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AUTHOR Liebling, Cheryl Rappaport
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ABSTRACT

The home's supportiva setting, which has the potential to encourage children to share their thoughte and feelings through spoken language, is the basis of the home's strength as a communicative context. Teachers can help extand thie eharing of meaning by creating classroom environments in which writtan language experiences and microcomputer-based writing and reading activities are surrounded by familiar spoken language. One example of interactive software, Story Maker, anhancee the claesroom's communicative context by helping children concentrate on the structure and content of narratives rather than on the mechanical aspects of writing. A child ueing Story Maker has an opportunity to simultaneously play the rolee of writer and reader ae etoriee are created from structural branches of a story tree. A second example of interactive software, QUILL, providas activitiee that encompass the prewriting/planning, compoeing/drafting, revising/editing, and publiehing componants of the writing procese. Another type of communicative environment can be created by electronic mail systems in which children must attend to thair audience by sending meseagee to peers and adults. Revisione of meesages occur with the help of a child-oriented text editor. Parent-child dialogue, integrated spoken and written language experiences at echool, and the inclusion of interactive microcomputer activitiae within the classroom all contribute to the creation of meaningful communicative contexts. (HOD)

CENTER FOR THE STUDY OF READING

Reading Education Report No. 47

CREATING THE CLASSROOM'S COMMUNICATIVE CONTEXT: HOW PARENTS, TEACHERS, AND MICROCOMPUTERS CAN HELP

Cheryl Rappaport Liebling

Bolt Beranek and Newman, Inc.

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University of Illinois
at Urbana-Champaign
51 Gerty Drive
Champaign, Illinois 61820

Bolt Beranek and Newman, Inc.
50 Moulton Street
Cambridge, Massachusetts 02238

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Creating the Classroom's Communicative Context: How Parents, Teachers, and Microcomputers Can Help

Everyone has a story to tell. The question
is whether they'll tell it to you.
(Rosen, 1983)

Encouraging children to share their ideas, feelings and perceptions within the classroom is not always an easy task. Perhaps one of the greatest challenges a teacher faces is to create a classroom communicative context within which students are motivated to share meaningful experiences.

Teachers addressing this challenge are now developing classroom activities which reflect those features of parent-child interaction at home believed to provide substantial scaffolding for children learning to communicate. In this article I suggest that negotiation of meaning can further be enhanced when interactive microcomputer-based writing and reading activities are incorporated into the classroom's communicative context.

First, I will briefly identify key aspects of the home environment which facilitate language acquisition and describe innovative ways in which these aspects are being translated into school activities. Second, I will discuss prototypical software under development which may actually expand the communicative potential of the classroom.

The Home's Conversational Context

An important question for teachers to ask themselves is whether their classrooms contain the kinds of communicative features which often characterize home environments. Research on the home as a linguistic environment reveals that mothers and fathers share meaning with their children by using speech styles adapted to the child's level of language development as well as nonlinguistic meaning cues. Snow (1977), for example, has detailed maternal speech addressed to infants as marked by short, simple sentences spoken slowly and correctly. More recently, Rondal (1980) has shown that fathers' speech to very young children may be more lexically diverse than that of mothers, but it too is simplified with respect to utterance length.

Nonlinguistic features of the home setting also contribute to the relative ease with which parents and children share meaning. Parent-child talk at home characteristically occurs within a face-to-face conversational context in which parents and children rely not only on linguistic choices but associated paralinguistic and extralinguistic cues to convey meaning (Rubin, 1980a). The availability of both prosodic devices and situational features as support for linguistic choices in the social, interactive home setting helps parents and children make their thoughts, feelings, and intentions clear. Very young children appear to rely heavily on these kinds of nonlinguistic cues in producing and comprehending language (Halliday, 1975; Scollon, 1976). As children naturally become able to express

meaning and understand others, they begin to free the linguistic aspects of messages from the aurrounding cues, letting the nonlinguistic elements serve as background information for message clarification (Liebling, 1981).

Mothers and fathers also rely on these features to negotiate meaning with their children. Snow and Ferguson (1977), for example, comment that mothers use a good deal of repetition and stress to highlight words and important concepts.

Perhaps the most critical feature of the home as a conversational context is its potential to encourage interaction and involvement of parents and children. Through spoken language parents are able to engage their children directly in discussions of personal experience. This sharing of daily experience at home becomes the foundation for long-lasting social relationships established through communication.

