [Yama]," and "to learn and go to school." Again, those children who were most accurate in identifying these motives tended not to use Monkey King's dramatic actions when inferring his superobjective ( $r = -.43, p < .01$ ). Two children had no idea why he wanted to live forever.

Another 22% repeated (8) or reported (2) his motives as helping his monkeys because: "he didn't want them to die" and "he wanted to teach his friends and family [to defend themselves] so they wouldn't have to be frightened by that Demon;" and, "because he was part of the family." Other motives included wanting "the monkeys to have a better life," because "he liked the other monkeys."

Another 18% either repeated (2) or assigned such motives as personal gain or pure enjoyment (6). To repeat, Monkey King intended to "be famous . . . so everybody could know him real well," and "he wanted to be the smartest monkey in the world . . . because he was able and would make the best king." Other children assigned these personal motives from the following different superobjectives: "He wanted to be the king to do what

he wanted to do [and to] learn some more magic . . . because no other monkey knew so much magic," or "so he could free himself from all the bad people." "He wanted to be like the other monkeys . . . because he likes the way the monkeys would play;" and, he wanted to go to school "to be not silly." When at a loss for a motive, one child replied, "He just wanted to," and another stated quite simply, "He wanted to live as long as he could . . . because he wanted to be king the longest."

Three children stated his motives as wanting only to go to school as a repeat (2) or a new notion (1), so he could "learn how to do everything the other kids could learn how to do;" "learn how to change sizes;" and "because he wasn't learning nothing from his family. He didn't have no school in his life so he had to go to a different life where school is." The remaining two children repeated objectives and motives which occurred early in the play.

Children's causal reasoning behind Monkey King's superobjective intentions shows their ability to create logical motives both from the concrete information given in the production and from their own personal perspectives. Many answers may reflect how children themselves would think if they were confronted with such situations, and they reveal how family, school, and peer relationships are foremost and relevant to children's concerns.

## 7. Character Affect

Children were asked to infer the emotions of three characters at three particular moments in the play. Interrater reliability for coding character affect ranged from 95% to 99%.

### a. Dragon King's Affect

When asked how the Dragon King felt after Monkey King stole the wishing staff and weapons, 73% found him primarily angry ("mad," "mean," or "furious"), contrary to the actor's opinion of his emotion. (The Dragon King actor felt "mostly disgruntled and peeved . . . not especially angry" because Monkey King stole his weapons "right from under my nose.") Other emotions cited were "surprised" or "amazed" (2) (as the actor also intended), "sad" or "depressed" (4), "scared" (1) or "ashamed" (1), and such vague words as "bad," "awful," and "destroyed" (4).

When asked how they knew the Dragon King felt that way, children relied heavily on verbal and aural cues (52 mentions) for 39% of the total bases. They primarily commented on Dragon King's tone of voice (18) (e.g., his "screaming," "yelling," and "roaring") ( $r = .26, p < .05$ ). They also paraphrased or, in some cases, quoted his dialogue directly from the performance text (11), or described what he said (10), and some even used his similar inflections (5). For example, children paraphrased him as saying, "Oh, he's stealing them," "He took my weapons," "Guards, get him," "You can't take those weapons," "I've been robbed," and, "Curse you." Another recalled his exact dialogue when "he wanted [Monkey King] to go to a different sea and get

their [weapons] instead of his" (p. 22 "You might try another sea"). One child paraphrased Monkey King's exact words as, "I wish I could, that this wishing staff was just my size" (p. 22). As another child put it, "If he wasn't mad, he wouldn't have gone to the [Jade Emperor] and said he's been robbed."

Because the Dragon King's face was masked, it was expected that children would rely more on verbal/aural than visual cues to determine his emotional state. Yet visual means did account for 35% of the total bases, primarily from both Monkey King's dramatic actions (17) (e.g., stealing the weapons) and Dragon King's dramatic actions (10) and his physical gestures (8) (e.g., chasing Monkey to get his weapons back). The more children inferred his anger, the less they tended to use his gestures ( $r = -.41, p < .01$ ).

Psychological bases represented 17% of the total. Most of these were inferences about the Dragon King's motives (9), thoughts (5), and opinions (5). However, motives and opinions were negatively related to inferences about his affect (respectively,  $r = -.25, p < .05$ ;  $r = -.40, p < .01$ ). Here, children inferred that "he felt like he was gonna kill him;" and he "wished he had all of his things back." In fact, "he was being robbed by somebody he didn't even know," perhaps a reference to Dragon King's later implicit lines to the Jade Emperor about not knowing of Monkey before this incident (p. 23).

While the majority of children relied mostly on explicit verbal and visual means combined (74%), a few children also based



their affect choices upon contextual cues (8%). Children's consideration of contextual causes and consequences helps to explain why a few children inferred and chose particular emotions (Stein and Jewett 1986). For example, the Dragon King felt "mad" because "they were his weapons," and "he didn't have that much." He was "amazed" because "nobody has ever been able to steal his things before, because if they tried, they couldn't." He was "sad" because, not only did he lose his valuable possessions, "he didn't think anybody would steal from him because he was a dragon. Usually, animals won't steal stuff from dragons." He was also sad "because he worked very hard to get those weapons to defense him and now he didn't have enough weapons to defense him." One child considered him "scared" based on future consequences "because the Monkey could use his own weapons on the Dragon King and the Dragon King wouldn't have anything to use." In general, there was a negative relationship between inferences made about the Dragon King's affect and their use of contextual consequences ( $r = -.26, p < .05$ ) and both consequences and causes ( $r = -.38, p < .01$ ).

