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Reading as mediated and mediating action: Composing meaning for literature through multimedia interpretive texts

Literacy studies have increasingly recognized the potential of diverse sign and tool systems for enabling the changes in consciousness, representational capacity, and social competence historically attributed to language-based sign systems. The validity of multiple symbol systems has found both a neurological (Gardner, 1983) and cultural (John-Steiner, 1995) basis. Current literacy research points to the need to recognize acts of meaning construction as they function in specific contexts; that is, conceptions of literate practice need to recognize the ways in which individuals' neurological dispositions affect their predilection for symbol systems (Gardner, 1983; Smagorinsky & Coppock, 1994), the ways in which members of different communities of practice express and represent meaning (John-Steiner, 1985; Smagorinsky, 1995a; Witte, 1992), and the ways in which people at different developmental levels rely on different means of expressing and representing meaning (Graves, 1983; Harste, Woodward, & Burke, 1984).

Such broad conceptions of literacy often use the metaphor of a cultural *tool kit* to describe the various mediational means through which people construct and communicate meaning (Bruner, 1986; Wertsch, 1991). This idea of *mediation* is central to the semiotic conception of literacy that informs our current project. Cole (1996) defined mediation as the use of artifacts (i.e., any means or residue of cultural behavior) to regulate human interactions with the world, especially with other people. Through volitional use of such cultural mediators (e.g., writing, speech, graphic design, dance) in contexts that validate their use, people potentially experience changes in consciousness through their production of representational and communicative texts (Smagorinsky, 1995a, 1995b, 1997a, 1997b). The degree to which a performance is regarded as literate depends on the sociocultural context of the production and practice, with one's "communicative competence" (Hymes, 1974, p. 75) dependent on the social relationships that provide the context for a text to be read as meaningful.

In this research we used these expanded notions of literacy to consider the function of *composing texts* as a fundamental process of developing and communicating meaning, and thus as the essential literate act (Smagorinsky, 1995a). In this view a *text*, defined by Bloome and Egan-Robertson (1993) as "something done by people to experience" (p. 311), is produced through an act of *composition*, which is a type of volitional, goal-directed, tool-mediated act of representation (cf. Wertsch, 1985). One's choice of textual medium depends on the confluence of several factors, including the dispositions of the learners and the cultural values that provide the context and constraints for the acts of composing.

Our notion of composing is similar to the New London Group's (1996) concept of *design*, which involves any semiotic activity that consists of "a creative application and combination of conventions (resources—Available Designs) that, in the process of Design, transforms at the

Reading as mediated and mediating action: Composing meaning for literature through multimedia interpretive texts

RESEARCHERS ARE increasingly attentive to the need for broader conceptions of literacy. Expanded notions of what constitutes a *text* have led to the recognition of nonverbal acts of composing as having potential for both the development of new ideas during composing and the representation and further mediation of ideas through the production of and reflection on finished texts. Furthermore, studies in both intertextuality and intercontexuality point to the need to view both reading and composing as extended semiotic processes that are mediated, enabled, and constrained by a variety of situational social factors. This research analyzes the effort of a small group of high school seniors to interpret the character of Laertes in Shakespeare's *Hamlet* through a *body biography*, a life-sized human outline that they filled with images and words that represented their understanding of the character. The research examines their discussion as they composed their text, identifying the contextual constraints that structured their activity, the social processes they engaged in within those constraints, and the intertextual connections they used during their production. The analysis reveals the ways in which the process of collaborative multimedia composing has the potential to (a) enable exploratory discussion that leads to new ideas during the process of composing, (b) provide students with multiple vehicles for developing and representing meaning through the multifaceted tool kit of cultural tools available to them, and (c) provide students with opportunities to produce representations of meaning—both mental and artifactual—that in turn serve as the basis for reflection, mediation of ideas, and subsequent development into new forms of representation. Through this extended process of composition, students evoke images of literary meaning, discuss and produce a shared representation, juxtapose their interpretive text to the interpreted text, and revise their interpretive text to better depict the meaning they find in the interpreted text.

La lectura como una acción mediada y mediadora: Componiendo el significado de la literatura a través de textos interpretativos multimedia

LOS INVESTIGADORES están cada vez más atentos a la necesidad de contar con concepciones más amplias de la alfabetización. Nociones expandidas sobre lo que constituye un *texto*, han llevado al reconocimiento de que actos no verbales de composición tienen potencial, tanto para el desarrollo de nuevas ideas durante el proceso de composición, como para la representación y medición posterior de las ideas a través de la producción de textos y la reflexión sobre los textos terminados. Más aún, los estudios sobre intertextualidad e intercontextualidad apuntan a la necesidad de concebir la lectura y la composición como procesos semióticos extensos que son mediados, posibilitados y restringidos por una variedad de factores sociales situacionales. Esta investigación analiza el esfuerzo de un peque o grupo de estudiantes secundarios avanzados para interpretar el personaje de Laertes en *Hamlet* de Shakespeare, a través de una *biografía corporal*, un perfil humano que completaron con imágenes y palabras que representaban su comprensión del personaje. La investigación examina las discusiones mientras componían el texto, identificando las restricciones contextuales que estructuraron la actividad, los procesos sociales en los que se involucraron y las conexiones intertextuales que usaron durante la producción. El análisis revela las formas en las que el proceso de composición colaborativa multimedia tiene el potencial de (a) permitir la discusión exploratoria que conduce a nuevas ideas durante el proceso de composición, (b) proveer a los estudiantes con múltiples vehículos para desarrollar y representar el significado a través del conjunto multifacético de herramientas culturales a las que tienen acceso y (c) proveer a los estudiantes con oportunidades de producir representaciones del significado—tanto mentales como materiales—que a su vez sirvan como base para la reflexión, mediación de ideas y desarrollo posterior de nuevas formas de representación. A través de este extenso proceso de composición, los estudiantes evocan imágenes de significados literarios, discuten y producen una representación compartida, yuxtaponen su texto interpretativo al texto interpretado y revisan el texto interpretativo para reflejar mejor el significado que encuentran en el texto interpretado.

Lesen als vermittelte und vermittelnde Handlung: Zusammenstellen von Sinn für Literatur durch Multimedia interpretierte Texte

WISSENSCHAFTLER WIDMEN der Notwendigkeit erweiterter Konzeptionen des Lesens und Schreibens erhöhte Aufmerksamkeit. Erweiterte Vorstellungen von dem was ein Text ausmacht, haben zu der Erkenntnis von nicht-verbalen Ausdrucksmöglichkeiten der Gestaltung geführt, und zwar als Potential für beides: der Entwicklung neuer Ideen während der Zusammenstellung und der Darstellung, und der erweiterten Vermittlung von Ideen durch das Erschaffen und reflektive Betrachten der verfertigten Texte. Ferner, Studien in beidem, der Intertextualität und Interkontextualität, weisen auf die Notwendigkeit hin, beides—das Lesen und Ausgestalten—als ausgedehnte bzw. erweiterte semiotische Prozesse anzusehen, die vermittelt, ermöglicht, und eingeschränkt werden durch eine Vielfalt situations- und gesellschaftsbedingter Faktoren. Diese Forschung analysiert das Bemühung einer kleinen Gruppe von Oberstufen-Gymnasiasten den Charakter von Laertes in Shakespeares *Hamlet* durch eine grafisch-figürliche Biographie zu interpretieren, einen lebensumspannenden menschlichen Umriß, den sie mit Bildern und Worten ausstatteten, welche ihr Verständnis vom Charakter darstellten. Die Forschungsstudie untersucht ihre Diskussionen beim Zusammensetzen ihrer Texte, identifiziert die kontexturalen Zwänge welche ihre Aktivitäten bestimmten, die gesellschaftlich-sozialen Prozesse mit denen sie sich innerhalb jener Zwänge beschäftigten, und die intertexturalen Verbindungen, die sie während ihrer Produktion benutzten. Die Analyse zeigt Wege auf, in welchen der Prozeß von kollaborativer Multimedia-Komposition Möglichkeiten bietet (a) zur Befähigung einer erforschenden Diskussion, die während des Prozesses der Komposition zu neuen Ideen führt, (b) die den Oberschülern eine Vielfalt von Ausdrucksformen zur Entwicklung und sinnvollen Darstellung mit vielseitigen Hilfsmittels der ihnen zur Verfügung stehenden kulturellen Werkzeuge gibt, und (c) die den Oberschülern die Möglichkeit gibt, sinnvolle Darstellungen zu entwickeln—beides mental und künstlerisch gestaltend—welche umgekehrt wiederum als Grundlage zur Reflexion dienen, als Ideenvermittlung, und folglich sich zu neuen Formen der Darstellung entwickeln. Durch diesen erweiterten Prozeß von Komposition rufen die Schüler Spiegelbilder von literarischer Bedeutung hervor, diskutieren und produzieren eine gemeinschaftliche Representation, stellen ihren interpretativen Text dem interpretierten Text gegenüber und revidieren ihren interpretativen Text, um so besser die Bedeutung zu erfassen, die sie im interpretierten Text finden.

仲介し、仲介される行為としてのリーディング：マルチメディアの読解用テキストを使って物語の意味を形成すること

読み書き能力に関して、より幅の広い概念の必要性が研究者の間でますます注目を集めるようになってきた。テクストの構成要素をより広範に捉えることによって、作文という口頭によらない行為が、書きながら考えを発展させたり、出来上がった原稿の仕上げや見直しによって考えを表現したりまとめたりする潜在性を持つものとして認識されるようになった。さらにインターテクスト性とインターコンテクスト性に関する両研究において、リーディング、作文のどちらも様々な状況的社会的要素によって仲介され、具現され、制約される広い意味での記号論的プロセスと捉えられる必要性があるとしている。この研究では高校3年生の小グループがシェークスピアのハムレットに登場するレアティーズを理解する際に、思い浮かんだイメージや言葉でその人物史や等身大の人物像を描くことによってその人物の性格を解釈しようとする努力の実態が分析された。この研究では作文を書きながら行われた議論、彼らの活動を構成するコンテクスト的制約の認識、その制約において彼らが携わった社会的プロセス、そして文章を仕上げる際に彼らが使ったインターテクスト的関係が調査されている。その分析によってマルチメディアを使って文章を作成することにおいて次のような潜在性のあることが明らかになった。それは (a)文章を作りながら新しい考えを引き出すための探求心を可能にする、(b)自分たちに与えられた多面的文化ツール一式を使って意味を発展させ、表現するための様々な手段を生徒に与える、(c)文章を再考し、考えを仲介し、新しい表現形式へと発展させる基礎を作るうえで役立つような内的また人為的意味を表現する機会を生徒に与えるという潜在性である。この広範に捉えられた作文のプロセスを通して、生徒は物語の意味するイメージを呼び起こし、共有された表現を吟味して使用し、その読解用テクストを解釈されたものとして位置づけ、そしてその解釈において自分たちが見いだした意味をうまく表現するために元の読解用テクストに修正を加えたりするのである。

La lecture comme action médiée et action de médiation : donner du sens à l'oeuvre littéraire par l'interprétation de textes multimédia

DES CHERCHEURS portent une attention croissante au besoin de conceptions plus larges de la lecture-écriture. Des conceptions plus vastes de ce qui constitue un texte ont conduit à la reconnaissance d'actes non verbaux de rédaction comme ayant potentiel pour le développement à la fois d'idées nouvelles lors de la rédaction et de la représentation et pour une médiation ultérieure des idées à travers la production et la réflexion sur des textes achevés. Mieux encore, des études à la fois sur l'intertextualité et l'intercontextualité montrent le besoin de considérer aussi bien la lecture que la rédaction comme des processus sémiotiques médiés, rendus possibles, et contraints par tout un ensemble de facteurs sociaux situationnels. Cette recherche analyse les efforts d'un petit groupe d'élèves de collège pour interpréter le personnage de Laertes dans le *Hamlet* de Shakespeare à l'aide d'une biographie corporelle, une silhouette à l'échelle d'une vie humaine qu'ils ont complétée avec des images et des mots représentant ce qu'ils avaient compris du personnage. La recherche analyse leur discussion lors de la rédaction du texte, identifiant les contraintes contextuelles qui ont structuré l'activité, les processus sociaux qu'ils ont investis au sein de ces contraintes, et les liaisons intertextuelles qu'ils ont utilisées pendant la production. L'analyse révèle de quelle façon le processus de rédaction multimédia coopératif a le potentiel de a) rendre possible une discussion exploratoire qui conduit à de nouvelles idées pendant le processus de rédaction, b) fournir aux élèves de multiples moyens pour développer et représenter une signification à l'aide de la boite à outils multifacettes d'outils culturels dont ils peuvent disposer, et c) fournir aux élèves des occasions de produire des représentations de signification - aussi bien mentales que techniques - qui à leur tour servent de base à la réflexion, la médiation des idées, et le développement ultérieur de nouvelles formes de rédaction. Au travers de ce processus de rédaction élargie, les élèves évoquent des images de signification littéraire, discutent et produisent une représentation partagée, juxtaposent leur interprétation du texte au texte interprété, et révisent leur interprétation du texte pour mieux dépeindre la signification qu'ils trouvent dans le texte interprété.

same time it reproduces these conventions" (p. 74). Our conception of composing texts stresses that the process takes place over time and is subject to continual mediation. This mediation is inherently social, with even the employment of inanimate tools (e.g., pencils, material frameworks) having a social basis in that these tools are cultural constructs (Salomon, 1993).