One way to establish strong relationships is by listening to what our conversational partners say and responding on the basis of perceived intent. Parents and children may not always understand one another's meaning, but they strive to make sense of language choices in the communicative context. Whenever they share experience by discussing daily events, storytelling, creating texts and art, singing, dramatizing familiar tales, or reading, they have an opportunity to interact and become involved. When the reading of a text is combined with discussion, for example, the spoken language context facilitates

the sharing of the written text's meaning. Parents who engage in these kinds of activities soon recognize they are most successful in achieving their social and communicative goals when they provide feedback on effective communication by accepting, enlarging and enriching the child's expression of meaning.

The home as a linguistic environment, thus, is characterized by both linguistic and nonlinguistic elements which provide substantial support for children learning to share meaning with others. The home's potential for communication may not always be realized, but it can serve as a model in creating the classroom's communicative context.

The Classroom's Communicative Context

While some classrooms do not serve as social, interactive communicative settings (Dryson, 1982a; Fox, 1983), there are many teachers who do surround new reading and writing experiences with a conversational context similar to that of the home. A classroom communicative context derived from the home's conversational environment provides an essential link between the development of communicative competence at home and literacy in the classroom.

Reading and writing are often considered more difficult communication processes than speaking and listening because written language differs from spoken language in several important ways (Bruce, Collins, Rubin, & Gentner, 1982; Kleiman & Schallert, 1979; Olson, 1977; Rubin, 1980a; Schallert, et al., 1977). Important differences between written and spoken modes of

communication relate to distance and audience, purpose and language use, and the relationship of language choice to form, function, and context.

First, because readers and writers do not generally share a face-to-face communicative context, the paralinguistic and extralinguistic setting cues associated with spoken language are not available for aids in message interpretation. The reader is forced to rely on the author's choice of language forms to determine the author's viewpoint. The distance between author and reader necessitates that the author construct a cohesive text which takes into account the intended audience's presumed world and language knowledge. The reader, in turn, must utilize real world knowledge as well as a variety of comprehension and text-processing strategies to successfully construct the author's intended meaning on the basis of the written text.

Second, written language is often used to transmit information and argue a point of view rather than to establish a social relationship with the reader. Often, the primary purpose of written language is the production of informative and logical text. This purpose conflicts with that of spoken language as the child has come to know it. At home, children learn that meaning is shared through spoken language. While formal schooling seems to have created a type of spoken language register closer to that of written language (Cook-Gumperz & Gumperz, 1981), it has not lessened the importance of establishing connections between the

communicative purposes of both spoken and written language. Written language choices which help readers sense the real author's point of view, such as personal address terms, rhetorical devices, or descriptions of perceptions, thoughts, and feelings motivate readers to accurately interpret the author's intended meaning (Bruce, 1981).

Third, the more formal characteristics of written language when compared with the relative informality of conversational language often make it more difficult to utilize spoken language communicative competence in reading and writing. Spoken language communication tolerates less precise vocabulary, syntactic redundancies, and diffuse discourse structure because contextual features often carry meaning when the language choices do not clearly mark intent. Written language, however, generally relies on defined discourse structure, elaborated syntax, and exacting vocabulary to represent the author's thoughts and feelings.

Young children who are accustomed to producing and comprehending language in conversational contexts seem to be particularly confused by these kinds of language mode differences in early attempts to comprehend and produce written messages. Creating a classroom context which helps children share meaning through written language seems to benefit by the integration of new reading and writing experiences with the more familiar conversational context. Young children more quickly learn how to share meaning through written language when a classroom's

literacy environment parallels the home's conversational setting (Langer, 1982).

Recent research on young children's first encounters with written language (Harste, 1981) suggests that the roots of literacy lie in the child's experiences with written language at home long before formal schooling in reading and writing begins. Within the home's conversational context, children first encounter written language in forms as diverse as print, drawing, musical and mathematical notation. Harste, Burke and Woodward (1981) have provided fascinating examples of children as young as three years old who demonstrate that they attribute different meaning to alternative types of written language by their use of distinct drawing and writing forms. It appears that each encounter with written language contributes to the development of understanding that meaning is central to all language, regardless of its form.

Creating classroom communicative environments modelled after the home environment requires consideration of the strengths inherent in parent-child interaction. Taking the time to talk and listen to children describe their personal experiences, encouraging children to practice using language by engaging in a variety of language experiences, focusing on sharing meaning rather than errors made, and using language as a way to enjoy the social relationships we establish are important aspects of parent-child communiation which can readily be incorporated into teacher-child classroom interaction. Most important, however,

the process of becoming literate can be perceived as parallel to that of acquiring one's native language. Both occur gradually and naturally as children become acclimated to the sharing of experience through language.