In summary, these results suggest that children may have been induced to use verbal and aural cues slightly more than visual cues in their inference-making endeavors because: 1) the Dragon's face was covered by an immobile mask to prevent the use of facial expressions in determining affect; 2) many children found this scene to be salient (in best recall); 3) this scene took place on the orchestra pit, closest to children in

proximity, where auditory attention levels may have increased; and, 4) the actor's highly charged performance as a new dangerous character late in the story may have captured greater respect and attention. Interrater reliability for coding Dragon King's affect inference bases was 97%.

#### b. Yama's Affect

Before presenting the results here, it is interesting to note children's verbal references to Yama's sex as either "he" or "she." For example, one child caught herself saying "he," but quickly changed and emphasized "she" instead. Though Yama was referred as the "King of Death" only four times in the text (pp. 10, 11, 14, 16), this character was performed and vocalized by a female puppeteer. As a result, in roughly equal proportions, both girls and boys used the male pronoun over half of the time (51%) and the female pronoun a third of the time (33%) (16% did not refer to any sex). It appears then that most children either took the word "King" at face value or they ascribed male attributes to this representation of death. At the same time, one third of the children either ignored or didn't hear the word "King," and instead they ascribed female attributes on the basis of the actress's voice alone.

When asked how Yama felt after Monkey King erased the names from Yama's scroll, 64% found her (or him) to be angry ("mad," "mean" or "disgusted") in keeping with the actress's intention. Other emotions cited were sadness (8), surprise (1), or such

vague words as "bad," "horrible," "terrible," "upset," "awful," or "sick" (8).

Because of her puppet nature, children used verbal and aural means (38%) to a greater extent, similar to the Dragon King findings. Again, they relied primarily on Yama's tone of voice (15) (e.g., her "yelling," "hollering," "screaming," and "moaning"), though the relationship was not significant. They also relied on what she said (7), or they quoted her (7) and used her inflections (5). Children paraphrased her textual dialogue (e.g., "My wonderful scrolls ruined" and "The records can't be recorded" p. 23) as: "My eye, my eye;" "Oh, no, my scrolls;" "You ruined my scroll;" and, "These things can never be written back over again."

Visual means accounted for only 22% of the total bases with heavy reliance on Monkey King's dramatic actions (12) (e.g., turning on the light and erasing names), as well as Yama's dramatic actions (2), her eyelid movement (5), her appearance (3) (i.e. "how she looked"), and the lighting effects (3) which hurt her eyes.

While 60% relied on both explicit verbal and visual means combined, only 22% used psychological bases such as Yama's motives (8), opinions (4), internal state (4), thoughts (2) and traits (1). For example, "She didn't want him to scribble his name out because he was on the bad list because he stole them weapons [and] he thought he was being good." "She just wanted to get revenge" because Monkey King "wanted to find out her

secrets." "Since he had big powers, he didn't think anybody could beat him at something, but the Monkey King did." There was a negative relationship between choices of Yama's affect and the use of psychological cues such as Yama's motives ( $r = -.28$ ,  $p < .05$ ) and her internal state ( $r = -.34$ ,  $p < .01$ ).

In basing Yama's affect on contextual cues (17% of the total bases), 5 children cited causes, 8 mentioned consequences, and 6 noted both causes and consequences. For example, Yama felt "mad" or "sad" because "her scroll was ruined," and "no one had ever erased anything from the scroll before." As a consequence, Yama "couldn't get [the names] put back on his scroll," "couldn't put the curse of death on [Monkey King]," "couldn't kill the people," so that "the monkeys would get away with it," and "they'd live forever." As implied by the dialogue, many children inferred both past and future events: "It probably took [Yama] a long, long time to write the names down, and then, if they get erased, he has to write them all over again." In general, several children empathized with Yama's anger or sadness as summarized by this child: "Like you lost your favorite thing or you just took like an hour to do something and someone just ruined it."

Again, verbal and aural bases were used to infer Yama's affect almost twice as often (38%) as visual (22%), psychological (22%) or contextual (17%) bases. Because Yama was characterized as a huge eyeball puppet whose only salient movement involved opening and shutting her eyelid, bases for inferences were expected to be similar to those for the masked Dragon King. Yet

children did ascribe human dimensions to this metaphoric character (who represented death) by inferring her emotional state from both psychological and contextual cues combined (39%) about equally as well. Interrater reliability for coding Yama's affect inference bases was 98%.

### c. Monkey King's Affect

When asked how Monkey King felt when the Jade Emperor yelled at and punished him at the end of the play, 78% reported that he felt "sad" or "sorry." By contrast, the actor reported feeling surprised and fearful of Jade Emperor's omnipotence, even though the character explicitly stated his sorrow and begged for forgiveness ("I am truly, truly, truly sorry and I shall bravely pay for my wickedness with any punishment you think fit" p. 24). Other emotions cited were scared (2) and such vague words as "bad," "destroyed," "dumb," "messed up," or "hurt" (7). One child did not know Monkey King's affect.

Here, children used visual means (29% of the total bases) emphasizing Monkey King's dramatic actions (8) (e.g., attacking Venus), his acting behavior (6), his physical gestures (12) (e.g., begging on his knees and walking slowly up the steps), and his past actions (7) (e.g., stealing the Dragon's weapons and erasing Yama's scroll).

Verbal/aural means accounted for 25% of the total bases and included quoting what Monkey King said (6), describing what he said (4), and his tone of voice (8) (e.g., his "crying").

Several children also noted the Dragon King's sardonic laughter as if to say, "Oh, yes, he's finally gotten hurt."