In this conception of composing a text, each such act has a cultural history that includes an intertext of prior symbol systems and is reconceived and developed through processes of social interaction and reflection on the meaning potential of prototypical artifacts produced along the way. Our conception also stresses the volitional nature of such acts. Simply producing a text, whether a painting, an essay, or landscape architecture, will not necessarily provide the transformations in consciousness and culture that are potentially available. Rather, the means of composing need to be regarded as *cultural tools* by the composer, a value that is subject to influence by the prevailing values within which the production takes place. Furthermore, the cultural tools must enable the composer to willingly strive toward goals, a condition that many observers of students (e.g, Csikszentmihalyi & Larson, 1984; Goodlad, 1984) argue is not typical in school settings.

Wells and Chang-Wells (1992) described such acts of composing as "*literate thinking* [which] refers to all those uses of language in which its symbolic potential is deliberately exploited as a tool for thinking" (p. 76). They continued, "the hallmark of literate thinking is the exploitation of the symbolic potential of external representation as an aid to the construction of inner meaning" (p. 112). Wells and Chang-Wells described meaning as being constructed through two routes: (a) the process of transforming inner speech into a public set of signs and (b) the referential use of those signs to further mediate thinking.

Wertsch (in press) has grounded Vygotsky's (1987) conception of these two means of meaning construction in the *expressive* and *designative* philosophical traditions (cf. Smagorinsky, 1997a). The expressive functions of tool use refer to the manner in which meaning is constructed through the process of rendering inner speech (or other form of internalized tool-mediated thinking) to public speech (or other form of signification) and is an exploratory process through which the act of articulation provides for tentative meaning-making efforts that result in some material product (including ephemeral artifacts such as oral speech) that can serve as signs to mediate further thinking and changes in consciousness.

These expressive functions of speech can be further mediated by the responses of others who listen and contribute to the development of expressed thoughts and feelings. The designative functions of speech and other cultural tools refer to the public, material signs that provide the basis for reflection and further mediation of thinking and often the further reformulation of the signs (e.g., Sigel, 1970, 1990). Acts of composing therefore can produce meaning both during the process of articulation and in gaining distance from the artifacts of representation (Smagorinsky, 1997a, 1997b). The extent to which the artifacts are meaningful is a function of the values and cultural practices of the contexts of production and interpretation.

The perspective we have outlined, and that informs our current project, falls within the view of *cultural-historical activity theory* (CHAT), a view of human development generally attributed to Vygotsky (1978, 1987) and developed by Cole (1996), Leont'ev (1981), Luria (1976), Wertsch (1981, 1985, 1991), and others. Wertsch (1981) stressed that the Soviet concept of activity is predicated on "the notion of *internalization* [that] is concerned with the *ontogenesis* of the ability to carry out *socially formulated*, *goal-directed* actions with the help of *mediating devices*" (p. 32; emphasis in original). To Cole, "The central thesis of the Russian cultural-historical school is that the structure and development of human psychological processes emerge through culturally mediated, historically developing, practical activity" that is social in its origins (p. 108). Together these conceptions stress that development occurs through the volitional use of cultural tools toward purposeful ends in a socially mediated context.

In this study we looked at a group of high school students as they composed a meaning for Shakespeare's *Hamlet*. Their reading of the play is an extended, mediated process, occurring initially as a whole-class reading of the full text of the play and consummated in small-group productions of multimedia interpretations that represent the students' understanding of significant aspects of particular characters and their relationships. We viewed this multimedia interpretation as an effort to compose a meaning for the play through the collaborative composition of an interpretive text, one that allows students to produce a material representation of their evocation of the action of the play.

We borrowed the term *evocation* from Rosenblatt's (1978) transactional theory of literary response in which she maintained that, rather than responding to the linguistic signs of the literary text, readers use these linguistic signs to generate an evocation, or image, which becomes the basis for their response (cf. Enciso, 1992; Wilhelm, 1997). The interpretive texts produced by students in the research we report involved a combination of images and words, thus departing from the conventions of most schools' assessments of students' literary understanding (Applebee, 1993). We will present evi-

dence that the opportunity to generate a material evocation potentially enables students to engage in the rich sort of response envisioned by Rosenblatt in her outline of her transactional theory.

We are arguing that the act of producing an interpretive text is a composition in two interrelated ways. It provides the medium through which readers compose a meaning for the literature, and it serves as a new representational text that stands on its own. From a CHAT perspective, applied to the interpretive task we have described, acts of composing may be defined as follows:

1. Acts of composing take place in a sociocultural *context* that provides constraints, which in the sense we use are facilitative frameworks that guide production through the provision of rules and pathways that enable the development of goals and appropriate routes for achieving them. Constraints might include prevailing values, institutional goals, local rules and requirements, established speech or communication genres, the affordance provided by material resources, and other *canalizing* factors (Valsiner, in press, Chapter 2).

A context may be social, as in the therapeutic environment provided by an alternative school for recovering substance abusers and its effect on teachers' sense of appropriate response to literature (Smagorinsky & Coppock, 1994, 1995a, 1995b); or it may be physical, as in the material structure of a journalism school and its effects on students' sense of place in the institution's social hierarchy (Chin, 1994). A physical structure can create channels of activity, as in the journalism school described by Chin, or embody values, as in the physical setup of a school that places noncore subject areas on the physical fringe of the building (Smagorinsky, 1995a).

2. Acts of composing emerge from an *intertext* of prior genre-based texts and move into an intertext of future genre-based texts. As Bloome and Egan-Robertson (1993) noted, theorists have applied the term *intertextuality* to a variety of conceptions. Our view of intertextuality follows Bloome and Egan-Robertson's idea that intertextuality involves the juxtaposition of texts, with the conception of what counts as a text and how to bring it to bear on new situations being situationally determined by social values. In other words, the recognition of something as a text depends on the overt and covert values of the *context* in which it is conceived, produced, and considered. Intertextuality is therefore a social construction. In this view, "the social construction of intertextuality can emphasize the interactional work that people do in local events to invoke broader social, cultural, and political contexts" (Bloome & Egan-Robertson, p. 331).

The New London Group (1996) referred to the prior texts that are juxtaposed with new ones as "available designs" that afford a composer with a precedent from which to draw on the "grammars of various semiotic systems; the grammars of languages, and the grammars of other semiotic systems such as film, photography, or gesture. Available designs also include 'orders of discourse' [that are] the structured set of conventions associated with semiotic activity (including use of language) in a given social space" (p. 74). In this sense, any text is part of a continuum of texts that potentially provide the grounds for its production and issue henceforth from it.

In his effort to develop a view of reading that considers the historical context of the reading transaction to be fundamental to the processes that ensue, Hartman (1992) argued that "the text is never an *ex-nihilo* (i.e., out of nothing) creation; it presupposes other texts and has a multiplicity of sources. It is polyphonic and double-voiced; it is a multivocal field of play where texts are superimposed upon texts, upon still other texts" (pp. 296–297). Hartman emphasized the historical nature of both texts and readers and the importance of attending to both individual and social histories in accounting for particular reading episodes.

The historical grounding for reading provides a sense of what constitutes an appropriate reading of a particular text in a specific context. Bloome and Egan-Robertson (1993) stressed that "The social construction of intertextuality occurs within a cultural ideology that influences which texts may be juxtaposed and how those texts might be juxtaposed, by whom, where, and when" (p. 330). In other words, cultural values sanction the juxtaposition of some texts but not others. Schools, for instance, do not typically value an artistic text as an appropriate interpretive representation to emerge from a student's engagement with literature (Applebee, 1993). The "orders of discourse" described by The New London Group (1996, p. 74) are not automatically importable to new situations but depend on socially situated values and constraints.

3. Acts of composing are enacted through the cultural practices that provide an *intercontext* to guide production (Floriani, 1993). An intercontext, like an intertext, provides a set of value-laden precedents that are available to structure new production. An intercontext refers to the cultural processes and practices that people draw on from one context to another in order to structure and facilitate activity in new situations. It might refer to the ethos of a classroom and its consequences (e.g., a value on student-centered meaning construction and consequential teaching methods involving exploratory, affect-based discussion) or other continuum of ritualistic or conventional practice.

Any social setting provides a confluence of various intercontexts, only some of which are appropriate for

participants to draw on. In a classroom, for instance, the primary shared intercontext is the set of rituals and practices that have structured activity during prior class meetings. However, each individual enters with multiple experiences with social practices. Which ones to draw on, and when to draw on them, become a matter of negotiated agreement. Many English classes, for instance, provide narrow opportunities for response to literature (Applebee, 1993), with teacher-dominated discussion, factual tests, and text-based essays the primary vehicles for response. Students and teachers, however, may have experienced a variety of other modes of response that they do not view as appropriate for classroom settings, at least not when the teacher has the authority to sanction discourse.

Smith, for instance, in Marshall, Smagorinsky, and Smith (1995), described a middle school English teacher who is also a member of a book club, and who discusses literature in much more personal ways with his adult friends than with his adolescent students; furthermore, he engages in different rituals (e.g., drinking beer for both libation and bonding) with friends than with students. Students undoubtedly bring a range of practices to classrooms that are discouraged by teachers, as illustrated by the teacher in Marshall et al.'s opening vignette who dismisses students' affective responses to a story and displaces them with her own preferred explanation of the story's meaning.

The specific set of intercontextual practices exhibited in classrooms, then, is drawn from the wide set of cultural practices engaged in by all participants, and determined through the locus of power in the setting, usually the teacher's understanding of what is appropriate in the context. Tulviste's (1991) principle of heterogeneity provides a way of thinking about these multiple frames for thinking that people draw on for solving problems in specific instances. In Tulviste's account of activity theory, an environment consists of overlapping social networks that present individuals with a variety of types of problems to solve as well as multiple ways of solving them. Students, therefore, have been exposed to diverse types of problems, both in and out of school, and have learned through their sundry experiences different ways of thinking about them.

The classroom intercontext, seen from this perspective, provides a setting that involves both the shared social practices and rituals that are distinctive to that location and also brings together the heterogeneous ways of knowing that the participants bring from experience in other social groups. Teachers, through their assessment values, sanction which of those practices are appropriate for their classrooms.

4. Acts of composing emphasize the importance of both the *expressive* and *designative* functions of language. Through these functions the process of composing can help learners develop new meaning in two ways. First, acts of composing involve a search for meaning through the process of articulation. Second, this search produces an artifact, a new *text*—that is, a configuration of signs that represents and communicates meaning through cultural-historical attributions of signification, and that in turn serves as the basis for new reflection and reformulation of ideas and means of representation. The expressive and designative functions of language are *complementary* rather than separate or competing (Smagorinsky, 1997a). The appropriateness of both the tool use (expressive function) and sign system (designative function) is socially constructed. In other words, different interpretive processes are taught and valued in different settings, as illustrated by Beach's (1993) account of five different foci of reader response theory and the different implications of each for classroom discourse and student production.

In this sense, different theoretical perspectives provide different interpretive tools for readers in their efforts to understand literature. In addition, different textual media are available for response and interpretation, even though schools tend to assess students primarily through conventional analytic written texts and discourage affective response through any medium (Applebee, 1993). Artistic texts of any kind are only infrequently valued in schools (Gardner, 1983) even though some studies (e.g., Harste et al., 1984; Smagorinsky & Coppock, 1994, 1995a, 1995b) illustrate the potential of artistic media for enabling students to interpret literature in personally meaningful ways and provide some evidence that learners engage in different processes when engaged in interpreting literature through different media (dance, drawing, drama) due to the different types of representation available through each.

In the current research we examined the processes engaged in by a group of five high school seniors as they interpreted *Hamlet* through their production of a multimedia interpretive text known as a *body biography*; that is, a life-sized human outline that they filled in and surrounded with images and words that represented their understanding of a specific character. Their production of this body biography occurred in February of their senior year and was preceded by several instructional units emphasizing personal response to literature and a performance-based class reading of *Hamlet*.

This study followed prior studies of multimedia composing in school settings that have examined the roles of various artistic productions in the development of literary and personal understanding, including dance

(Smagorinsky & Coppock, 1995a), drawing (Harste et al., 1984; Siegel, 1984; Smagorinsky & Coppock, 1994; Whitin, 1996), and drama (Smagorinsky & Coppock, 1995b; Wagner, in press; Wolf & Enciso, 1994). Our effort in this research is distinguished by our effort to situate artistic literary interpretation in a larger social context and to study the process of socially mediated interpretation through an analysis of the speech—described by Cole (1996) as the "tool of tools" (p. 108)—of collaborative composing. We also investigated a specific interpretive form, the body biography, that has not yet served as the focus of research on response to literature.

The research was designed to answer the following questions:

1. What are the consequences of the specific intercontextual framework of the class under study on particular acts of composing within that framework?

2. How do intertextual factors influence specific acts of composing on an intertextual continuum?

3. In what ways does a small-group setting potentially enable exploratory talk to contribute to the production of an interpretive text?