How can facilitating aspects of the home's conversational context be translated into school activities? Recent efforts by teachers to incorporate the strengths of parent-child dialogue at home and promote the development of "natural literacy" (Teale, 1982) within the classroom have resulted in school activities in which spoken language surrounds a child's early efforts to write and read.

Of particular interest are activities in which very young children become authors. Advocates of early writing maintain that encouraging children to write within an integrated spoken and written language context helps children sense the obstacles all authors face in sharing meaning with readers (Dyson, 1982b, 1983; Graves, 1983; Hansen, 1983).

Throughout preschool, kindergarten, and elementary school, young children can become acclimated to written language by authoring texts. Although the definition of "text" is initially loose, Judy Egan's (1983) description of the development of writing capabilities by children at her school in Canterbury, New Hampshire provides compelling evidence that natural literacy begins very early. Egan notes that child-initiated writing in the classroom's writing center evolves from signed drawings given

meaning by spoken language and representational drawings whose subjects are chosen prior to drawing to the early addition of single letters or lines to represent the written message. Gradually, children begin to label parts of drawings with letter sequences that are often invented versions of correct spellings. Arising from labels naturally comes an interest in writing phrases and sentences and a demonstrated awareness of sound/symbol relationships, sight vocabulary, and even of discourse units themselves by attending to, for example, the spacing of words.

Given the time to practice sharing meaning through writing and a teacher who offers encouragement in the child's efforts to share personal experience with others, young children quickly become capable of taking themselves through the entire writing process--planning, composing, and eventually, rewriting. Through "publishing" narratives or expository text for others to read, sending messages to friends and relatives, and keeping journals or diaries, even very young children produce meaningful written texts.

Comprehending written texts can be approached in a similar manner, not as drill, but as an activity in which the reader is trying to establish a social relationship with the writer by understanding the writer's message. To this end, Ellen Blackburn's first grade classroom in Somersworth, New Hampshire in which Graves and Hansen (1983) conducted research utilizes the "Author's Chair." The Author's Chair is an exciting addition to

the Writing Center and facilitates the transfer of spoken language communicative competence to successful reading comprehension. It is the place where children or teachers sit when they are role-playing an author reading her book aloud to others. Who is the real author? Sometimes it is a trade book or basal reader writer. Sometimes, it is the teacher if she is writing in the classroom. Sometimes, it is one of the children. The children's published writing is given equal status with that of adult authors so that children learn how their own writing has an audience, just as adult writing does.

In effect, the person who sits in the Author's Chair and reads to the group becomes the real author. During the reading, the "author" is free to comment on the text, pose questions, and engage in discussion with the audience. After the reading, the "author" engages the audience in a discussion of the book's merits and tries to clarify misunderstandings. Discussion between writers and readers provides a spoken language context for understanding the meaning of written texts. Within this setting, writers and readers become speakers and listeners who establi social relationships through language choices and associated prosodic and situational meaning cues. The writer/speaker and reader/listener interact in a conversational context to provide feedback on interpretation of meaning and pose questions to clarify points of view.

These types of language experiences help create social, interactive classrooms and extend the home's conversational setting into the school. They represent innovative approaches in integrating spoken language communicative competence and literacy in reading and writing.

Using Microcomputers in the Classroom

We have seen that a classroom's communicative environment can be improved when teachers draw upon the strengths of the home's conversational context. Early literacy experiences occurring within a spoken language setting seem to facilitate a child's willingness to share meaning. Even within this environment, however, not all children are sufficiently motivated to communicate. What tools can be used to further enhance the classroom's communicative potential?

The integration of spoken and written language in today's classroom need not be limited by exclusive reliance on paper and pencil or audiovisual aids. Today, the classroom's teaching tools are being expanded to include microcomputer technology.

A growing number of classroom teachers now recognize that there are many reasons for introducing young children to microcomputers. First, electronic technology has vastly altered the way information is gathered, stored, displayed, and formatted. Providing early exposure to microcomputers within the classroom enlarges our definition of literacy (Compaine, 1983) as it lays the foundation for future use of technology in a wide range of work situations. Second, the ability to use a computer

does not minimize the importance of learning to write and read. To the contrary, the new technology complements print (Lucy, 1983) by providing exposure to yet another form of written language. Early exposure to microcomputers can help children acquire basic literacy skills.