Psychological bases were used equally often (25%) by inferring Monkey King's motives or wishes (13), his internal state (10), thoughts (4), and traits (2). In particular, "he didn't want to leave his family because people don't usually want to leave their family." Another child recalled that "He didn't want to be banished from the earth," as emphasized by the Jade Emperor actor in his dialogue ("I hereby banish you forever . . ." p. 24).

Children used contextual cues (21% of the total bases) to infer Monkey King's affect by citing past causes (13), future consequences (10), and both causes and consequences (6). Given Monkey King's crimes of stealing weapons, erasing Yama's scroll, and attacking Venus, he naturally felt sad and sorry because: "he did something that he wasn't supposed to;" "he never stole nothing like that and he didn't know it was bad;" "he didn't know [Venus] was his messenger;" "he was never punished like that;" and, "he broke up his family." As stated twice by the Jade Emperor ("This property did not belong to you" p. 24), "he took something that wasn't his." He also felt "scared" "because the [Jade Emperor] was gonna punish him." As a consequence, "he had to return [the weapons];" "he had to leave his friends and he had to do a lot of work now;" "and he couldn't live forever." As stated once by the Jade Emperor (p. 24), "he was going to be the

stable boy." Interrater reliability for coding Monkey King's affect inference bases was 97%.

In summary, children's responses may indicate their identification and emotional empathy with Monkey King's consequential punishment for his wrong-doing. Just as the director had hoped, children seemed to focus on his separation from his monkey family as the worst punishment of all.

#### 8. Aural Recall and What Children Reported Learning

When asked to recall what Kerchin said he and the other monkeys learned from the Monkey King (Aural Recall), 27% accurately remembered the essence of his explicit dialogue: "You have taught us to be brave and to trust ourselves" (p. 24). Simultaneously, the actor threw his weapon to the ground, implying visually that he no longer needed weapons. Another 38% remembered inaccurately, and 35% could not remember Kerchin's dialogue at all. Interrater reliability for coding the accuracy of aural recall was 95%, and reliability for coding what children remembered was 92%.

Of the 12 children who accurately remembered Kerchin's dialogue, half reported learning the same thing ( $\rho = .67$ ,  $p < .001$ ), 4 said they learned something different, and 2 admitted learning nothing. Of the 17 children who recalled the dialogue inaccurately, 4 said they learned the same thing, 11 reported learning something different, and again 2 admitted learning nothing. The 16 children who could not remember the dialogue were asked what they had learned from the play.

In the final analysis, 20% of the children reported learning something about bravery and trusting in oneself from Kerchin's dialogue or from the play as a whole. The following examples reflect these ideas in the children's own words: "You have to believe in yourself or you can never do anything." "I learned the same thing (i.e. "To be brave by themselves") from when he felt like he should be punished. Because when I do something wrong, I feel like I ought to be grounded." "I learned that one, it doesn't pay to be bad. And the other thing was you don't need weapons. All you need to do is have courage." "I learned that being brave is a powerful thing that you have to take a lot of practice to do it."

One-third of the children (33%) reported learning examples of good moral behavior, primarily that people should not steal. As one child put it: "Just because you're a Monkey King doesn't mean you can do anything like steal stuff," while another added "[particularly when] it's not your property." Children also learned "not to be mischievous" or "mean," and that "we shouldn't fight" because "by fighting you can kill somebody." Additional behaviors entailed the following: "not to act wacko and crazy and not to run around in a classroom [while] something's being taught to you;" "that you can get punished for taking stuff from your enemies;" "that spells and evilness doesn't always go right, because if you try some and if they work, they can backfire;" "You have weapons inside yourself. . . . I learned that you can't always get what you want [and] that sometimes you can't be too



greedy, or do some other things like take stuff away or just fight your way out;" and, you "can really be quite smart when [you] don't notice." A total of 37 children (82%) reported learning something from the play. Interrater reliability for coding what concepts children reported learning was 83%.

Nineteen children were not asked how they learned the above information due to interviewer error. Of the 26 children who were asked how they learned the above information, 11 cited the consequences of Monkey King's actions often, "because Monkey King showed us that it ain't right to steal." Thirteen children also frequently admitted identifying with his character in some way, and 2 mentioned their effort or enjoyment. Such visual bases as Monkey King's dramatic actions (12), his acting behavior (3), and his gestures (2) were also used, as were verbal/aural means (4) and psychological means (3) to a lesser extent.

Examples of how children learned through identification include the following: "Because Monkey King got punished and I wouldn't want to get punished," or "Because when he stole something and then had to give it back; well, I'd feel the same way. I just couldn't do it without returning it." "I don't need weapons, or I don't need to learn how to do something to fight." "You shouldn't really fight your way out. You should either talk it out or think it out." "Because of the story of the Monkey King. . . . He just taught me when he taught them that being brave is powerful. He didn't really know how to say it, but by acting he kinda showed it." "Because how they were acting. It

felt like it was just you. It felt like I was the Monkey King, and I was doing that and I did all those bad things. Sometimes, I take my brother's stuff." All in all, one child summarized it best: "My mom says if you have enough faith in yourself, the faith as big as a mustard seed, you can move mountains. And [Monkey King] had that faith, so he could fly and change himself into things. That's how I learned it."

In summary, 53% of the children reported learning such abstract concepts as trusting oneself or good moral behaviors. Another 29% gleaned general information about fictional monkeys, other notions about the Monkey King in particular (e.g., he "really wanted to be king and stay alive"), that the play was funny, or that "there might be magic left in the world." The remaining 18% either could not remember learning anything or said they learned nothing.