4. In what ways does the production of a multimedia interpretive text enable a particular group of students to compose meaning for a work of literature?

The research was conducted as a collaborative inquiry between a university teacher and researcher and a classroom teacher and researcher. Details of this venture are presented in the Method section of this article.

METHOD

Participants and setting

The school

The research took place in a large (1,662 students) 2-year senior high school in the southwestern U.S. The school was the only high school in a college town of close to 90,000 residents located about 20 miles from a large city. Most students and faculty were white, with the largest minority groups among the students being Native American and African American. The high school's faculty as a whole endeavored to satisfy the community's interest in maintaining conventional indicators of quality such as high standardized test scores.

At the time of data collection, the high school was beginning its second year in a modified block schedule. Students enrolled in eight courses and attended four per day, with each class meeting every other day. Each block was 84 minutes long, and following the two morning classes, teachers were required to remain in their rooms for an additional 30 minutes called Overtime so that students could receive make-up work and tutoring or spend extra time completing assignments. Students were urged to view this half hour as academic time, and teachers could assign students to this time period if they were falling behind in their work.

The English Department

Instruction throughout the core academic departments tended to be traditional, that is, designed for the college-bound student and reliant on teacher-dominated patterns of discourse. A variety of teachers and students interviewed for this study and other studies (Smagorinsky, 1995b, 1996a, 1997b) confirmed that the five-paragraph essay was a staple of English department writing instruction and that literature was typically taught through the conventional approach of teachers leading students down a particular interpretive path according to tenets of New Criticism (see Marshall et al., 1995, for a detailed analysis of such discussion patterns). Most teachers interviewed in the English department revealed that they believed in the principles of New Criticism as the most effective grounding for becoming skilled in reading literature. That is, they valued the interpretations provided by experts in literary criticism and invested themselves with the authority to sanction particular readings, located the meaning of a work in the text and not the reader, provided instruction in interpretive conventions and their accompanying terminology, required analytic writing for assessing literary understanding, valorized canonical literary texts, relied on the commercial literature anthology to make literary selections, emphasized Western culture's primacy in providing a framework for rational thinking, and otherwise emphasized the text more than the reader in efforts to interpret literature.

Not all teachers practiced New Critical approaches; the department included a few (mostly younger) teachers who were influenced by Rosenblatt (1978) and encouraged more personal responses to texts. The mainstream faculty included some teachers who also parted with convention on occasion, such as the Advanced Placement (AP) teacher who, through her friendship and collaboration with Cindy (coauthor and the featured teacher in this study) at times included artistic response to literature as part of her repertoire.

Placement in English courses was determined largely by student preference. Those who scored below the eighth-grade level on standardized reading tests were placed in a reading course. Otherwise, most students met their senior English requirement by enrolling in regular English or AP English. Because the academic demands in AP classes were more stringent than those in honors English courses offered in earlier grades, a significant percentage of students who had previously been in

honors English chose to take regular English during their senior year. In addition, except for those students with severe disabilities in reading or written expression, most learning disabled students were mainstreamed into the regular English classroom. This combination resulted in a heterogeneous population in regular English classes in terms of abilities, experiences, knowledge, and attitudes.

Noncore classes

Prior research had investigated teaching and learning across the school curriculum (Smagorinsky, 1995a, 1996b, 1997b) and found that in home economics, agriculture, architectural design, and other noncore classes, instruction was often geared towards the production of a single product that required the synthesis of a wide range of knowledge. This product was produced over an extended period of time and took place in an informal atmosphere that encouraged collaboration, sharing, the recognition of student expertise, and the production of multiple drafts before reaching a finished product.

Students in an Equine Management and Production class, for instance, spent over a month designing horse ranches. To design a profitable ranch a student needed to synthesize knowledge of horse breeding, waste management, gravity, the relationship of a building's architecture to both landscape and weather, the needs of specific horse breeds in terms of exercise, feed, and other needs, and a variety of other aspects of horse maintenance. They thus integrated knowledge from mathematics, physics, meteorology, nutrition, health, human relations, and other disciplines in rendering a drawing of a functional and economically profitable horse ranch.

This type of composition—like the clothing produced in Home Economics classes, the videos produced in Media and Production classes, the architectural plans produced in Architectural Design, the newspaper produced in the Journalism class, and the compositions produced in other classes in noncore areas studied—promoted the kind of extended, mediated thinking advocated by writing researchers (e.g., Langer & Applebee, 1987) far better than did the models-oriented instruction in five-paragraph essays that was the primary vehicle for writing instruction in most English classes.

Cindy's class

Teacher's characteristics

At the time of the data collection, Cindy was in her ninth year of teaching in public high schools. During that time she had completed a master's degree in English Education, attended a summer institute of the state's National Writing Project affiliate, been elected to the Writing Project affiliate's board of directors, conducted numerous inservices for schools throughout the state, founded a teacher research group within the Writing Project affiliate, been elected to the state National Council of Teachers of English affiliate Executive Board, made presentations at national and regional conferences, and initiated the process of applying to a doctoral program at the nearby state university. This level of professional activity distinguished her from many of her colleagues in both the degree of involvement in a broader community and in the pedagogical approaches she adopted through her participation in them.

Cindy's approach to teaching was atypical of faculty members in her department, more resembling the instruction found in noncore classes in her school. In the teaching of literature, Cindy espoused reader response theories (Rosenblatt, 1978) and encouraged students to interact with texts in a number of ways in addition to writing. Unlike the majority of her colleagues who assumed that meaning is autonomous within the text, she believed that students construct meaning in light of prior knowledge, experience, personal history, and the insights of others. She saw herself as a facilitator in this construction of meaning, a moderator between students and the texts, and a fellow meaning maker. In her presentations at state and regional conferences, she listed the following as her primary goals in teaching literature:

- to provide students with opportunities to engage with texts,
- to encourage them to bring their individual strengths and interpretations to the construction of shared meaning within the classroom community,
- to enhance their development as more able readers through instruction in literary devices and the tools of narrative,
- to allow them to create texts of their own in response to the ideas and characters they encounter in literature.

Her professional reading, which she pursued both during her master's degree program and after its completion, included authors of great diversity, both in terms of theoretical orientation and age group emphasis. She named these authors as particularly influential: Arthur Applebee, Nancie Atwell, Richard Beach, Jerome Bruner, Lucy Calkins, John Dewey, Howard Gardner, Donald Graves, George Hillocks, Larry Johannessen, Peter H. Johnston, Elizabeth Kahn, Stephen Kern, Dan Kirby, Tom Liner, James Marshall, Thomas McCann, Alan Purves, Tom Romano, Louise Rosenblatt, Peter Smagorinsky, Melanie Sperling, Robert Tierney, Joseph Tsujimoto, L.S. Vygotsky, and Carolyn Walters. Through these influences she valued play-oriented activity, multimedia composing, group work, process-oriented

approaches to writing, reader response approaches to literature, strategies for inquiry-based and inductive learning, methods for instructional scaffolding, and assessment through student portfolios.

Cindy was strongly influenced by two factors in her orientation to teaching. First of all, her mother was a kindergarten teacher, and her own young children were at the time enrolled in a play-oriented kindergarten. Her exposure to the constructive nature of kindergarten activities of play, projects, and growth-oriented activities informed her approach to teaching high school students. Second, she was influenced by her first professional assignment as a drama teacher and structured her classes to promote activity, interaction, and performance in responding to literature.

Cindy's teaching of *Hamlet* involved more explicit instruction than did her teaching of more accessible literature. Field notes indicated that the frequency and length of her contributions to discussions of *Hamlet* were greater than those during her comments in prior literature units. In addition, the content of her remarks became more directive, shifting from questions to students about their response to a literary piece to more of an explanation of Shakespeare's language. Her scaffolding thus changed from teaching strategies for response to supporting students' efforts to follow the arcane language of the play.

Prior instruction

Cindy planned her classes so that roughly one half of each semester was focused on thematic studies of literature while the other half was devoted to process-writing instruction in a workshop setting (Atwell, 1987). She varied this plan depending on other contingencies; for instance, during the year of the present data collection, the extensive time spent on Shakespeare (*Hamlet* followed by *Much Ado About Nothing*) greatly reduced the time devoted to the writing workshop.

The format of the class varied depending on the task at hand. Students were asked to respond to literature through individual writing, small-group and class discussions, group projects, and group and individual presentations. Because students were most accustomed to New Critical approaches in prior English classes, Cindy carefully scaffolded a reader response approach through reading journals, writer's notebook entries, small-group discussions, and projects informed by multiple intelligence theory (Gardner, 1983), some of which eventually led to more formal writing.

A good illustration of her general approach is the way in which she began the first semester. In the first weeks of class she taught students how to keep reading logs. To do so she first provided them with an accessible poem and showed students how to keep a double-column reading journal. She illustrated what type of response would be appropriate, discouraging summary and encouraging affective response, the generation of questions about the text, or other constructive response. Students then worked in groups to produce a response to the poem she had assigned, and then read their responses to the class. Cindy would lead a critique of each response, identifying oversimplified types of response and encouraging more constructive entries. She then assigned a poem for homework with the assignment to write a reading journal log entry, which she then helped to critique during the next class session as students shared their responses in small groups.

Following this instruction on reading journals, she asked students to respond to the quotations they found most interesting in six challenging poems. Students then shared their responses to one of the poems in a small group and pooled their ideas to construct a visual response representing their interpretation on a large sheet of butcher paper, with markers used to produce the graphic design. Finally, each group presented its poster and led the entire class in a discussion of the important ideas and features of the poem. Students were later asked to write about these poems in a test at the end of the unit. Through these activities, students were oriented to Cindy's value on the personal construction of meaning, a collaborative approach to problem solving achieved through exploratory language, and the potential of art and other unconventional media for enabling the construction of meaning through the process of representation.

When the class used the writing workshop format, each class began with either a minilesson or an inquiry-based activity on some aspect of writing and was followed by individual writing time. As students wrote, Cindy would either work on her own writing or circulate around the class and conduct conferences with students. Students sometimes participated in art activities to stimulate their writing. On one occasion they produced *life maps*, autobiographical drawings representing significant events in their lives (Kirby & Liner, 1988), which they followed with writing about selected important events. On another occasion they devoted several class periods to the creation of plaster masks of their own faces, which they decorated on the outside with images that represented the way others saw them, and on the inside with words and images that described their hidden selves. The symbolism of their masks then served as the basis of personal writing.

Students did much of their informal writing in *writer's notebooks*, which were blank composition books that Cindy required them to buy. She also kept a writer's

notebook of her own and referred often to her own entries in it. She represented herself to her students as a writer and routinely read to them her own writer's notebook entries and the more polished pieces that she developed from them. From their writer's notebook entries students developed finished pieces of writing. Throughout each semester, students prepared writing portfolios consisting of several polished pieces that illustrated their growth as writers, and these portfolios were assessed using student-designed rubrics. The exploratory writing in their writer's notebooks, in combination with the exploratory talk of their small-group discussions, emphasized her belief in the need for expressive uses of language in the process of formulating new ideas.

Cindy also sought to build a sense of community in the classroom by soliciting student input in determining how both class time and the environment were structured. For example, during the first semester students were given the responsibility to plan and administer a meeting with fifth-grade pen pals from a local elementary school whose teacher was a friend of Cindy's from the National Writing Project affiliate and teacher research group. The meeting took an entire block period to plan and included icebreaker introductions, a tour of the high school, a joint writing activity, and a pizza lunch on the front lawn of the high school.

Later in the semester the class moved from the school library, where they met while their classroom was being renovated, to a permanent room. To help students develop a sense of ownership of their new environment, Cindy allowed them to design its decor. She devoted a block period to having students work in groups to brainstorm and sketch the ideal classroom environment. Based on the collective decisions of all of her classes about how the room would look, her students pooled their resources to turn many of their ideas into reality, including purchasing a new oriental rug, a used couch, a used chair, and an end table, and donating such items as plants, posters, candles, an aquarium, and a microwave oven frequently used to make popcorn, heat soup, and prepare other comestibles during class.

These last activities were counted towards the students' grades, primarily in terms of participation points. Including such activities as part of her academic program was a radical departure from the values and instructional routines of teachers in her department and created some tensions and confrontations between Cindy and some of her colleagues. Students revealed in interviews that they at times shared the faculty's skepticism about the academic value of mask making, interior design, the writing buddy meeting, and the other unconventional activities, and at times identified them, as did Cindy, as being traditionally the province of kindergarten. They were less confident than she, however, that such activities were appropriate for high school seniors.

Classroom activities during the reading of Hamlet

Hamlet was the first unit of study in the second semester of the students' senior year. The first semester had ended late in January, and at that point many students' schedules were changed, leading them to change English classes. Of the 24 students in the class under study during the first semester, 10 returned for the second semester. Of the new students in the class second semester, most had been enrolled in one of Cindy's other senior English classes during first semester.