Finally, the microcomputer's most significant contribution may well be to expand the classroom's communicative context. Set within a social, interactive environment, microcomputers can become a highly motivating and interest-provoking source for classroom communication.

The successful use of microcomputers in the classroom begins by establishing software selection criteria. The reasons that microcomputers can be useful in the classroom point the way toward these criteria. Does the software promote computer literacy? Does it help children acquire basic literacy skills? Does the software expand the classroom's communicative potential?

Unfortunately much of the software currently available consists of dril and practice exercises in which the computer serves as a consultant who knows all the right answers (Bradley, 1982; Collins, 1984; Schwartz, 1982; Shostak, 1982; Woodruff, 1982). This type of software may help individual students who need concentrated practice on specific skills and, indirectly, contribute to computer literacy. It is not likely, however, to expand the classroom's communicative potential.

With the notable exception of LOGO, the children's programming language, software which meets these criteria is not readily available. Prototypical software, however, is currently being piloted and disseminated throughout the United States. Recently developed interactive writing and reading activities, for example, enable children to both initiate and control writing activities as they plan, compose, and revise text prior to publication as well as to focus on the structure and content of narratives. These kinds of activities may help expand the communicative potential of the classroom by enabling children to create texts in ways that are not possible without the technology.

One example of interactive software is Story Maker (Rubin, 1980b; Rubin, 1982; Collins, 1984). Story Maker enhances the classroom's communicative context because its intent is to help children conentrate on the structure and content of narratives rather than the mechanical aspects of writing. The activities fulfill this objective using an interesting and motivating format ideally suited to computer technology.

Story Marker is considered "interactive" because the child remains in control of the reading and writing activity and is an active partner in producing the text. A child using Story Maker has an opportunity to simultaneously play the roles of writer and reader as stories are created from structural branches of a story tree.

Figure 1 displays an example of the beginning of a tree for a story entitled "The Haunted House." A child chooses to develop this story by first selecting the menu item "Run Story Maker" and second, one titling the story. The computer asks for the child's name and immediately responds by thanking the child by name. The child creates the story on the basis of branches selected. At any time she can request to see where the branch selection falls in the overall tree structure, make new choices and then read the complete text, or get help if she does not know what to do next. Throughout text produc ion, the computer interacts by providing such messsges as WAIT when new information is added to existing text or OK when the child is free to continue.

Insert Figure 1 about here.

A third grader created the following text using "The Haunted House" tree structure.

> Lace opened the front door and slipped into what looked like a big bowl of spaghetti. It was really the mummy taking a bath. The mummy grabbed Lsce. She slipped out of his arms. Lace stood up and her dress fell off. She opened a closet door snd saw a witch's outfit hanging there. Lace put on the black clothes and ran out of the house. She met the scarecrow, Toto, Tinman and the lion skipping down the yellow brick roai. Then she heard a loud thundering noise behind her, it was the flying monkey motorcycles! Lsce then

realized that the costume was magic. She had turned into the witch from "The Wiz."

A student can create a number of different story lines, depending upon the branches selected. Actual choices made affect both the flow of the story and the outcome. This particular tree is designed, however, to ensure that the story will be logical in its completed version. As understanding of story structure develops, the child's choices become related to communicative purpose and ease of reader comprehension. Working in pairs or small groups is encouraged so that students are able to share the meaning of the written text within a conversational context.

In a second activity, the child asks the computer for a goal and chooses branches which are evaluated with respect to achievement of that goal. Story Maker Maker, the last activity, enables children to add their own story parts to a story tree. These additions are stored for future use by other children.

A second example of interactive software is QUILL (Bruce & Rubin, in press; Rubin & Bruce and the QUILL project, in press). QUILL activities encompass the prewriting/planning, composing/drafting, revising/editing, and publishing components of the writing process. The software can be incorporated into an instructional program designed with respect to language arts curriculum objectives and adapted for virtually any content or subject.

Prewriting activities include teacher or student-prepared planners which help children generate ideas for composition. Teachers select topics which are meaningful to the children and prepare an overall framework in which the children develop text. For example, a sixth grade teacher in Hartford, Connecticut developed the following PLANNER on seed planting as part of a science unit.