Children's reports of the main idea of the play were positively related both to their aural recall of Kerchin's dialogue (essentially the main idea) ( $r = .42, p < .01$ ) and to what they reported learning from the play ( $r = .34, p < .05$ ). In fact, those who were most accurate at inferring the main idea were also most accurate at remembering Kerchin's dialogue ( $r = .44, p < .01$ ), they remembered more concepts relevant to this dialogue ( $r = .48, p < .001$ ), and they tended to report learning the same concept ( $r = .33, p < .05$ ). Those who were most accurate when remembering Kerchin's dialogue also tended to use Monkey King's dramatic actions when inferring the main idea ( $r = .26, p = .05$ ). See

Table 7 for a summary of these relationships. High correlations are sometimes a function of coding (refer to Appendix 5).

Table 7

Relationships Between Comprehension Variables

	MIA	Sup	SuA	Mot	MA	ARA	Rem	CLr
MI	.94***	.01	-.01	.30*	.23	.36**	.42**	.34*
MIA		-.03	.03	.23	.18	.44**	.48***	.33*
Sup			.84***	.32*	.68***	-.06	-.12	-.07
SuA				.15	.66***	-.09	-.15	-.07
Mot					.91***	.47***	.44**	.03
MA						.23	.17	-.06
ARA							.96***	.59***
Rem								.62***

Note. Abbreviations in the table are explained below.

MI = Main Idea

MIA = Main Idea Accuracy

Sup = Superobjective

SuA = Superobjective Accuracy

Mot = Motive

MA = Motive Accuracy

ARA = Aural Recall Accuracy (Kerchin's dialogue/Main Idea)

Rem = What Child Remembered

CLr = What Child Reported Learning

All correlations are one-tailed.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

In addition, children who reported learning the play's intended concepts thought that other children would enjoy the play "a lot" ( $r = .27, p < .05$ ), and they attributed slightly more ease ( $r = -.26, p < .05$ ) than difficulty in comprehension to the play itself over metacognitive factors ( $r = .26, p < .05$ ).

### 9. Summary of Modal Bases Used for Inferences and Comprehension

Table 8 summarizes the frequencies and percentages of visual, verbal/aural, psychological, general knowledge, and contextual bases children used to make inferences about the main idea, Monkey King's superobjective, and three characters' emotions. (See Appendix 6 for specific sub-category breakdowns.)

Table 8

#### Frequencies and Percentages of Bases for Inferences

	<u>Visual</u>		<u>Verbal</u>		<u>Psych</u>		<u>Knowa</u>		<u>Contxtb</u>		<u>Tot f</u>	<u>DKc</u>
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>		
Main Idea	20	43	6	13	14	30	6	13			46	18
Superobj	32	44	26	36	14	19					72	5
Drag Aff	46	35	52	39	23	17			11	8	132	1
Yama Aff	25	22	43	38	25	22			19	17	112	2
MK Aff	40	29	34	25	34	25			29	21	137	1
<u>Totals</u>	163	33	161	32	110	22	6	01	59	12	499	27

a - General Knowledge used for Main Idea only.

b - Contextual cues used for Affect only.

c - "Don't know."

Children processed the play rather equally among visual (33%), verbal/aural (32%) and psychological, general knowledge, and contextual cues combined (35%).

When categories are collapsed into three primary bases for inferences, 80% of the children used visual bases 1 to 7 times ( $M = 4.0$ ,  $SD = 2.7$ ), 76% used verbal bases 3 to 13 times ( $M = 8.3$ ,  $SD = 5.0$ ), and 69% used psychological bases 1 to 6 times ( $M =$

3.1, SD = 3.1). As in the Quixote study, the more children used all visual cues combined, the more they also tended to use both verbal ( $r = .43$ ,  $p < .001$ ) and psychological cues ( $r = .36$ ,  $p < .01$ ). Unlike the Quixote study, no significant relationship was found between verbal and psychological bases used in inference questions.

However, the more children used verbal cues to make inferences, the easier they rated their comprehension of the play ( $r = -.43$ ,  $p < .001$ ), and the more they attributed this ease to the play itself over their own cognitive efforts ( $r = .25$ ,  $p < .05$ ). Conversely, those who used fewer verbal cues, rated the play harder to understand. In fact, the more children used verbal cues, the higher their level of general comprehension (combining all responses to major inference questions) ( $r = .39$ ,  $p < .007$ ). (See collapsing of all variables in Appendix 5.) Like 5th graders in the Quixote study, the more these 3rd graders used all modes of cognitive processing combined, the easier they rated their comprehension of the play ( $r = -.36$ ,  $p < .01$ ) and the more they attributed their comprehension to the play ( $r = .25$ ,  $p < .05$ ) rather than their own efforts.

Modal bases for inferences were related to children's photo sequencing scores, but only for those who switched conditions during the sequencing task (from verbal to visual): the more these children relied on visual cues to make inferences, the lower their sequencing score ( $r = -.53$ ,  $p < .05$ ). In other words, while these 11 children appear to prefer visual processing, it is

possible that they had trouble integrating visual and verbal modes simultaneously when processing the play. For children who sequenced photos in the visual condition only, correlations were moderate (approx. .30) but only marginally significant between scores and both visual ( $p < .08$ ) and verbal ( $p < .07$ ) bases used. By contrast, for children who remained in the verbal condition, no significant relationships were found between sequencing scores and use of verbal or visual bases.