Cindy's role during their reading of *Hamlet* in some ways built on her emphases of first semester, but also departed from them in important ways. In terms of similarities, Cindy continually strove to help students see the characters as they might appear in modern times, asking students to think about issues such as revenge, jealousy, and other themes in terms of their own experiences. Yet the challenges of reading such a difficult work of literature caused her to be far more directive in her teaching than she had been first semester. She had deliberately chosen accessible literature during the first semester in order to provide students with materials through which they could understand her emphasis on making personal connections and then apply methods of personal response independently. Shakespeare, however, presented greater challenges simply in terms of decoding the language.

Field notes consistently pointed to the more directive role she took in leading discussions. Rather than encouraging students to construct their own meanings for the literature, she would often explain the action directly to students. Her approach to scaffolding students' knowledge thus shifted from her customary facilitative method to a more explanatory role in assisting them through the difficult parts of the play. This instruction included explicit lessons on interpreting Shakespearean language (taken from Robinson, 1989) with a focus on understanding arcane vocabulary, syntactic structures, and other aspects of the archaic language.

For their reading of *Hamlet*, Cindy drew heavily on her background as a former drama teacher, stressing performance-based activities and teaching strategies to help students interpret the text independently. The room was set up to accommodate a performance-oriented reading of the play. Students' desks were set up in a 2-tiered U-shape with a sofa occupying the center of the inner U. This arrangement left a large space in the front and center of the room that functioned as a stage. During the reading of the play students gathered comfortably in this open area on the couch, seats, and floor.

To emphasize the performative aspects of their reading, Cindy began the unit by having students participate in a summary choral reading she had written that included lines from the play bridged with modern-day language. This activity then served as a reference point for students as they created their own study guides for each act of the play. These study guides required students to create titles for each scene, to write a summary of the act, to list and describe each character's function in the act, and to select and respond to what they saw as the most significant conflict and quotation from the act. Students later referred to these study guides as they completed class projects and studied for quizzes and the exam.

In addition to using performance as a springboard for their reading, students performed their reading of the play, with student readers positioning themselves in the open space of the classroom to give some idea of relationships and action of the play. Cindy alternated such readings with both the Franco Zeffirelli film version of *Hamlet* and an audio performance that she played on a portable record player. Students thus were exposed to different interpretations of the characters as they proceeded through the acts.

Periodically, Cindy would conduct an interview with students playing various roles in order to have them explain their characters and their understanding of their relationships. The students also performed *freeze frames* in which they chose an event from the play, decided why it was the most important one that they had read, worked out a modern interpretation of it, titled it, and then performed it for the class. After other students tried to guess which event they were performing, the group's defense of their choice served as a springboard for additional class discussion of the entire scene. Through this activity the students were able to discuss the play in their own language, interpret it through depictions that represented their own worlds, and translate Shakespeare's language so that they could express their own experiences and concerns through Shakespearean themes and characters.

Body biographies

At the end of the unit, Cindy told students to organize into five small groups. Each group was assigned a central character in *Hamlet* (Hamlet, Gertrude, Claudius, Polonius, Ophelia, or Laertes) whom they would interpret through the construction of a body biography, an activity she had read about in an *English Journal* article (Underwood, 1987). She adapted the original activity so that instead of having it serve as an autobiographical prompt, students used it as a tool for character analysis. Cindy provided a handout (see Appendix A) that described their responsibilities. She then spent about 15 minutes explaining the assignment and showing examples of body biographies from prior classes' interpretations of characters from *The Joy Luck Club* (Tan, 1989).

To produce a body biography, students were instructed to place a 7-foot long sheet of butcher paper on the floor and have one student lie down on it. Another student then drew an outline of the student's body on the butcher paper. The group filled in this outline with artistic representations of the character's traits, relationships, motivations, and experiences, and supplemented their art with relevant quotations from the play and their own original written text about the character. Students were encouraged to consider such elements as color, symbols, and the placement of their text and drawings as they designed a body biography to review significant events, choices, and changes involving their character. The assignment cued a textual reading for the students, not requiring them to consider or provide personal associations with the character.

The students

The class was broken into five groups, four of which were successfully tape-recorded during the discussions that took place during their body biography productions. In this article we focused on the transcribed discussion of Troy, June, Courtney, Lisa, and Venus (all pseudonyms), who chose to interpret Laertes for their body biography. We center on this group for this article because the students as a whole were neither especially strong nor especially weak, thus illustrating the potential of artistic composing for mainstream students in a mainstream school (albeit in an unconventional class). This group also is appropriate for this analysis because their social relations and degrees of attention to the task were relatively unproblematic, thus allowing for a look at, if not a best case scenario, then at least a good case scenario.

Following is a description of each student in the present case study. More information was available for some students than others due to their different degrees of participation in the yearlong study and to the fact that two of the students transferred into this class at the semester break and therefore provided less of an opportunity for observation.

Courtney

Courtney was a student in this class during both first and second semesters. She identified herself as an artist, had taken a number of art classes throughout high school, and planned to pursue a degree in photography following graduation from high school. In spite of this orientation, she claimed on a number of occasions during the body biography production to be a poor artist.

Prior to her senior year Courtney had spent time in a residential treatment center, an experience that served as a writing topic during writing workshop. She had originally volunteered to be a focal student for the year-long study, but her erratic attendance and performance caused her to be an undependable participant. Her work first semester was sufficient to receive a B in Cindy's class. She achieved this grade while working 5 hours at a job after school and taking classes at a nearby community college.

During the second semester, however, she missed eight block classes (school policy stated that students would automatically fail classes in which they had more than nine absences). She eventually turned in enough work to receive a low C for the second semester, but her inconsistent performance caused Cindy to require her to come in during Overtime on several occasions to make up missed assignments. Courtney eventually graduated, but because of her attendance problems and lack of completed assignments her graduation status was in question at the time of the body biography productions.

Courtney did not have a group of friends in the class with whom she worked regularly. When Cindy required collaborative productions Courtney worked with an assortment of other students who similarly had no core set of friends within the class.

June

June was a student in this class during both first and second semesters and had excellent attendance throughout the year, though she was frequently tardy to class. Although she received low B's for final grades both semesters, it took considerable urging from Cindy and June's parents for her to turn in work consistently. At the end of the first semester June stated in the introduction to her writing portfolio that one of her goals for writing was to learn how to write when in the company of friends due to her highly social personality. Field notes corroborated that she had a difficult time working on school assignments when her abundant friends were around. One of the comments Cindy made in assessing June's portfolio was that she needed more diligence in her daily work.

June eventually graduated in the spring but was in jeopardy of failing Cindy's class at the time of the body biography assignment because she was inconsistent in turning in work. She was still in danger of failing at the beginning of the final marking period. Throughout the second semester Cindy required June to attend Overtime to make up missed assignments. By both June's own acknowledgment and Cindy's evaluation, June was a fluent writer; her main problem as a student was that she focused more on friends then on academics.

June was a member of the social core of the class and appeared to lead an active social life outside class in mainstream school activities. A tall, attractive girl with long blonde hair, June resembled the models in the teen fashion magazines read by many girls in the class.

Venus

Venus was a student in this class during both first and second semesters. She was a consistently good student, earning an A+ first semester and a B second semester. Venus was extremely quiet and often expressionless; we found no instances in the field notes of her speaking in whole-class discussions during the entire year, and she provided only 6 of the 496 coded statements during the production of the body biography (see Table 1). During the first semester's small-group activities she had worked consistently with a group of two other quiet girls. When one of these girls transferred to another class at the semester break, Venus and the third girl stopped working together, and she often found herself, as she did in this assignment, as a peripheral member of groups that were formed around solid cores of friendship.

Lisa

Lisa transferred in from one of Cindy's other senior classes at the semester break. In her first-semester class Lisa was frequently tardy and was absent 10 times (some with a doctor's excuse, thus preventing a forced failure). The first-semester class was the first class of the school day, and among Lisa's reasons for switching to the class under study was that it started at 9:30, a time more amenable to Lisa's habit of sleeping late. In spite of her erratic attendance, Lisa received a B for the first semester.

During the second semester Lisa's punctuality greatly improved though she continued to miss class, accumulating eight absences due to illness. The work she submitted earned her an A for the semester, with consistently strong performances on all major assignments.

Lisa, like June, was a member of the social mainstream of the high school, though less prone to the distraction of friends in completing her school work. Her choices in wardrobe suggested that she devoted great attention to her appearance, often dressing in the current fashions featured in teen magazines.

Troy

Troy transferred in from one of Cindy's other senior classes at the semester break. Troy was a personable boy who was more likely to reveal his sensitivity than most other boys in the class. He was comfortable with girls, being the only boy in the class who chose to work in a predominantly female group; he also included girls among his close friends. He wrote poetry on his

own, a rare choice for boys in this sports-minded southwestern town. He was the only boy who came to a special writing group that Cindy held weekly during Overtime and lunch.

Troy was a good, if not strong, student in Cindy's class, earning a B first semester and a C second semester, grades that Cindy felt did not reflect his abilities. His decline in performance might have been due to the increasing amounts of time he devoted during second semester to his evening job as an employee at a local restaurant.

Procedure

Data collection

General approach

This research does not easily fall within a strict research paradigm. It represents a collaboration between a classroom teacher researcher and a university teacher researcher. It is a teacher research project in many ways. Cindy designed the curriculum and instruction, although she did so within the constraints provided by Peter's National Council of Teachers of English Research Foundation grant which provided funding to study multimedia composing. She also contributed to the data collection effort through her recording of discussions; her selection and collection of student work for reproduction; her maintenance of regular classroom records and a log of her teaching plans and reflections; and her access to and provision of information about students, the school, and the community. Furthermore, she was a full participant in the data analysis, including both the development and application of the coding system, and in the discussion and writing of the interpretation.

The study was also a researcher and teacher study. Peter visited most classes that took place during the school year, missing class only to attend professional conferences. Many of these classes were also observed by a research assistant who took field notes that were collated in with Peter's for a broad perspective of the class.

As a regular member of the class, Peter developed cordial relationships with many students. During small-group activities, when Cindy was involved with one group's questions, he would often play a teaching role by assisting other groups with their questions. During writing workshop he would similarly play a consulting role with students who approached him with questions.

Finally, he began teaching the class whenever Cindy was absent and a substitute teacher was present. After observing class in Cindy's absence when students treated the 84-minute block period as a strictly social occasion, Peter decided that the students were losing valuable opportunities to engage with the course materials and so began teaching Cindy's lessons when she was out of class. His 14 years of public school teaching, along with the students' knowledge of him as a university teacher and class member, allowed these classes to proceed according to Cindy's plans, unlike classes presided over by substitute teachers in which most students accomplished little academically.

This decision to become involved in the teaching of the class was influenced by recent questions about the ethics of researchers (e.g., Mortensen & Kirsch, 1996), particularly with regard to the predatory role that university researchers are often believed to play in classroom studies. His decision was also influenced by his understanding of the instructional potential of data collection, which can be viewed as mediational rather than adulterative (Smagorinsky, 1995b). His consideration of his role in the classroom began early in the school year, as indicated by this field note entry of September 25:

> Preclass musings: I've been thinking lately about one of those old research adages concerning the Hawthorne effect: that is, be cautious about generalizing from research findings because the very process of conducting research often causes the people involved to perform better because they know something special and different is taking place—what's being observed is not the same old classroom routine but something special and worthy of study. Often, in fact, researchers are cautioned about ways to reduce this effect so as not to distort the findings. Given the arguments I've been making lately, I'd say that if this effect is real, then we ought to make the opposite argument. That is, if conducting research creates an environment in which people perform better, then we ought to encourage classroom research more frequently. What better benefit could there possibly be than better learning and teaching? Why discourage this? I think it ought to be a fundamental goal of education, and if research is an instrument that contributes to the process, then we ought to find more ways to encourage it. I see my own role in this classroom as a researcher-teacher (a complement to the teacher-researcher)—that is, I'm here to study the class but part of my role is instructional, particularly when I work one-on-one with individual students. I think they'll learn better as a result of their experiences in reflecting about their learning. A far cry from the "contamination" I was urged to avoid when learning how to conduct research as a graduate student.

We thus see this study as fitting no paradigm particularly well. It is both *emic* and *etic*, with these perspectives at times existing within the same person. It is somewhat ethnographic in its effort to capture a whole school year through field notes, interviews, and recordings of various discussions, yet lacks the thickness of the approach described by Geertz (1973) in which

"Anthropologists don't study villages…they study *in* villages" (p. 22; emphasis in original). It is generally qualitative though it relies on frequency counts in order to identify recurrent types of processes. It involves the analysis of discussion transcripts yet does not follow the coding procedures of conversation analysis (Atkinson & Heritage, 1984) or other established methodology. For instance, rather than coding the transcripts independently and determining a reliability figure, we coded them together and discussed each segment as a way of reaching agreement. The research does follow some general principles such as the triangulation of data sources, yet the triangulation often came through the corroboration provided by Cindy. We see this study, then, as emerging from research traditions and their methodological approaches, yet not strictly following any single approach.