- TYPE OF PLANT
  Beans

- DESCRIBE THE SEEDS
  Dicot

- TIME UNTIL GERMINATION
  It took about three days

- SEED: MONOCOT OR DICOT?
  Dicot

- TIME UNTIL MATURITY
  About a week or less

- OBSERVE LEAF STRUCTURE
  It's a monocot its leaves feel funny

- OBSERVE STEM STRUCTURE
  Feel scratchie, long

- VARIABLE: (LIGHT, WATER, SOIL)
  . . . experiment it needs lots of water, soil, light

- WHAT PLANT PART IS EDIBLE? DESCRIBE
  A long thing called the pod

- PLANT GROWN TO PRODUCE SEEDS? DESCRIBE
  No but soon it will

Reading and writing as well as spoken language are integrated throughout the prewriting stage. Before a child uses this Planner, for example, she both reads books to gain

background knowledge on the topic and actually plants seeds to observe what happens. When it is time to prepare the composition, the child uses her comments in response to Planner topics in formulating main ideas and details, structural organization, and point of view. It should be noted that planning need not be done in isolation. Often pairs or small groups of children share knowledge by joint planning either at the computer or at their desks. Not all children, however, enjoy planning with a partner. One third grader preferred to plan alone because, "Partners hog the computer." Many children, however, do enjoy the experience, echoing another third grader's comment, "Your friend has lots of ideas and so do you. Then you put them together and you have a <u>great</u> story."

Composing activities follow when a child is ready to draft a text. Attention is now directed to developing a sense of audience and purpose as the text is organized. QUILL provides two types of communicative environments. The LIBRARY is an environment in which children share meaning by exchanging information. Classes can create encyclopedias of expository writing on various subjects such as plants, insects, or cultural customs as well as narratives and poetry. Fifth graders in Easton, Massachusetts recently wrote the following poem and narrative on their classroom's microcomputer.

Lester Lightbulb

Julie Smith Amy Langlais

"Watt's that?, I hear people say. Many folks are not too bright. They don't realize that I'm Lester Lightbulb. I turn people on. I light up the room and never leave anyone in the dark. I have 100 watts while some of my cousins have only 40 or 60 watts.

Do you know that I am important to this world? I shine light on everybody. Did you know that I am in your television set? You probably have me on right now. You see I am very useful to you and everybody in the world. There are millions of lightbulbs like me all over the world. So let me light up your life."

Keywords: /pretent/lightbulb/

Haiku

Julie Smith

We go round and round.
Hot cocoa is boiling.
Now we are racing.

Keywords: /haiku/cocoa/

As with planning, composing need not be done in isolation. The narrative above was composed by two girls working together. A text can either be drafted at the children's desks, and then entered jointly or composed directly on the computer. One child serves as typist while the other reads it aloud, often offering editing suggestions along the way. Invariably, the composing process becomes one in which writing, reading, and spoken

language are naturally integrated. Having composed a selection, the authors then provide keywords and a title by which they can share their writing with others.

Many children perceive the composing process as more enjoyable when text is created at the computer. When fifth graders compared writing on the computer to paper and pencil tasks, the children favored the computer because, for example, "It's much quicker and more fun" or "It's more interesting and less work."

A second communicative environment is MAILBAG, an electronic mail system. MAILBAG is an environment in which children must attend to their audience by sending messages to peers and adults. MAILBAG helps children realize that written language, as spoken language, has as its primary purpose communication with others. Two fourth graders in Brookline, Massachusetts recently sent these messages to one another.

To-Ben

Mauwi Mauricio

Ben do you think I should get Space Invaders or Quest For the Rings? Can you come over today? Hope you can! Here's a riddle for you. If an athlete gets athlete's foot, what does an astronaut get? Give you the answer when you tipe me a message. But you also have to take a guess. Bye Bye Ben. Oh by the way you won't get the awnser from any of my joke books!

keywords: /To-Ben/

Ode to Mauricio

Bennie Ben

Dear Mauricio I think you should get Queat For The Rings because Space Invaders on Oddyesy stinks! Sorry, but I cannot come to your house today I have to work on auto-biography, get new shoes and go to a party. Sorry! As for your riddle . . . Meteors Foot? Sorry I can't come over! Bye, Bye!

keywords: /To-Mauricio/

The intent of MAILBAG is to encourage the sharing of meaning between people. Messages can be sent in the form of letters, memos, or invitations, and addressed to pen-pals, individuals with secret code-names, special interest club members, or to a public "bulletin board."

Revision of drafts occurs with the help of a child-oriented text editor (Levin, Boruta, & Vasconcellos, in press). Children often comment that they are willing to attempt revision using the microcomputer because it is easier to delete, add, rearrange or alter the text. When the amount of recopying is reduced, thus averting frustration and tediousness, revision becomes a more enjoyable process. Likewise, when there are no punishments for revision, children begin to take the time to think about what they really want to share and, with the aid of peer and teacher feedback, edit for meaning.

