

Such testimonials from teachers were echoed and amplified by participants in an in-house survey conducted by CTW (1993). According to one second grade teacher, "The students love it [GHOSTWRITER]. Some are keeping a casebook, others will write about episodes in their journal. They can't wait to watch the show and they enjoy the magazine--it's special. More importantly, they are learning" (p. 3). And as a fourth-grade teacher observed: "Having a publication that coincides with a TV program is wonderful .... When GHOSTWRITER time comes, you can hear a pin drop for oral reading" (p. 4).

Children associate the GHOSTWRITER team, which they enjoy and value, with literacy competencies. While children's attitudes toward GHOSTWRITER specifically are not precisely synonymous with their attitudes toward reading and writing generally, note the strong linkages between the two in the following example. In group interviews of GHOSTWRITER viewers (10 triads of target-age children), respondents were asked what kinds of things would make them good members of the GHOSTWRITER team. Responses included: solving mysteries and puzzles, being a friend, thinking fast, working together, reading, spelling, finding things, persisting with things ("not a quitter"), and typing on a computer (KRC Research & Consulting, 1994). The combination of both literacy and non-literacy competencies suggests that, with GHOSTWRITER, children see no chasm between literacy competencies and other aspects of their life.

While many more examples could be cited, the above are representative of the range of ways in which Goal I was achieved. Achievement in Goal I can also be inferred from the actual behaviors of reading and writing, which are covered later under Goal III.

**GOAL II.** The second goal of the GHOSTWRITER project is to show children how to use effective reading and writing strategies. This goal was repeatedly modeled in the television series and encouraged in the magazine. Literacy strategies help children to construct meaning--to make sense--when reading and writing. When children experience some of the benefits of literacy, they are more likely to persevere when it takes work to read and write. Therefore, the project was designed to present strategies in meaningful contexts that address real problems and have personal payoffs.

Goal II in the GHOSTWRITER curriculum includes the following six strategic approaches to understanding and creating *ideas* in print:

1. Setting goals and keeping them in mind.
2. Using what you know (activating prior or background knowledge, brainstorming, generating ideas).
3. Getting the main point; making the point; understanding the main idea.
4. Organizing ideas (categorizing, sorting).
5. Taking a second look (rereading, rewriting).
6. Finding out what other people know (using resources).

Goal II also includes two strategic approaches to understanding and using *words* in print:

1. Expanding vocabulary.
2. Reinforcing decoding skills.

An internal content analysis of Season One episodes demonstrated that such strategies were modeled in every show, usually in places that were central to the story line. These strategies were not, however, objects of didactic drill and practice.

Of the three goals, it was particularly Goal II that was to have been addressed in a controlled experiment. A proper test of Goal II would have required novel procedures and original measuring instruments. As explained previously, and elaborated further in Appendix B, it was not possible to conduct such an analysis. Consequently there are no *systematic* measures, capable of causal attribution, of how children perceived, stored, retrieved, or subsequently used the literacy strategies modeled in the show. Nevertheless, as the following examples attest, evidence of strategy uses by adults and children was sufficiently robust to be observed in the naturalistic studies, in surveys, and in supplemental focus groups, even though these methodologies were not designed expressly to measure Goal II.

Although the EDC researchers did not conclude that GHOSTWRITER strategies were consciously adopted or adapted by adult mediators--possibly because the strategies are implicit, the mediators' labeling of strategies may have differed from GHOSTWRITER's, or many adults were too inexperienced at using television in instructional practice to get the most out of what it had to offer--their report describes many behaviors that the GHOSTWRITER Content staff interprets as strategic approaches to literacy. An example is found in the EDC report, which describes two Baltimore teachers' uses of GHOSTWRITER:

[One elementary school teacher] noted that she was able to use GHOSTWRITER in teaching several literacy skills: composing stories, identifying feelings, creating a road map of story elements, identifying main ideas and details, and building vocabulary. "I use it," she commented, "as a match to the skills I must teach." [A colleague] also used GHOSTWRITER to teach skills outlined in the Baltimore City curriculum guide. As she explained, "I pull everything I want from [the curriculum guide] and then pull from GHOSTWRITER." Examples of ways in which the teachers tied GHOSTWRITER to these skills are abundant and include such activities as writing detective stories as a lesson in main ideas and supporting details, writing letters to GHOSTWRITER characters for experience in writing a friendly letter, and reading the "Who's Who?" mini-magazine script for practice in oral reading. As [the colleague] noted, "You can find any skill you want to teach in a GHOSTWRITER episode. You just have to use a little imagination, a little creativity" (Char et al., 1993, p. 52).

In overviewing how teachers and adult leaders in general used GHOSTWRITER, EDC researchers also cite behaviors interpreted here to be strategic. For example:

Teachers, as well as several after-school leaders, also articulated more *specific literacy skills* they felt GHOSTWRITER helped them address, such as describing settings and character traits, identifying main ideas and use of supporting details, learning about the mystery genre, taking notes, and mapping stories. Several teachers and leaders also described GHOSTWRITER as promoting *general cognitive skills* such as making predictions, sequencing, and organizing. Teachers tended to draw on their own curriculum frameworks, past teaching experience, or current state or city testing when identifying particular literacy objectives offered in GHOSTWRITER, rather than focusing on specific literacy strategies modeled in the GHOSTWRITER episodes or described in the Teacher's Guide (Char et al., 1993, p. 80).