Data collection prior to and during the Hamlet *unit*

The research reported in this article is taken from a yearlong study of a high school English class. Two observers were present during most class sessions, with each observer recording field notes on a laptop computer. These notes were immediately collated into a single set of notes and then e-mailed to Cindy, who had the opportunity to read them and respond with any corrections or observations. As a result of this measure, she was kept abreast of the developing portrait of the class that was created through the field notes and had the opportunity to contribute to the impressions of the observers and thus the account of the perspective they provided through their emerging text. The field notes also provided her with detailed observations of her own teaching as well as accounts of students' responses to the class that are rarely available to practicing teachers. Compiled and edited field notes totaled over 500 pages of single-spaced notes for the year. Other data sources used for this case study included a log kept by the teacher, the teacher's planning book, and interviews with students. In addition, prior research conducted in this school (Smagorinsky, 1995b, 1996a, 1996b, 1997b) provided an overview of instruction across the curriculum and in other English classes.

Data collection during the body biography productions

Data were collected during two block period classes and one Overtime period—that is, an open 30-minute period before lunch during which students could go to teachers for make-up work, tutoring, and other personal attention. A portable tape recorder was used to record the group's discussion during their production of their body biography. The transcribed tapes are the primary data source for the analysis of the group processes. In addition, the classes during which the body biographies were produced were observed by two researchers who took field notes during the class sessions.

Data analysis

Coding process

The body biography tapes were transcribed, then checked by a research assistant, then rechecked for final verification of students' identities and accuracy of the transcription by Cindy. Students were not available for member checks because they had graduated by the time the tapes were transcribed and verified.

We then coded the transcripts of the small-group discussions to identify the specific role of the body biographies in the students' interpretations of characters from *Hamlet*. We developed the coding system in the following way:

1. Prior to reading the transcripts we generated a set of prototypical categories based on the coding systems developed from prior studies of both classroom discussions and think-aloud protocols (Marshall et al., 1995; Smagorinsky, 1997b; Smagorinsky & Coppock, 1994, 1995a, 1995b) and further influenced by theories of communication forwarded by Witte (1992) and Barnes (1992). This system provided descriptions of each statement at two levels. Level 1 was organized around the triadic semiotic perspective described by Witte (cf. Peirce, 1931–1958) and was designed to identify the ways in which students developed social processes to engage with contexts, texts, and intertexts to produce their body biographies. Level 2 was designed to use Barnes's (1992) notion of *exploratory* or *final* talk to identify the ways in which the small-group setting enabled students to use discussion as a vehicle for developing new ideas about their topic.

2. We collaboratively read through transcripts of four groups, which totaled 92 single-spaced pages of discussion and 2,904 coded units, with a unit roughly corresponding to one sentence. We discussed each statement in each transcript, its role in the students' effort to produce their body biography, and its relationship to other statements in other transcripts. This discussion caused us to continually assess both the individually coded statements and the coding system as a whole, and to assess, rename, and reorganize the prototypical categories throughout the process. As a result of this process we developed a theoretically related set of categories to account for each unit in the data set. This first iteration of the coding process took place during 3 months that roughly coincided with the summer hiatus from high school and university classes.

3. The authors collaboratively read through each transcript a second time, applying the coding system

through a discussion of each unit. Agreement on the code for each unit took place through discussion. The final coding cycle took place over 4 months. This cycle took longer than the first because it occurred after the fall semester had begun and both authors had returned to their teaching responsibilities as well as a new (unrelated) data collection effort, thus affording less time for coding the transcripts.

4. Following the second coding cycle, we looked at the total number of codes and eliminated categories that occurred fewer than five times per transcript, collapsing them into the nearest category in terms of definition.

Coding system

The coding system consists of two levels (see Table 1 for a report on the frequencies of each type of code for each student; see Appendix B for a full elaboration of the coding system, including definitions of categories and examples of each from the transcripts). The next sections describe each level of codes and explain relevant categories in Level 1.

Level 1. Under Level 1 we identified five general types of statements that contributed to the students' body biography productions and one type that included off-task talk. These five general types of statement are reviewed next, with brief descriptions of categories that appeared frequently.

(a) *Social process.* These statements indicated how students related to one another as they worked. Group members acted variously to promote cohesion, sort out roles, act on personal relationships, and otherwise work to establish a social climate within which to produce their body biographies. One type of social process occurred when students would identify a *role* (SP:R) they would play, such as looking up quotes from the play, working on a poem about the character, or drawing images on the body biography. They would on occasion provide an *affirmation* (SP:A) for one another in the form of a supportive or esteem-promoting statement. Students would also contribute a *strategy* (SP:S) that helped move their production along. Another social process occurred when students would provide a *self-assessment* (SP:SA) of their contribution to the production. Students would *request clarification* (SP:RC) when they wished for another student to repeat or reiterate a prior remark. Finally, students in this group engaged in playful talk labeled *facetiousness* (SP:F), often for the purpose of making the task fun and enjoying one another's company. These social processes contributed to the establishment of a set of social relations that allowed them to work productively on the assignment.

(b) *Context.* Context codes described students' attention to aspects of their environment that constrained their efforts to work. In our view a constraint is not necessarily limiting but rather can facilitate activity by channeling it productively (Valsiner, in press). Contextual factors referred to by the students included the *teacher-imposed framework* (C:TIF), particularly the body biography assignment but also any other rules or guidelines provided by Cindy for the class as a whole, either social or academic. Students also referred to the *material framework* (C:MF), such as the availability of colored markers and other tools for producing their body biographies. A third frequently mentioned constraint was the *temporal framework* (C:TF) that provided them with the deadline and limitations on class time within which they worked. Finally, students considered the *social framework* (C:SF) when they considered the appropriateness of certain terms (e.g., "pissed") for a school setting.

(c) *Text.* Text codes described references to the source text, *Hamlet*, independent of students' effort to represent it through the body biography. Most talk about the play came through their discussion of how to depict it in their interpretive text. At times, however, they stopped to discuss the play itself and then returned to their effort to represent it in the body biography. We identified two types of textual codes: *description* (T:D), which was a literal summary of action from the play, and *interpretation* (T:I), which was an effort to make inferences about the literal action.

(d) *Intertext—Graphic representation.* These codes described statements in which the students discussed how to depict the original play through an image on the body biography. *Intertext* codes derive from the dialogic relationship between their current production and any prior texts that inform it or future texts that will result from it. Our use of the term dialogic is strictly Bakhtinian (1986) and refers to the manner in which any text is derived from prior texts; that is, it is part of a historical continuum of ideas. Dialogic in this sense does not refer so much to immediate dialogue as it does to the historic, derivative nature of ideas. In our coding system the initial code of *I* for *intertext* was applied to statements that referred to any text that informed the students' reading of *Hamlet*, informed their production of their body biographies, or would be informed by their production of their body biographies.

Students made five types of intertextual statements attendant to their effort to create graphic representations. They talked about the *appearance* (IGR:A) of an image they had drawn and its contribution to the overall effect of the body biography. They discussed *spatial relationships* (IGR:SR) between the images they created, often in terms of the balance provided by complementary images. They also talked about the capacity of an image for *description* (IGR:D) of a character or event, primarily in

Table 1 Frequencies of each code for each speaker

	Lisa:E	Lisa:F	Troy:E	Troy:F	June:E	June:F	Courtney:E	Courtney:F	Venus:E	Venus:F	Cindy:E	Cindy:F	Total:E	Total:F	Total:T
Statement types															
Social process															
SP:R	5	1	2	5	3	1	4	0	0	1	0	0	14	8	22
SP:A	1	0	0	1	0	0	3	0	0	0	0	0	4	1	5
SP:S	1	3	2	0	6	0	5	0	0	0	1	0	15	3	18
SP:SA	0	0	0	3	2	1	2	3	0	0	0	0	4	7	11
SP:RC	1	0	2	0	5	0	1	0	0	0	0	0	9	0	9
SP:F	6	0	9	0	0	0	1	0	0	0	1	0	17	0	17
Context															
C:TIF	5	10	4	4	7	3	3	1	2	0	1	0	22	18	40
C:MF	2	5	5	1	5	2	1	3	0	0	3	4	14	11	25
C:TF	1	0	3	0	2	2	6	0	0	0	4	4	16	6	22
C:SF	3	0	3	1	0	0	0	0	0	0	1	0	7	1	8
Text															
T:D	8	1	1	1	8	1	6	4	0	2	1	2	24	11	35
T:I	2	0	2	5	4	0	1	0	0	0	1	1	10	6	16
Intertext-Graphic representation															
IGR:A	2	0	3	0	3	3	12	5	0	0	3	0	23	8	31
IGR:SR	2	0	2	0	6	0	6	1	0	0	0	0	16	1	17
IGR:D	10	0	6	0	13	1	17	3	0	0	0	0	46	4	50
IGR:S	11	0	4	0	13	0	10	1	0	0	0	0	38	1	39
IGR:R	2	0	0	0	0	2	5	1	0	0	1	1	8	4	12
Intertext-Written representation															
IWR:A	1	0	2	2	0	0	0	0	0	0	0	0	3	2	5
IWR:SR	0	0	0	0	6	1	1	1	0	0	0	0	7	2	9
IWR:D	5	1	12	0	3	0	4	0	0	0	0	0	24	1	25
IWR:S	2	0	1	0	3	0	4	0	0	0	0	0	10	0	10
IWR:R	4	1	5	1	3	1	0	0	0	0	0	1	12	4	16
IWR:I	15	0	10	1	2	0	3	0	1	0	0	0	31	1	32
IWR:WC	6	1	4	0	0	0	0	0	0	0	1	0	11	1	12
Total—On Task	95	23	82	25	94	18	95	23	3	3	18	13	385	101	486
Total—Off Task	3	0	7	0	0	0	0	0	0	0	0	0	10	0	10

Note. Abbreviations displayed in this table are explained in Appendix B.

terms of its fidelity to the action of the original play. They discussed as well the potential of image as *symbol* (IGR:S) in depicting the events and relationships in *Hamlet*. Finally, they engaged in *reflection* (IGR:R) when they stepped back from the body biography and discussed its overall effect.

(e) *Intertext—Written representation.* The body biography assignment required students to produce writing that represented the character, including both illustrative quotes from the play and original writing of their own. The codes in this category followed the basic structure of the codes for *Intertext—Graphic representation*, including codes for *appearance* (IWR:A), *spatial relationships* (IWR:SR), *description* (IWR:D), *symbol* (IWR:S), and *reflection* (IWR:R). Additional codes for the written representations were developed for statements that provided an *interpretation* (IWR:I) in the effort to write about the character and that deliberated about *word choice* (IWR:WC) in their writing.

Level 2. Level 2 codes draw on Barnes's (1992) argument that discussion consists of exploratory and final language. Exploratory speech concerns the way in which meaning is constructed in the translation of inner speech to public speech and describes the way in which the process of speaking or composing serves as a tool for discovering new meaning. Final statements represent what Barnes (1992) calls "final draft" (p. 108) versions of speech, those that have been previously explored and are now offered in final form as a resolution to thought. Each individual category is coded with an either an *E* or an *F* to indicate whether the remark is *exploratory* or *final*; that is, whether the remark represents an effort to think towards a solution or is in itself a statement that does not invite further discussion. Through the *E* and *F* codes we sought to understand the role of the students' discussion in leading towards new ideas.

Other codes. Two types of codes existed outside the basic coding system, statements marked as *off-task* and *inaudible*. An off-task (OT) statement was a remark that did not concern *Hamlet*, the body biography, or their social relations as they informed their work on the assignment. An inaudible (inaud.) remark occurred when (a) we could not hear a statement clearly or (b) we could not figure out the student's intentions from the available context. Because inaudible remarks occurred infrequently and did not figure into our analysis, we did not include them in Table 1.

RESULTS

This Results section reports the processes involved in the production of the group's body biography (see Figure 1; for a color version of this figure, see http://members.aol.com/RTEngl/bodybio.htm). We present the results of our analysis in two main sections. The first section describes the *activity framework*, which includes the constraints that channeled their production. The second section reports the *intertextual relationships in meaning construction* that the students sought as they attempted to represent Laertes through their body biography.

Activity framework

We are arguing that composing processes—including the composition of meaning for a work of literature through the production of an interpretive text—are part of a continuum of mediated processes. Our analysis of the body biography productions therefore begins with an identification of the *activity framework*, which is the set of social constraints that structured their activity. Our conception of *activity* refers to the actions that contribute to human development through the mediation of cultural tools. This action is purposeful and volitional and is an instantiation of historically developed social values and practices. These values and practices provide the social medium through which people internalize worldviews and their attendant cognitive processes and modes of conduct (Cole, 1996; Leont'ev, 1981; Wertsch, 1981, 1985, 1991).