Children reported learning the major intended concepts of the play to a greater extent when they used both visual ( $r = .42$ ,  $p < .01$ ) and verbal cues ( $r = .58$ ,  $p < .001$ ) to make inferences, and particularly when they integrated all three major modes of processing ( $r = .57$ ,  $p < .001$ ). This collapsed variable, Total Cognitive Processing, is positively related to each mode individually (visual  $r = .76$ , verbal  $r = .82$ , psychological  $r = .57$ , all  $p < .001$ ).

#### 10. Children's Preferences for Theatre or Television

When asked if they would prefer to see a production of Monkey, Monkey on stage or on television at home, 78% preferred live theatre. Interestingly, this percentage replicates the same finding in the Don Quixote study. Those who preferred theatre also stated that 3rd graders in another city would enjoy this production "a lot" ( $r = .34$ ,  $p < .01$ ).

Of all the positive reasons for preferring theatre ( $N = 67$ ), children primarily recognized its live, "more real," values (17) ( $r = .38$ ,  $p < .01$ ), and the fact that "you can see the people in

person" (9) (39% combined). For example, one child noted how "The play's more alive, more real, and it just feels like you're really in the play when you're in the theatre watching it." Other children noted theatre's "closer," more immediate feeling (7): "You feel emotions," "because [the actors] show a little more feeling . . . and how they really kinda make you feel." Other positive reasons included theatre's better sight values (11) (e.g., "bigger" size of proscenium, in color, and no static) ( $r = .29, p < .05$ ), its better sound values (9), its "amazing" scenery and lighting effects (7), and, surprisingly, a sense of "more action and movement" (5). Other children appreciated "no electricity bill" (1) and a sense of not having things "cut off" (i.e. edited or censored) (1).

Conversely, negative television reasons ( $N = 35$ ) included the fact that television is recorded, and therefore, "not real" (9), and that "on TV you can get blind if you get closer" (2). Children also blamed their television sets (or lack thereof) for being smaller, black and white, fuzzy, and not being able to get certain channels (5). Worse sight (6) and sound values (5), commercials (2), and less viewer activity (1) were also cited as negative reasons. Others recognized camera devices which "change" the story (4). For example, "On TV you can't really see what they're doing, because sometimes they don't show it," and "Sometimes [the camera] goes around and you wouldn't be able to see if it's a good movie." Another child noted, "Some TV's cut things off that people should not use in front of their family

. . . and on TV it might not last long as this [play] does" (1).

The remaining 22% preferred television for several reasons (N = 15), primarily for its greater home comfort and viewer control (5) ( $r = -.43, p < .01$ ). For instance, during commercials, you can get something to eat or drink, go to the bathroom, or "you can lay down on a couch instead of just sitting in those hard seats." With television, "they'd probably skip some parts" (1), and "you don't have to pay money" (2). In addition, "you can turn it up as high or low as you want" (2), "you don't have to drive as far" (1), and your "parents could see it" (1). Other children simply preferred "faster movement" (1), "make-believe people" (1), and the camera's viewpoint (1).

Conversely, negative theatre reasons (N = 5) included the fact that the play was "sorta loud" (1), and "you can't just turn it off" (1). Another child hated "travelling in busses" to see the production (1), while another disliked theatre because "you couldn't doze off cuz you're tired" (1).

Finally, children who preferred theatre over television tended to use more verbal cues ( $r = .44, p < .001$ ) when processing inferences about the play. Also, they tended to integrate all three modes of processing more than those who preferred television over theatre ( $r = .32, p < .05$ ).



### Summary of Findings

#### 1. Children's Overall Evaluations of Monkey, Monkey

When asked to rate how much 3rd graders in another city would enjoy this production, 67% said "a lot," 31% said "a little bit," and one child said "not at all." Almost three-quarters (73%) found this play "sort of easy" or "real easy" to understand, and they attributed this ease rather evenly to the play (42%) or both play and metacognitive factors combined (39%) (e.g., "I understood the meaning of the words"). Boys tended to attribute their understanding to the play itself (44%) over their own cognitive abilities (18%) more than did girls ( $r = -.25$ ,  $p < .05$ ).

#### 2. Children's Overall Dramatic Literacy and their Verbal and Visual Recall

Most children (84%) best recalled visualized central dramatic actions (69%) over incidental actions (9%), characters (13%), and spectacle elements (9%); however, 36% did paraphrase or quote dialogue words 17% of the time. These results are consistent with television research which finds that children of all ages exhibit better verbal recall of character actions over dialogue when given audio-visual stories (e.g., Meringoff, et al. 1983). The foundation of drama lies in dramatic action (i.e. what characters do or try to do). Thus, it is not surprising that children should focus on this salient visual feature in both theatre and television.

When children were asked to sequence seven central events of the plot from either photographs and/or dialogue, 73% achieved the highest scores possible (between 21 and 18). On the average, 59% of their scene placements were correct. Across all three conditions, children turned from dialogue to photographs a little over half of the time (55%), but neither verbal or visual starting conditions adversely affected sequencing scores to a significant degree.

When asked to infer the main idea of the whole play, the majority (75%) did not make spontaneous, abstract, metaphoric connections from the concepts in the play to the world at large. Only one-quarter made accurate inferential leaps by recognizing the script's notion of bravery or self-reliance and by applying notions of good moral behavior (e.g., "people shouldn't steal"). Instead, over half (56%) discussed some concrete aspect of the Monkey King in particular or all monkeys in general, perhaps because literal, audio-visual representations induce concrete inferences. Nine children (20%) either did not know the main idea or were unable to verbalize it. Children knew the main idea primarily through visual cues (43% of all cues used), particularly Monkey King's dramatic actions ( $r = .29, p < .05$ ), or psychological inferences (30%).