Revising drafts, like planning and composing, need not be done alone. Revision is also a process of sharing. Peers as

well as teachers and children hold conferences to provide feedback on the text's strengths and to identify inherent problems. For example, in a sixth grade class a child was writing a text about "Mario's Girlfriend" and didn't know where to place the apostrophe. In spontaneously conferencing with her friend, the child decided to look up the rule in her language textbook. She and her friend generated the revision themselves in a meaningful context. Once problems like this are identified, revision strategies can be developed based either on an individual's needs or on class language arts objectives. If, for example, the teacher stresses lexical choice or discourse structure in a given week's formal language instruction, the text revision strategy can also highlight that particular instructional objective.

When a text is completed, it is time to share it with others. Sharing writing is much easier if the text is neat and legible. QUILL's publication system enables children to publish final copy which not only looks good, but is correctly formatted for particular kinds of writing, e.g., newspapers, books, letters, and memos. In addition, with the aid of a line printer children can easily produce multiple copies of text for distribution.

Sharing completed texts, whether composed with the aid of the computer or not, is an essential component of the classroom's communicative context. Now it is time to surround the writing

with spoken language as writers and readers engage in such integrated language experiences as the Author's Chair noted earlier. Incorporating computer technology into the classroom's communicative context need not alter the underlying social, interactive principles upon which classroom communication is based. The emphasis can continue to be on establishing parallels between the ways children as writers and readers share meaning and the interaction patterns of speakers and listeners established years earlier in the home.

Conclusion

We have seen that the home's conversational context itself has the potential to encourage children to share their thoughts and feelings through spoken language. It is this sharing of meaning in a supportive setting that is the strength of the home as a communicative context. Teachers can help extend the sharing of meaning at home by creating classroom environments in which written language experiences and microcomputer-based writing and reading activities are surrounded by familiar spoken language.

The communicative contexts which parents and teachers create influence the extent to which children are willing to share personal experience with others. A child who is not motivated to share meaning through language tells us we must work harder to establish truly communicative environments. One who enthusiastically uses language to share meaning, however, shows us her language competence has developed in a rich social and interactive setting. Parent-child dialogue at home, integrated

spoken and written language experiencee at school, and the inclusion of interactive microcomputer-based activities within the classroom all contribute to the creation of communicative contexts which encourage the meaningful exchange of ideas and emotions.

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Figure Caption

Figure 1. Example of a story tree created using Story Maker.

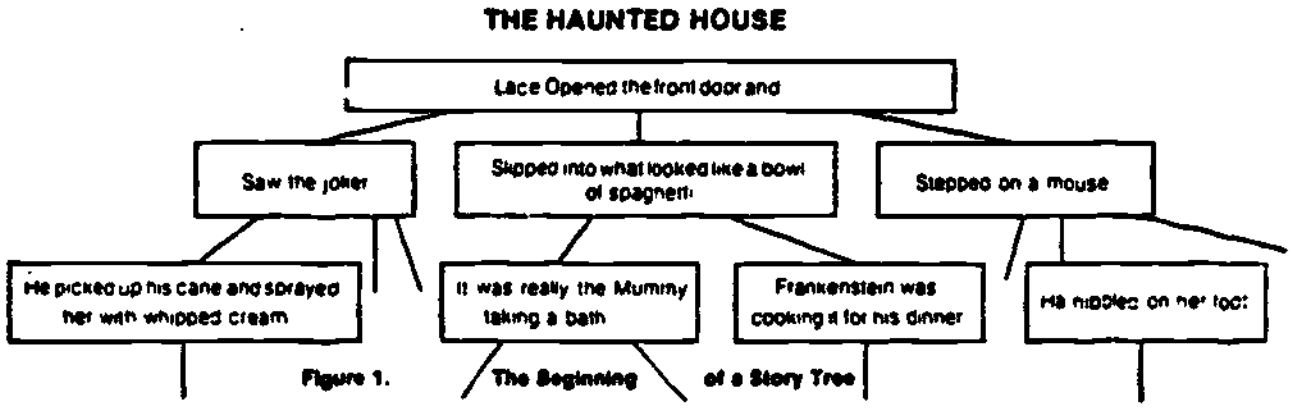

Figure 1. The Beginning of a Story Tree