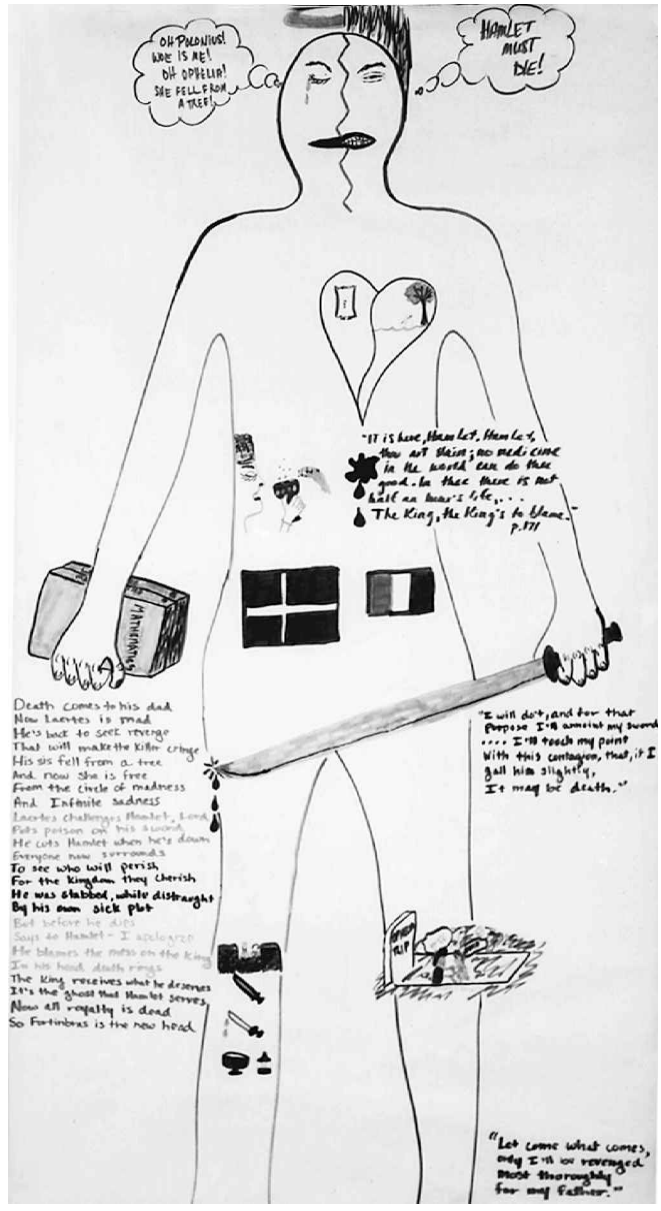
The activity framework we describe grounds the students' action in prior social practices (the *intercontext*) through which they internalized ways of thinking about literature and about how to appropriately discuss and represent their understanding of it. It also identifies the ways in which the social context of their production provided constraints that channeled their actions. Finally, the activity framework accounts for the ways in which goals provided the group with a sense of direction and purpose. These goals originated both in the broader social environment (e.g., Cindy's educational values and, more specifically, the body biography and how it embodies them) and in the students themselves (e.g., their presumed goal to comply with the assignment, pass the class, and graduate, as well as whatever personal, nonacademic goals they realized through their production). Our account of the activity framework is presented in terms of the prior social processes of the classroom and from two types of codes found in their discussion transcript, the *Social Process* and the *Context* codes.

Intercontext

The group produced their body biography within a framework of constraints. As detailed previously, Cindy had established a communication genre (Smagorinsky & Coppock, 1994, 1995a, 1995b) within the classroom in which artistic interpretations counted as part of students'

grades, thus establishing nonlinguistic expression as a legitimate (if not universally valued) mode of composition. The frequent use of small groups and generally informal tone of the class also sanctioned *exploratory talk* during class (coded at Level 2 as */E*); that is, half-baked talk that resembles thinking aloud and enables people to *work toward* ideas through conversation rather than expressing ideas in final-draft form (Barnes, 1992). The establishment of these sets of practices constituted the *intercontext* that provided students with the general rules for their conduct during their body biography productions.

Figure 1 The students' body biography for Laertes



Contextual constraints and social process

The coding system also indicated the ways in which the students explicitly saw their environment constraining their production as they worked. Two important constraints that they referred to were the assignment (coded as *Context: Teacher-Imposed Framework*) and the time frame within which they worked (coded as *Context: Temporal Framework*). The following excerpt illustrates how students discussed these factors and how the assignment and time frame channeled their composing:

Lisa:	She said it doesn't matter about how it looks. [C:TIF/F]
Courtney:	We are supposed to be finishing this. [C:TF/E]
Troy:	Okay, we have just got to back up what is on here. [C:TIF/F]
June:	I think we should have a week to do this. [C:TF/E]
Troy:	How are you going to do this in a day? [C: TF/E] We need to do a poem. [C:TIF/F] Do we need to do a poem? [C:TIF/E] I will do a poem. [SP:R/F]
June:	Okay, use—okay. [inaud.]
Troy:	About what? [IWR:D/E] About—oh, boy, all right. [IWR:D/E]
Courtney:	I don't know how to draw that. [SP:SA/E]
Lisa:	Okay, what else do we have to do? [C:TIF/E] We have to "communicate to us the full essence of your character by emphasizing the traits that make her/him who she is" [reading from the handout]. [C:TIF/F]

Their concern for both the parameters of the assignment and the time frame for their production caused them to establish social relations that provided the structure for their activity. Students took on roles that enabled them to channel their efforts productively and complete the project on time. The social roles they developed were both predicated on their prior relationships and skills and also negotiated as they worked. For instance, in the following excerpt from the beginning of their group discussion, the students:

1. considered the assignment (*Context: Teacher-Imposed Framework* codes),

2. began to follow the assignment to produce their body biography, as indicated by references to the *Text* (*Hamlet*) and the *Intertext—Graphic representation* (artistic portions of the body biography), and

3. decided how to divide their labor in order to fulfill the assignment's requirements (indicated by codes for *Social Process: Role*).

Lisa: Okay, we have to review Acts IV and V. [C:TIF/F]
Courtney: That is where Polonius dies and he gets mad. [T:D/F] And then Ophelia dies, and he is in the grave and he fights Hamlet. [T:D/F] And then Gertrude dies and then he fights Hamlet and dies—[T:D/F]
June: So we should draw—[SP:S/E]
Troy: Yeah, they should be here and here. [IGR:SR/E]
Courtney: Draw Polonius but with a sword in his stomach. [IGR:D/E] Draw the tapestry. [IGR:D/E] Draw water with Ophelia in it. [IGR:D/E]
Lisa: Now draw him as a piece of—a rat. [IGR:S/E]
June: Do you want to draw him because you can draw good? [SP:R/E]
Courtney: I can't draw things like that. [SP:SA/E]
Lisa: Draw him like a rat because he was behind it—a sword going through it. [IGR:S/E]
Courtney: I can't draw that good. [SP:SA/E] I can't draw free-handed stuff like that. [SP:SA/E]
June: I for sure can't draw. [SP:SA/F]
Troy: I drew a dog once. [SP:F/E]
June: Here, Troy, you can draw. [SP:R/E]
Lisa: Troy, are you an artist? [SP:R/E] Someone has got to be an artist here. [SP:R/E]
Troy: Really, I can't—I can't draw it. [SP:SA/F]
Courtney: What was it that you wanted to draw? [IGR:D/E]
Lisa: Like you know how he is killed from behind, you know, that tapestry hanging down [T:D/E] and hang it out like that and then a sword through it. [IGR:D/E] We don't have to draw a person. [IGR:D/E] Something like that. [IGR:D/E] You don't have to. [IGR:D/E]
June: And then draw his feet. [IGR:D/E]
Courtney: Yeah, that is a good idea. [SP:A/E] Yeah, draw that. [IGR:D/E] That's good. [SP:A/E] Anybody can help, right? [SP:R/E] That's good [SP:A/E], draw that on there. [IGR:D/E] That's better. [IGR:R/E] Which one is better? [IGR:R/E]

This excerpt illustrates the way in which they discussed what the assignment required, generated ideas about how to represent the character in the body biography, and negotiated roles about what contributions each student would make. Ultimately, Courtney, with her background in art (and self-deprecating comments about her own ability), and June worked on rendering the group's ideas into graphic form, while Lisa and Troy worked on writing the poem required by the assignment. Venus, the group's quietest and least social member, looked through a copy of the play to locate appropriate quotes to include on the body biography as required by Cindy's assignment. Following this role distribution, the group then worked mostly on task to complete the project, with only 10 of 496 codes falling into the Off-Task category. Through their division of labor (which, as the next section reveals, often overlapped), they established their own channels of activity to work within the broader framework provided by both the intercontext of social practices developed prior to this episode and the specific constraints provided by the assignment and time frame.

The preponderance of units coded */E* at Level 2 in this excerpt and in the transcript as a whole (385 out of 486 On Task units) suggests that the small-group setting provided a context in which the students could work through ideas during the course of discussion. As described previously, students had much prior experience with small groups and exploratory talk from their participation in Cindy's class, and so were acclimated to the idea that discussion can serve as a vehicle for developing new ideas. The decisions about which student would play which role were negotiated through exploratory talk. As the excerpts reported in the next section suggest, exploratory talk also served a role in the development of their interpretation of *Hamlet* and in their representation of that interpretation in their body biography.

Intertextual relationships in meaning construction

Central to the group's production was their effort to see some meaning in the play through their representation of Laertes by means of graphic and verbal signs. From a semiotic standpoint the source text (*Hamlet*) served as a set of signs to which they attributed a meaning, with the prior mediation of the classroom intercontext and its confluent intercontexts providing them with a set of interpretive tools and practices. Among the potential influences on their construction of meaning were the content of the class discussions and performances, the literal images provided by the film segments they watched, and their instantiation of meaning from their own experiences to the signs of the literary text.

As a group, they brought all of their personal associations together and, through exploratory discussion (coded as */E* in the Level 2 codes), came to agreement on how to depict their representation pictorially and verbally. Their body biography then served as a meaning-laden artifact that they could consult, reconsider, and revise both *as* they produced it and in its corporeal form. As The New London Group (1996) noted, this process draws on intertextual precedents, focusing attention on "the potentially complex ways in which meanings (such as linguistic meanings) are constituted through relationships to other texts (real or imaginary), text types (discourse or genres), narratives, and other

modes of meaning (such as visual design, architectonic or geographical positioning)" (p. 82). Suhor (1984) called this process of developing ideas across sign systems *transmediation* and considered it the essence of a semiotic curriculum.

These processes of drawing on and transforming prior texts are revealed in the following excerpt of the group discussion. The group decided to depict Laertes as a divided character both in terms of his passions and his reasoning. To represent his divided passions they decided to depict his heart as split in two (see the heart in Figure 1). During the discussion the students considered the literal action of the play (coded as *Text: Descriptive*) and how to interpret it (*Text: Interpretive*). They further considered how they might depict it graphically (*Intertext—Graphic representation: Descriptive*), interpret it through their poem (*Intertext—Written representation: Interpretive*), and symbolize it through imagery (*Intertext—Graphic representation: Symbolic*). The following excerpt reveals how they went through these processes:

June: Would y'all like a tree—[IGR:D/E]
Lisa: Okay, I have an idea—[SP:S/E]
Troy: You have to draw a tree with Ophelia dangling from it and there is water below. [IGR:D/E] This old girl is fixin' to go in it. [IGR:D/E] Look she—no, no—make her float more [IGR:D/E] and say, "I'm drowning—I'm drowning and I don't care." [IWR:D/E] That's what she said. [IWR:D/E]
Courtney: She's under water—[IGR:D/E]
June: Yeah, we have to draw her and then draw like the things like flowers and things like that. [IGR:D/E]
Lisa: She does not know that she is drowning, really. [T:D/E] Just have her saying "I am going to stay up here." [IWR:I/E]
Troy: Have her say, "That's bad, man." [IWR:I/E]
Lisa: Something about how she is at one with the river. [IWR:S/E]
June: Does she say that? [T:D/E]
Lisa: No, [T:D/E] but she is like—that is what they portray her to be thinking [T:I/E].
Troy: What? [SP:RC/E].
Lisa: She is like at one with the river. [T:I/E]
June: Oh yeah. [T:I/E] Hey, Venus, what do you think? [SP:A/E] What should we do about her? [SP:A/E]
Lisa: What, we should have more lines on this thing? [IGR:A/E]
June: Okay, let's do this and have like flowers [IGR:D/E]. And then she can be down here. [IGR:SR/E] Yeah, whatever, see I can't draw at all [SP:SA/E]. She can like be in the water and she is like gulp, gulp, gulp. [IGR:D/E].

This portion of the discussion reveals the ways in which their efforts to represent the character's emotional state caused them to discuss the text of *Hamlet*, a discussion that began with their effort to understand what happened literally in the play (indicated by both the *T:D* and *IGR:D* codes) and then moved to an interpretive level, as indicated by the *T:I* and *IGR:S* codes. The exploratory quality of their discussion, as indicated by the */E* codes in Level 2, reveals the ways in which their discussion allowed for and built on tentative efforts to construct meaning. Their exploratory talk, especially Troy's, was at times colloquial as they used familiar language and images to describe the remote Shakespearean characters. They developed their understanding of Laertes through their efforts to depict him and his relationships in the body biography, a medium that not only represented their view of the character but *enabled the discussion that led to their understanding*. In this sense their process of interpretation, representation, and reflection was dialectic, with the students discussing possible ways to depict Laertes and his relationships, developing and sharing mental models of how to represent him, agreeing on and producing the artifact that depicted their collective thinking, and then using that artifact to further mediate their consideration of the character and his role in the play.