When asked what Monkey King wanted to do during the whole play, 36% gleaned an accurate superobjective by grasping the actor's primary or related intentions of wanting "to live forever," as explicitly stated in the dialogue. The majority

(42%) felt that he only wanted to go to school to learn in general, or that he wanted to help his monkeys in various ways. Few (7%) thought he wanted personal gain, while others (11%) cited objectives achieved early on in the play. Two children did not know or could not verbalize his superobjective. For the most part, children understood Monkey King's superobjective either through visual cues (44%), primarily his visualized dramatic actions, or through verbal cues (36%), particularly his explicit dialogue ( $r = .38, p < .01$ ). In keeping with the philosophical nature of his superobjective, the more children relied on what he said, the less they needed to rely on his actions ( $r = -.26, p < .05$ ). In fact, children were less likely to state accurately his intention to live forever if they based their inferences primarily on his dramatic actions ( $r = -.26, p < .05$ ).

When asked why Monkey King wanted to do what they had stated above (his motives), 27% offered a novel notion from their superobjective responses, while almost half (49%) repeated their previous superobjective ideas ( $r = .32, p < .05$ ). Seven children did not know or could not verbalize his motives. Twenty-four percent correctly recognized that Monkey King behaved as he did primarily because he wanted to live forever. These children were most accurate in inferring his motive when they relied on his explicit dialogue ( $r = .46, p < .01$ ) rather than his dramatic actions ( $r = -.43, p < .01$ ) to infer his superobjective. Another 22% attributed his intended behaviors to helping his monkeys,

while 18% believed his motives were purely for reasons of personal gain or enjoyment. The remaining five children stated less accurate motives. There was a positive relationship between inferences made regarding Monkey King's motive and the main idea of the entire play ( $r = .30, p < .05$ ).

Children exhibited good comprehension of character affect, and 42% correctly identified all three characters' emotions. When asked how the (masked) Dragon King felt after Monkey King stole the wishing staff and weapons, 73% found him angry, using both visual (35%) and verbal/aural (39%) cues, primarily his tone of voice ( $r = .26, p < .05$ ). When asked how Yama (the eyelid puppet) felt after Monkey King erased the names from the scroll, 64% found her to be angry as well, primarily through verbal/aural cues (38%). When asked how Monkey King felt when the Jade Emperor yelled at and punished him at the end of the play, 78% reported that he felt sad or "sorry." Contrary to their inferences about the other two characters, they used visual (29%), verbal/aural (25%), psychological (25%), and contextual (21%) cues almost equally.

When asked to recall what Kerchin said he and the other monkeys learned from the Monkey King, 27% accurately remembered the essence of his explicit dialogue ("You have taught us to be brave and to trust ourselves"). Another 38% remembered inaccurately, and 35% could not remember at all. A follow-up question asking what children had learned from the play revealed that over half (53%) reported learning the concept of trusting

oneself or good moral behaviors. Another 29% gleaned more concrete information about monkeys or Monkey King in particular. The remaining 18% either could not remember learning anything or said they learned nothing. Of the 26 children who were asked how they learned the above concepts, 22% cited the consequences of Monkey King's actions (e.g., his punishment or separation from his family), 26% reported identifying with his character in various ways, and 24% cited Monkey King's dramatic actions.

Children who inferred the play's main idea accurately also remembered Kerchin's dialogue accurately (also the main idea) ( $r = .44, p < .01$ ). Their main idea inferences were related to what they remembered of Kerchin's dialogue ( $r = .48, p < .001$ ), and the concepts they reported learning ( $r = .33, p < .05$ ). Moreover, they reported that children would enjoy the play "a lot" in another city ( $r = .27, p < .05$ ), and they attributed slightly more ease ( $r = -.26, p < .05$ ) than difficulty in comprehension to the play itself over their own cognitive efforts ( $r = .26, p < .05$ ).

When asked about the bases for inferences about the play, children used visual (33%), verbal/aural (32%), and psychological/contextual means (35%) almost equally. As in the Don Quixote study, the more children used visual cues, the more they also used verbal ( $r = .43, p < .001$ ) and psychological cues ( $r = .36, p < .01$ ). Furthermore, the more children used verbal cues, the easier they rated their comprehension of the play ( $r = -.43, p < .001$ ), and they attributed this ease to the play itself over their own cognitive efforts ( $r = .25, p < .05$ ). Likewise, those

who used fewer verbal cues to make inferences rated the play harder to understand. Finally, the more children used verbal cues, the higher their level of general comprehension ( $r = .39$ ,  $p < .01$ ). These findings suggest that either more verbal cues were necessary to make inferences about this particular play and/or that these children listened intently and recalled more verbal and aural information to process this production. Like the 5th graders in the Don Quixote study, the more these 3rd graders integrated all three modes (visual, verbal/aural and psychological/contextual) in their cognitive processing, the easier they rated their understanding of the play ( $r = -.36$ ,  $p < .01$ ), and the more they attributed this ease to the play itself ( $r = .25$ ,  $p < .05$ ).

As might be expected, the more children integrated all modes of processing, the more they reported learning the major intended concepts of the play ( $r = .57$ ,  $p < .001$ ), particularly when they relied on concrete visual and verbal/aural cues in this production (respectively  $r = .42$ ,  $p < .01$ ;  $r = .58$ ,  $p < .001$ ).