From this discussion of how to depict his emotional state through a divided heart, they proceeded to discuss how to draw his head as two-sided:

Lisa: We can draw different heads and—[IGR:S/E]
June: Oh, that was what I was going to say. [IGR:S/E] Make him have a red head or something—yeah. [IGR:S/E]
Lisa: What—oh, yeah. [IGR:S/E]
Troy: Either that or he's going to have a headache. [SP:F/E]

Following this brief decision about how to depict his divided head, Courtney and June worked quietly on the drawing while Venus looked up quotes and Troy and Lisa discussed the assignment, realizing that they needed to include quotes from the play. The discussion then continued:

Courtney: Do you want me to write like the line [SP:R/E]—he is thinking that he would not have died? [IWR:D/E]
June: Yeah. [IWR:D/E] Okay, and then what? [SP:S/E] Okay—no, wait—we will have to wait. [inaud.]
Lisa: Death comes to his dad, and now Laertes is mad [IWR:D/F]—yeah, that is good. [IWR:D/F]
Courtney: We can put that on there or whatever [IWR:D/E] and then put like rage. [IGR:S/E]
June: Okay. [IGR:S/E]
Lisa: And on this side we put the rage. [IGR:SR/E].

June: All right, wait this is the right side. [IGR:SR/E]
Troy: Can we say "pissed"? [C:SF/E]
Lisa: Yeah. [C:SF/E]
Troy: We can't—[C:SF/E] Once the family's death exists, now he is pissed. [IWR:D/E]
June: Okay, cool, let's do that. [IWR:D/E]
Troy: I am going to ask [C:SF/E]—no, I'm just going to write the damn thing, the damn thing. [C:SF/F]
Lisa: What? Oh—[C:SF/E]
Troy: You didn't get it, did you? [IWR:D/E]
Lisa: Yeah, I did. [IWR:D/E]
Troy: He's bombed. [T:I/F]
Courtney: I can draw better. [SP:SA/F]
Troy: He's bombed. [T:I/F] He said, "I'm going to get bombed and go get that dude." [T:I/F] He's bombed. [T:I/F] He didn't care, dude. "I don't care about anybody, I'm going to get bombed. [T:I/F] Where is everybody at?" [T:I/F] Getting bombed. [T:I/F]
Courtney: I'm just going to draw around the eyes. [IGR:A/E]
Lisa: Oh, I should put shadows around the eyes a little bit. [IGR:S/E]
June: Okay, let's see what else can we draw about. [SP:S/E]

As this portion of the discussion began, Troy and Lisa were working on their poem while Courtney and June were drawing his divided head. As the excerpt reveals, the two discussions began to overlap and inform one another. Lisa and Troy's poetic line "Death comes to his dad, and now Laertes is mad" prompted Courtney to draw symbols of rage on the right side of Laertes's head. Troy then began to interpret Laertes's emotional state by articulating Laertes's lines in his own vernacular ("He's bombed. He said, 'I'm going to get bombed and go get that dude.' He's bombed. He didn't care, dude. 'I don't care about anybody, I'm going to get bombed. Where is everybody at?' Getting bombed."). His interpretation at this point echoed the type of reformulation Cindy encouraged in earlier class sessions as she prompted the students to recast the circumstances of the play in contemporary terms.

As a group they thus discussed and agreed upon the literal action of the play and its significance through the process of deciding how to depict Laertes through art and words. Their exploratory talk served to mediate their thinking about the play into a new understanding and more fully developed interpretive text. Their process of composition drew on prior texts and transformed them into a new text that, once rendered, provided them with the basis for producing a new composition. Their process enabled them to construct new meaning through their expressive uses of speech and graphic art and through the designative potential of the signs they produced (cf. Barnes, 1992; Smagorinsky, 1997b; Smagorinsky & Coppock, 1994, 1995a, 1995b; Wells & Chang-Wells, 1992). The extended process of cycles of exploration, composition, and reflection reiterated the social practices established, encouraged, and approved by Cindy through the intercontext of prior teaching and learning in her class.

A final illustration from the transcript reveals how the process of producing their body biography provided the students with a graphic text through which to clarify their understanding of relationships between characters. Toward the end of their production the students decided to draw Hamlet and Laertes fighting in a grave, a scene from Act V (depicted in the knee in Figure 1). The discussion began with students sorting through what had happened in the play in order to depict the scene accurately. Following their initial effort to reconstruct the scene, the discussion went as follows:

Courtney: Should I draw him stabbed? [IGR:D/E]
June: That looks good. [IGR:R/F]
Courtney: Like a little quotation. [IWR:D/E] He looks like—write, "I will kill you." [IWR:I/E]
June: Right, write revenge. [IWR:S/E]
Courtney: Hamlet jumps in the grave and starts choking Laertes? [T:D/E] So, which one is which? [IGR:A/E]
June: Well, whoever chokes Laertes. [IGR:A/E]
Troy: This is a long, long poem. [IWR:R/F]
Cindy: You need to make arrangements to finish up in my class. [C:TF/E] You can use my room all you want or you can take your thing with you, it is completely up to you. [C:TF/E] You can use my room almost anytime. [C:TF/E]
June: Oh, what should I write here? [IWR:I/E]
Courtney: I don't know. [IWR:I/E]
June: And right here I will put—uh, blood. [IGR:S/E]
Courtney: Write "You murderer" or something. [IWR:S/E]

To this point, the discussion primarily served to move them toward agreement on what had literally happened in the play and how to provide both an accurate representation of the characters' spatial positioning and some means of symbolizing their feelings toward one another. This effort at depiction prompted June to return to the source text (*Hamlet*) to pose an important question about the character's motivation. As Cindy circulated past their group, June asked:

June: But why did Hamlet come to Laertes? [T:I/E]
Cindy: They were fighting. [T:I/F]
June: I don't know why. [T:I/E]
Courtney: Yeah, but why did he start? Because Laertes was in the grave and then he went and jumped after him? [T:I/E] What did Laertes say? [T:D/E]

Cindy: And Hamlet tells him to "Hold off thy hands." [T:D/F] So Laertes is apparently the one that does it first. [T:I/F] He warns him, he says, "Get away from me. There is something in me that you don't want to mess with." [T:D/F]
June: So this is Laertes here? [IGR:D/E]
Courtney: Right. [IGR:D/F]
Lisa: I don't know, write "murderer" or something. [IWR:I/E] Okay, what about, just say that, like—[IWR:I/E]
June: Okay, have you got some quotations? [C:TIF/E] I think we write the quotations on here, right? [C:TIF/E]
Lisa: Yeah. [C:TIF/F]
Venus: And then, I don't know, there are two more [quotes to write down in the assignment]. [C:TIF/E]
June: Is this where they were fighting in the grave? [T:D/E]
Venus: No, it is when he tells them, it is when they are fighting and he tells them that the king knows. [T:D/F]
June: Okay, okay, look then, we should write this by his wound. [IWR:SR/E]. Okay, then we should do it right here where he stabbed him and kills him. [IWR:SR/E]. So maybe we should do like by the stab, you know. [IWR:SR/E]

As this excerpt illustrates, the process of rendering their interpretation into textual form enabled them to see relationships and generate questions that provided them with a new understanding of the characters and their motivations. Cindy's contributions are among the few statements in this excerpt that are coded */F* at Level 2, and her authoritative comments could issue from the pragmatic need to move the students toward closure as the bell approached and from the directive stance she had taken throughout the class's reading of *Hamlet*. Once Cindy moved away from the group, the students used her contribution to continue to explore June's original question about why Hamlet and Laertes were fighting. Their effort to talk through and understand the identities of the characters they had drawn, their relationship at the time of their depiction, and the significance of the event were all enabled by their graphic and written representation of the scene on the body biography.

DISCUSSION

This study is limited by the same factors that modify the claims of any study that seeks to identify a cultural-historical foundation for present actions. In order to provide such an account, one would need to know the life histories of all participants, the social histories of all relationships, the full cultural frameworks that constrain and enable all actions, the historical development of those cultural frameworks, and other information about the confluence of overlapping social contexts and personalities that contribute to the specific social processes and human cognition that provide the grounds for the episodes under study. Such detailed information is never fully available, leaving researchers to make inferences based on data collected through observable behavior, elicited accounts, artifacts of activity, and other sources. Furthermore, any rendition of that history is a narrative that is a product of the perspective of the narrator and thus is a subjective account. Our analysis in this study is necessarily incomplete and biased, relying primarily on the data that were obtainable through researchers' regular observations, classroom episodes that were amenable to being recorded, the generous accommodation of students in donating time to various data collection efforts, and our own limitations in seeing and describing the events.

A second important limitation is that our data could include only discourse that was within range of the tape recorder. All discourse that took place within the group, however, was not recorded. At times the students would pair off, with Venus working on her own. If one pair of students worked quietly, their discussion was not available for analysis. We were at times frustrated by our sense that something important was going on that was not captured by the tape recorder. The transcript, then, provides us with a sample of the discussion (albeit a large sample) rather than a complete account of their conversation. Furthermore, since the activity took place over two class periods, which themselves were separated by 2 days (in the block schedule a class would meet on alternating days), we had no access to whatever thoughts and conversations took place in the interim.

Our analysis is thus based on available transcripts of students' discussion and cannot account for other developments in their thinking. An event from earlier in the year illustrates the problems of making inferences from a limited data set. Late one week, two students had artistically interpreted "When I Have Fears That I May Cease to Be," a poem Keats wrote about the death of his brother. Over the weekend a friend of one of the students committed suicide. The following week, when presenting their interpretation to the class, she began to instantiate her friend when thinking of Keats's brother, and the interpretation took on a new meaning for her. Although it is unlikely that such a dramatic change took place with the students in the group reported in this study, we must assume that their life experiences continued to mediate their transaction with both *Hamlet* and their body biography of Laertes when the tape recorder was not running.

Finally, our small sample limits generalizations we might make from this group's experience. Yet a study of the particular has great value in understanding the idiosyncratic ways in which individuals and groups construct knowledge within a common social framework (Bloome & Bailey, 1992; Geertz, 1983). Rather than making general claims about what happens as a consequence of an instructional intervention, we show through our analysis how a particular teacher appropriated her understanding of reader-oriented views of the literature curriculum and broadened conceptions of literacy, how she employed teaching methods based on that understanding with a specific group of students, how that instruction played out within a conventional though uniquely situated English department, and how one group of students worked within this context to construct meaning for a given character from *Hamlet*. This report, rather than allowing for general pedagogical recommendations about providing opportunities for multimedia composing of meaning for literature, reveals how the potential for composing meaning was realized by one group within the complex sociocultural milieu of a particular classroom.

We set out to study this small group of students' effort to compose meaning for Laertes from Shakespeare's *Hamlet* through a multimedia composition known as a body biography and to account for their production through an understanding of the intercontext of its production, the intertextual links that students made across texts, and the type of talk engaged in during their collaboration. As noted in our discussion of the study's limitations, we cannot make claims of correlations due to the unobservable complexities involved in studying the interactions among five individuals from different backgrounds, even with their shared history of instruction (albeit in different classes) with Cindy's perspective on schooling and her subsequent instructional methods. From the available data, however, we believe that we can make some inferences about the processes observed and analyzed through the data sources from the study.

One question that motivated this study was that of how students in a mainstream school would respond during an unconventional classroom activity such as multimedia composing. The prior studies of multimedia composing that helped motivate and inform the current project were conducted in an alternative school for recovering substance abusers (Smagorinsky & Coppock, 1994, 1995a, 1995b). We were cautious about generalizing the results of those studies to mainstream schools due to the alternative school's emphasis on introspection and therapy that created communication genres congenial to the orientation of reader-based theories of literary response toward personal contemplation. The English department that provided the setting for the current research, as noted, was characterized by an emphasis on New Criticism, canonical readings, and five-paragraph interpretive themes.

Noncore classes, however, provided experiences in more extended forms of composition that required the synthesis of diverse forms of knowledge and the latitude to improvise within structured forms (e.g., the use of patterns and specified techniques for sewing clothes, yet the liberty to choose fabric and accessories that individualized the articles of clothing to suit the tastes and needs of particular students). The school as a whole therefore provided a variety of social contexts that flowed together in Cindy's class. Her assessment practices placed a value on unconventional compositions of both literary meaning and interpretive texts, thus providing the channel and goals for students' activity on this assignment.

The assignment itself specified the juxtaposition of texts that resulted in the intertextual connections that they made. In our initial coding of the transcript we were surprised at how little the students made personal connections to the literature; that is, their discussion of the character, apart from Troy's efforts to translate Laertes's words and actions into his own language, did not include any personal connections to the characters or discussions of their own related experiences. Due to the overall emphasis Cindy placed on reader-oriented responses to literature, we expected more, especially in the small-group setting with its opportunities for exploratory talk.

We ultimately inferred two reasons for the absence of personal responses to the characters. One was that the assignment did not cue such talk but focused students' attention on textual analysis, and as noted the activity framework that they established used the assignment as a primary means of structuring their work with particular attention to the temporal constraints they were under. A second reason was the difficulty of reading *Hamlet*, a play that is challenging for most modern readers of any age. Just as Cindy's instruction shifted from her emphasis on personal response to an emphasis on understanding the literal action of the play with a secondary emphasis on understanding it in contemporary terms, so did the students focus on clarifying what happened in the play, as indicated by the frequency of *Description* codes in their statements coded as referring to the *Text* and *Intertext* (see Table 1).