### 3. Children's Preferential Reasons for Theatre over Television

Finally, given a chance to see Monkey, Monkey again, children said they would prefer to watch it in a theatre (78%) than on television (22%), primarily for its "more real" live values (39%) ( $r = .38$ ,  $p < .01$ ). It is interesting to note that the same percentage of children in the Don Quixote study preferred theatre to television, and they cited the same reason for this choice. Those who preferred television did so primarily

for this medium's greater home comfort and viewer control ( $r = -.43, p < .01$ ).

Children who preferred theatre over television stated that 3rd graders in another city would enjoy this production "a lot" ( $r = .24, p < .01$ ). They also used more verbal/aural cues ( $r = .44, p < .001$ ) when processing inferences about the play, and they integrated all three modes of processing to a greater extent than those who preferred television ( $r = .32, p < .05$ ).

#### Discussion

Considering the nature of children's inferences and how they understood this play, it appears that the audience both watched and listened carefully. Children's enjoyment of the play and their preference for theatre over television may also suggest high attention levels during the performance--a factor which is likely to influence comprehension and recall.

Comparing interview responses to theatre objectives in the National Model Drama/Theatre Curriculum, most 3rd graders either met or exceeded expectations at or for their grade level by expressing and sharing their perceptions of this theatrical experience (with a stranger, no less). Over half to three-quarters of the children were able to recognize and identify central dramatic actions, the sequential order of the plot, and characters' emotions. Roughly one-third were able to recognize, identify, interpret, or in some cases, analyze character actions, objectives, and motives when asked to do so directly. They exhibited excellent levels of "dramatic literacy" by describing

explicit dramatic actions and dialogue, in particular, and by translating those performance cues into verbalized statements and psychological inferences--ironically, in almost imitative, "monkey-like" fashion. Over one-third of the children were also able to recognize and identify a major difference between theatre and television--that is, theatre's live dimension. Children also identified other similarities and differences, while some were able to compare conventions between the two media. At the same time, children indicated an astute understanding of the key differences between theatre and television, and they also exhibited low awareness of common theatrical conventions shared by television.

The only area of weakness lies in children's failure to make spontaneous metaphoric connections from the fictive world of Monkey, Monkey to their personal lives and the world at large. This may be due, in part, to children's confusion or inability to recognize or discuss the main ideas in plays. The fact that children were not asked to abstract connections directly may also restrict and limit these findings (e.g., "Does the Monkey King remind you of anyone you know?"). Nevertheless, over half of the children reported learning the major concepts and themes of this play, suggesting an ability to grasp main ideas depending on how questions are phrased.

Comprehension levels compared favorably with the artistic intentions of the director, performers and designers, and in some cases, individual responses exceeded expectations. Contrary to



the findings in the Don Quixote study, it would appear that children do listen to plays as much as they watch them, as long as the dialogue informs and reinforces each subsequent dramatic action throughout the performance. Like 5th graders, the more these 3rd graders relied on visual cues, the more they listened to dialogue and vocal inflections to increase their inference-making efforts. Likewise, the more they integrated all available cues in the production, the more they reported learning the symbolic concepts of this play with easier levels of understanding.

In general, the Quixote performance text relied heavily on implicit actions and dialogue to communicate its major themes, while the Monkey text contained more explicit dialogue about its universal messages and more frequent central dramatic actions to support those themes in its plot structure. Therefore, children's ability to draw inferences about characters, events and the main ideas of plays depends on whether or not key abstract ideas are presented implicitly or explicitly via aural and visual cues. In other words, what children see and hear is precisely what they retain best.

The results of this theatre study could inform the debate concerning the visual superiority hypothesis in television research. Studies consistently reveal that when given a choice between visual or auditory modes, children prefer to process stories visually, especially at younger ages, and visual presentation can either increase or decrease comprehension levels

(e.g., Hayes and Birnbaum 1980). However, as the present study demonstrates, the given stimulus determines the nature of how it is processed. Thus, the use of televised stories without systematic content analyses have confounded the results of many studies. Essentially, the central issue is whether or not the visual and auditory modes within a stimulus reinforce, highlight, contradict, or distract from one another in presenting central dramatic actions and critical story information (e.g., Calvert, et al. 1988). The nature of the comprehension task also determines the modality used in cognitive processing (Meringoff, et al. cited in Bryant and Anderson 1983). Story information will be recalled visually or aurally, depending on its initial visual or auditory presentation, the child's encoding at the time of presentation, and the modality through which it is later retrieved. For example, comprehension abilities are challenged when visual information (e.g., dramatic actions) is retrieved in visually in the mind's eye, and then translated in verbal or propositional form during an oral interview (cf. Kosslyn 1980, 416).

Children's frequent use of dialogue and aural cues in this study may be explained by the fact that verbal and aural information was necessary to answer inference questions regarding Monkey King's superobjective, the affect of three, "face-less" characters, and children's aural recall of explicit dialogue. Still, it may well be that live performers in theatre induce greater attention to spoken dialogue and vocal inflections

without the visual distractions of television's camera conventions. The fact that children who preferred theatre over television tended to use and integrate more verbal cues in their cognitive processing provides minimal support for this hypothesis. Until theatre and television are compared directly, theories regarding key differences in comprehension between these two media will remain speculative.

#### Recommendations to Elementary Teachers

By implication, children's "dramatic readings" of this play in performance also speaks highly of the individual elementary teachers who are teaching them basic language arts skills. By encouraging students to ask the 5 W questions about art (Who, What, Where, Why, When and How), critical thinking, problem-solving, and inductive reasoning skills can be enhanced after attending theatre. To combat the tendency to draw inferences from only concrete audio-visual information, teachers might also encourage their students to look for associations and recognize analogies between characters in given situations and students' personal lives. By exploring such similarities and differences, students may come to a greater understanding of how theatre represents the universal human condition for audiences of any age.