The discussion that mediated their collaborative interpretation reveals well the interrelated processes of composing a meaning for literature and composing an interpretive text to represent that meaning. Following its negotiation of an activity framework, the group attempted to generate images of the characters of the play. Initially, these images were mental representations (evo-

cations in Rosenblatt's 1978 parlance) that they pictured in their heads and described verbally to their group mates. Other students would then respond to these proposed, verbally represented evocations through discussion and reflection and juxtapose them to their own images from their reading of *Hamlet*. When they reached congruent understandings of appropriate images—either descriptive or symbolic—they would commit them in corporeal form to the body biography.

The process of committing an evocation to the body biography required them to take their individual mental representations and render them in a material form that required agreement, a process that necessitated clearer articulation as they discussed how to convert their separately idealized mental representations into an agreed-upon material form. Once included on the body biography, each word and image then served as a sign that potentially served to mediate new thinking about the play. As required by the assignment, the students went through this process with both pictorial and verbal evocations. They thus composed a shared meaning for the play as they composed a collaborative representation of Laertes.

The meaning that they composed for *Hamlet* was thus a complex attribution that was grounded in the cultural values and practices that informed their interpretive process. The meaning that they saw in the play was derived from both the immediate individual texts of the print and cinematic versions of *Hamlet*, from the knowledge of the play that Cindy brought to the class from her own knowledge of Shakespeare, and from the histories that provided the traditions that these readings emerged from. The students' composition of meaning was also a function of the ways in which the students read the characters through their own experiences, a process only occasionally evident in these transcripts yet part of Cindy's instructional method (e.g., the performance of freeze frames) during their reading of the play. Finally, their effort to construct meaning came through their rendering of thoughts into mental representations in words and images and their articulation of those evocations into public speech, followed by their agreement on which specific representations should go in the body biography and subsequent reflection on those tangible signs.

Our selection of this group is key to these conclusions. As a group they were neither especially strong nor especially weak as students. One reason that they serve as a somewhat idealized illustration of the composing processes outlined previously is that their action included the key trait of being *goal directed* (Wertsch, 1981, 1985, 1991). As noted, their motivation to graduate served to provide them with goals to complete the assignment to Cindy's satisfaction. We see this group as illustrating the importance of goal congruence in two key areas: in their shared goals as a group and in the propinquity of their collective goals for the assignment. This congruence of goals undoubtedly helps account for the remarkably low number of off-task remarks (2% of the total) that appeared in the transcript.

Our analysis of this group's reading of *Hamlet* suggests that reading is a continually mediated process in which a social context provides constraints that limit, channel, and enable readers' ways of thinking about, talking about, and representing the meaning that they impute to written signs. Furthermore, the process of reading a text is never finished but rather is continually being mediated into new interpretive texts—new representations of meaning—that in turn serve as the basis for continued reflection and development of thinking. Witte (1992) has described Peirce's (1931–1958) notion of "unlimited semiosis" in signification in which "once the interpretant is itself recognized as a sign, then that sign becomes part of a new triadic relation such that the original interpretant, now a sign, participates also in a new dynamic relation with an object and another interpretant, which—becoming itself a sign—permits the occurrence of yet another semiotic 'moment'" (p. 281).

Reading and composition are thus processes that are derivative of prior situated processes and in turn generate representations that themselves potentially serve as the springboard for continued acts of representation. Any moment during reading, then, is part of a continuum of mediational acts of signification through which people attribute meaning to the texts they read and the worlds they inhabit.

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APPENDIX A
The body biography assignment

For your chosen character, your group will be creating a *body biography*—a visual and written portrait illustrating several aspects of the character's life within the play.

You have many possibilities for filling up your giant sheet of paper. I have listed several, but please feel free to come up with your own creations. As always, the choices you make should be based on the text, for you will be verbally explaining (and thus, in a sense, defending) them at a showing of your work. Above all, your choices should be creative, analytical, and accurate.

After completing this portrait, you will participate in a showing in which you will present your masterpiece to the class. This showing should accomplish these objectives. It should:

- review significant events, choices, and changes involving your character
- communicate to us the full essence of your character by emphasizing the traits that make her/him who s/he is
- promote discussion of your character (esp. regarding gender issues in the play)

Body biography requirements

Although I expect your biography to contain additional dimensions, your portrait *must* contain:

- a review of significant happenings in the play
- visual symbols
- an original text
- your character's three most important lines from the play

Body biography suggestions

1. *Placement*—Carefully choose the placement of your text and artwork. For example, the area where your character's heart would be might be appropriate for illustrating the important relationships within his or her life.

2. *Spine*—Actors often discuss a character's spine. This is her/his objective within the play. What is the most important goal for your character? What drives her/his thoughts and actions? This is her/his spine. How can you illustrate it?

3. *Virtues and vices*—What are your character's most admirable qualities? Her/his worst? How can you make us visualize them?

4. *Color*—Colors are often symbolic. What color(s) do you most associate with your character? Why? How can you effectively work these colors into your presentation?

5. *Symbols*—What objects can you associate with your character that illustrate her/his essence? Are there objects mentioned within the play itself that you could use? If not, choose objects that especially seem to correspond with the character.

6. *Formula poems*—These are fast, but effective, recipes for producing a text because they are designed to reveal a lot about a character. (See the additional handouts I gave you for directions and examples.)

7. *Mirror, mirror…*—Consider both how your character appears to others on the surface and what you know about the character's inner self. Do these images clash or correspond? What does this tell you about the character?

8. *Changes*—How has your character changed within the play? Trace these changes within your text and/or artwork.

APPENDIX B
Coding system

Level 1

Social Process

Role (SP:R)—statement about the student's role within the group's cooperative work. *Example*:

June: Here, Troy, you can draw.
Lisa: Troy, are you an artist? Someone has got to be an artist here.

Affirmation (SP:A)—statement that affirms the worth of another group member's contribution. *Example*:

Courtney: Yeah, that is a good idea.

Strategy (SP:S)—statement that describes a method for proceeding with the interpretation. *Example*:

Courtney: Okay, what else can we have? What else can we draw?

Self-Assessment (SP:SA)—statement in which a student refers to his or her own abilities in producing the representational text. *Example*:

Courtney: I can't draw that good. I can't draw free-handed stuff like that.
June: I for sure can't draw.

Request Clarification (SP:RC)—statement in which a student asks someone to clarify or elaborate on a prior statement. *Example*:

Courtney: What do you want me to write?

Facetiousness (SP:F)—statement that is humorous in intent and does not contribute directly to the group's efforts to interpret the play or represent their understanding. *Example*:

Troy: I'm throwing a big party at my house.
Lisa: A big party at your house?
Troy: Yeah, we are going to bring this Laertes stuff.
Lisa: And we will finish it there?
Troy: Yeah.

Context

Teacher-Imposed Framework (C:TIF)—reference to a structure provided by the teacher to order, direct, and focus students' production. *Example*:

Lisa: It doesn't have to be good artwork—
June: We have to write like a poem, too.
Courtney: I thought she said that we didn't have to.
Lisa: Yeah, we do.

Material Framework (C:MF)—reference to a corporeal structure that in some way constrains and enables the students' means and method of production. *Example*:

Lisa: I need to get a pencil—I have one.
Troy: I've got a red marker.
Lisa: All right, there's markers over there.

Temporal Framework (C:TF)—reference to the time limitations that bound students' production. *Example*:

Lisa: We are not going to finish this, y'all.
June: I know, we have got to hurry.
Courtney: Do we have to finish this today?

Social Framework (C:SF)—reference to students' understanding of the rules of propriety that govern social interaction in the classroom. *Example*:

Troy: Can we say "pissed"?
Lisa: Yeah.

Text

Description (T:D)—summary or description of a character or action from the source text with no effort at inference. *Example*:

Courtney: That is where Polonius dies and he gets mad. And then Ophelia dies, and he is in the grave and he fights Hamlet. And then Gertrude dies and then he fights Hamlet and dies—

Interpretation (T:I)—inferential statement about a character or action from the source text. *Example*:

June: But why did Hamlet come to Laertes?
Cindy: They were fighting.
June: I don't know why.
Courtney: Yeah, but why did he start because Laertes was in the grave and then he went and jumped after him? What did Laertes say?

Intertext—Graphic Representation

Graphic Representation: Appearance (IGR:A)—reference to the images of the representational text (i.e., the body biography) with attention to its appearance (neatness, straightness, messiness, etc.). *Example*:

June: Erase that guy—that looks good right there.

(continued)

APPENDIX B (cont'd.)
Coding system

Graphic Representation: Spatial Relationships (IGR:SR)—reference to the images of the representational text with attention to the manner in which they fit together in a cohesive whole. *Example*:

Lisa: And on this side we put the rage.
June: All right, wait this is the right side.

Graphic Representation: Description (IGR:D)—reference to the images of the representational text (i.e., the body biography) with attention to its capacity to represent the story pictorially; that is, faithfully to the story without figurative embellishment or interpretation. *Example*:

Courtney: Draw Polonius but with a sword in his stomach. Draw the tapestry. Draw water with Ophelia in it.

Graphic Representation: Symbol (IGR:S)—reference to the images of the representational text (i.e., the body biography) with attention to its capacity to represent the story and its characters and action through a medium not literally conveyed by the original text. *Example*:

June: Something about—is that about Ophelia?
Courtney: Yeah.
June: Something about her madness or something. Okay, never mind.
Courtney: Okay, let's see—should I make him have red eyeballs over here? Yeah, yeah, bloodshot like. There's a little wine, so they are bloodshot.
Lisa: Red with bloodshot.

Graphic Representation: Reflection (IGR:R)—reference to an effort to step back from the representative text and consider the representative potential of the graphic portion. *Example*:

Courtney: Those are getting—we did good.
June: Yeah.

Intertext—Written Representation

Written Representation: Appearance (IWR:A)—reference to the linguistic portion of the representational text (i.e., the body biography) with attention to its appearance (neatness, straightness, messiness, etc.). *Example*:

Lisa: How many lines do we have? How many have you got? 1,2,3,4,5,6,7,8,9,10,11,12. Ten colors.

Written Representation: Spatial Relationships (IWR:SR)—reference to the linguistic portion of the representational text with attention to its capacity to fit together with the graphic images to form a cohesive whole. *Example*:

June: Okay, okay, look then, we should write this by his wound. Okay, then we should do it right here where he stabbed him and kills him. So maybe we should do like by the stab, you know.

Written Representation: Description (IWR:D)—reference to the linguistic portion of the representational text with attention to its capacity to represent the story faithfully without figurative embellishment or interpretation. *Example*:

Troy: …say, "I'm drowning—I'm drowning and I don't care." That's what she said.

Written Representation: Interpretation (IWR:I)—reference to the linguistic portion of the representative text with attention to its capacity to convey a perspective on a character's actions or character without doing so through an analogy. *Example*:

Lisa: Oh, yeah, something about how she—
Troy: She fell from the tree—
Lisa: And now she is free.

Written Representation: Symbol (IWR:S)—reference to the linguistic portion of the representational text with attention to its capacity to represent the story and its characters and action through analogies not literally conveyed by the original text. *Example*:

Lisa: Something about how she is at one with the river.

Written Representation: Word Choice (IWR:WC)—reference to word choice in the linguistic portion of the representational text. *Example*:

Lisa: No, wait, wait, wait—first you have to make something—like do it like two lines. Like make something here rhyme with revenge.

Written Representation: Reflection (IWR:R)—reference to an individual's effort to step back from the representational text and consider the representative potential of the written portion. *Example*:

Troy: This is quality stuff.
June: Quality stuff, right? Now that is good.

(continued)

APPENDIX B (cont'd.)
Coding system

Off-Task Talk
Off-Task (OT)—personal talk unrelated to the text under consideration. Ex:

Troy: I have two legs.
Lisa: We have no ears.
Troy: Good one.
Lisa: Oh, what—
Courtney: I am going to kill you.
Troy: Sometimes the pancakes that I eat set in my belly heavy.
Lisa: Why?
Troy: Because I have no legs. I have no ears. You have no butt.

Level 2

Exploratory (/E)—Exploratory talk is a tentative effort at interpretation or evaluation. Exploratory talk invites elaboration from others by asking questions and suggesting possibilities. It is marked by a "groping towards a meaning" (Barnes, 1992, p. 28) through thinking aloud and is marked by such terms as *might*, *could*, *possibly*, *maybe*, *I think*, and other qualifiers that indicate that an idea is under development and being offered for consideration by others. *Example*:

Troy: Have her say, "That's bad, man."
Lisa: Something about how she is at one with the river.
June: Does she say that?
Lisa: No, but she is like—that is what they portray her to be thinking.
Troy: What?
Lisa: She is like at one with the river.
June: Oh yeah. Hey, Venus, what do you think? What should we do about her?

Final (/F)
Final talk represents interpretations or evaluations that express a fully formed idea and do not invite further discussion. *Example*:

Courtney: That is where Polonius dies and he gets mad. And then Ophelia dies, and he is in the grave and he fights Hamlet. And then Gertrude dies and then he fights Hamlet and dies.