#### Future Research Directions

While this descriptive study sheds light on several exploratory questions regarding children's comprehension of

theatre in general, additional questions may be raised for future empirical or naturalistic inquiry:

1. How do children make meaning of theatre productions?
2. What realities (fictional and actual) do they perceive and construct?
3. Do children believe what they see and hear or do they see and hear what they already believe?

Theatre directors have a responsibility to keep child audiences returning to the theatre as adults. Knowledge about these audiences should come from the voices of children themselves, rather than solely from the speculations of well-meaning adult educators and researchers. Though children sometimes lack the verbal capacity to report their complete understanding and appreciation of theatre, researchers can employ numerous methods to ease these inherent problems. By interviewing small groups of children, perhaps on a yearly basis, educators and theatre producers alike may assess more closely the success (or failure) of specific theatre productions in engaging children's hearts and minds.

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Appendix 1: Monkey, Monkey INTERVIEW

Child's Name \_\_\_\_\_ Subject # \_\_\_\_\_

Age \_\_\_\_\_ Sex: \_\_\_\_\_

School: \_\_\_\_\_

Date: Wednesday Thursday Friday

Introduction: (done on way to interview room)

I'm glad that you could come to see the play Monkey, Monkey yesterday. When people see plays, they get lots of different ideas about the story and the way it was done.

May I ask you some questions about what you think about the play and have you put some cards in order?

[Child's assent] (yes) (no)

1. Did you already know the story of Monkey, Monkey before you saw the play yesterday?  
(no)  
(yes) How did you know that story? (TV, book, film, parent, teacher, or write in other)
  2. Do you think 3rd graders in another city would like this play  
(3) a lot  
(2) a little bit (or OK), or  
(1) not at all?  
(write in volunteered information:)
  3. Was this play ( ) easy or ( ) hard to understand?  
(if both:) Was it (2) sort of easy or (3) sort of hard?
    - a. Was it
 

(1) real easy	(4) real hard
(2) sort of easy	(3) sort of hard
- [BE IN ROOM FOR TAPE RECORDING BY THIS TIME]
- b. Why was it (the above) to understand?

[If child doesn't know why, prompt with:]

Was it easy/sort of easy  
because

(2) it was an easy play  
or because

(1) you concentrated  
(i.e. you watched and  
listened well)?

(both)

(write in volunteered information:)

Was it hard/sort of hard  
because

(2) it was a hard play  
or because

(1) you didn't concentrate  
(i.e. you didn't watch or  
listen very closely)?

(both)



4. Tell me some things you remember best from the play.

[Probe for 3 things: "What else do you remember?" or stop child after 3 things.]

1.

2.

3.

5. What do you think is the moral of the play?

[prompt: What's the main idea or message of the play?]

(don't know, even after prompting, skip to sequencing task.)

How do you know (that's the moral/main idea/message of the play)?

6. Sequencing Task (maximum time: 7 minutes)

VISUAL

VERBAL

Here's some (pictures taken/sentences said) at different times during the play. They're all mixed up. I want you to put them in order. So, the first thing that happens goes here (show), then the next here (show), and so on (show), and then the last thing here (show). To help you remember, there are (sentences of what the characters said/pictures) on the back (show). Some words are hard; so when you use the sentences, I will read them to you. [WHEN VERBAL SIDE IS UP] Let's read each one first.

7. During the whole play, what did the Monkey King, the main character, want to do?  
(If child doesn't know, even after probing, skip to #9)

How do you know that?

8. Why did he do that?

9. [SHOW PHOTOS (3) FOR EACH OF THE FOLLOWING:]  
a. When Monkey King stole the wishing staff and weapons from the Dragon King, how did the Dragon King feel?

How do you know the Dragon King felt that way?

- b. AFTER Monkey King erased the names from Yama's scroll and ran away, how did Yama feel?

How do you know Yama felt that way?

c. When the Jade Emperor yelled at and punished Monkey King at the end of the play, how did Monkey King feel?

[If child says, "He felt bad,"  
ask "What do you mean by 'bad'?" ]

How do you know he felt that way?

10. a. At the end of the play, what did Kerchin say he and the other monkeys learned from the Monkey King?

[If child doesn't know or can't remember, ask:  
c. What did you learn? [then skip to #11]

b. Did you learn  
(1) the same thing,  
d. How did you learn that?

(2) nothing, or

(3) something different?  
c. What did you learn?

d. How did you learn that?

11. If you could see Monkey, Monkey again this Saturday, would you rather
- (2) go to see it as a play on a stage (like you did yesterday)
  - or
  - (1) watch a production of it on television at home?

What's the difference?            [IF RUNNING OUT OF TIME, DON'T PROBE]

[TV=

[TH=

Debriefing: (stand up and start to leave)

Okay, we're done. Let's go back to your classroom now. Thank you so much for all your help. You really know a lot about this play and your ideas have really helped me a lot.

Assistant Scoring Sheet

Subject # \_\_\_\_\_

Audio Tape counter starting at # \_\_\_\_\_

STARTING CONDITION: (circle one) VISUAL    VERBAL

TURNING STRATEGY: (Check mark each time child turns card over.  
Use top boxes for within starting condition and bottom boxes for  
switching conditions entirely.)

Given random:


# of turns

CHILD'S FINAL ORDER: (Write in name of color in each square.)

ACTUAL CONDITION: (circle one)    VISUAL    VERBAL

--	--	--	--	--	--	--

**Appendix 2: Photographs Used in Sequencing Task**