A survey conducted by CTW's Magazine Research department also showed indications of how teachers used *GHOSTWRITER* Magazine strategically:

My class is a third-grade bilingual transition class (English and Spanish). *GHOSTWRITER* has been the best avenue for my children to organize their writing .... [It] has helped show the children how important spelling is, plus showing them how to express their feelings in words! (CTW, 1993, p. 4).

*Children's* feedback on the embedded literacy strategies was reflected, unsurprisingly, in simpler language. For example, the voices of children themselves were heard in after-school settings, as follows:

You can use your imagination. *GHOSTWRITER* helps you use your imagination. Jamal typed things on the computer. It helps you read something like *doghouse*. If you are in kindergarten, *GHOSTWRITER* helps you know it's two words. *GHOSTWRITER* gives you a clue .... When you get clues, one at a time, and you put them in, then you have the word (Char et al., 1993, p. 48).

In another after-school setting, EDC researchers characterized children's responses as follows:

The children's descriptions of the program included (1) "People reading, and helping each other; people talking. If you don't know the word and get stuck, people helping"; (2) "It's fun to work with other children"; and (3) "If you don't know how to read, Sandra will help you" (Char et al., 1993, p. 31).

In interviews with children, as well as focus groups with teachers and parents, KRC Research & Consulting (1994) concluded the following:

Respondents (particularly children) also spoke about *GHOSTWRITER* educating viewers in certain skills, which they did not describe as "literacy skills" but which clearly relate to effective literacy. This includes the ability to:

- Collect evidence before coming to a conclusion ("If you think someone did something wrong you can't just go and accuse him before you are sure of the facts").
- Assess evidence carefully and logically ("You have to look at *all* the facts").
- Seek out and use other resources ("You can ask your friends"; "You can go to the library to find out information").
- Respond positively to intellectual and other challenges ("You should try. Sometimes the Team can't understand something the first time, but they keep on trying and help each other out.") (p. 13).

Furthermore, there are multiple indications that children, either on their own or in group settings, made casebooks, a practice that almost necessarily exercises many of the modeled strategies. Additionally, large numbers of letters from children to *GHOSTWRITER* demonstrated

documentably their engagement with and use of strategies modeled on GHOSTWRITER such as codes and scrambled spellings.

While additional examples could be cited, the above are representative of the range of ways in which Goal II was achieved.

**GOAL III.** The third curricular goal of GHOSTWRITER is to provide children with compelling opportunities to read and write. Its purpose is to “sell” the power of reading and writing to reluctant readers and writers. Many children have not had fulfilling experiences reading and writing. Some children, in fact, may have had *only* unsuccessful or unhappy encounters with the printed page. Therefore, GHOSTWRITER offers a variety of reading and writing activities that go beyond school experiences with text.

Evidence of success in Goal III includes children’s reading on the GHOSTWRITER TV screen, reading GHOSTWRITER Magazine and GHOSTWRITER books, maintaining casebooks, doing GHOSTWRITER-related classroom work such as writing scripts, and writing letters to GHOSTWRITER.

Perhaps the first compelling opportunity for a child to read GHOSTWRITER material comes from the television show itself, where print on the screen is an integral part of the drama. In Wave II of the Recontact Survey (Nielsen New Media Services, 1993b) GHOSTWRITER viewers were asked the following question: “GHOSTWRITER talks to the kids on the show by sending them messages. When the words show on your TV screen do you try to read them?” Eighty-three percent responded “yes” and 8 percent “sometimes.”

Researchers reported children reading from the screen in group-viewing settings as well:

When on-screen print appeared, particularly that which represented communications to or from Ghostwriter, children were seen intently looking at the screen, and at times they would read aloud what was on the screen (Char et al., 1993, p. 65).

In focus groups or interviews with teachers who use GHOSTWRITER, with co-viewing parents, as well as with viewing children, KRC Research & Consulting (1994) found strong indications that GHOSTWRITER was providing compelling opportunities to read and write:

- Teacher groups emphasized how important GHOSTWRITER printed matter was in encouraging their students to read and write (KRC Research & Consulting, 1994, p. 20).
- GHOSTWRITER viewers reported varying exposure to GHOSTWRITER printed matter. About one third of respondents said they read the magazine regularly and about one fourth said they had one or more of the paperback books (KRC Research & Consulting, 1994, p. 20).
- Most importantly, all viewers reported that they read print on-screen during the GHOSTWRITER show.

- About one quarter of the girls kept casebooks.
  - Girls seemed to be more diligent about this than boys.
  - Several children noted that the recaps helped them keep their casebooks up to date.
  - About one fifth of the children said they regularly wrote in code.
  - A few wrote poems (especially scary poems).
  - About one quarter had written letters to Ghostwriter (KRC Research & Consulting, 1994, p. 21).

There is evidence that **GHOSTWRITER** stimulated follow-up literacy activities both for voluntary viewers at home and for children in classrooms and after-school groups. Among home-based viewers, the Recontact Survey (Nielsen New Media Services, 1993a, 1993b), for example found that 90 percent of the children in Wave I and 77 percent in Wave II, when prompted by a list, reported engaging in **GHOSTWRITER** activities such as “solving a mystery on one’s own,” “talking about **GHOSTWRITER** with a friend,” “writing messages in code,” “pretending to be a member of the **GHOSTWRITER** team,” “keeping a casebook,” or “writing a letter to **GHOSTWRITER**.”

Among children who engaged **GHOSTWRITER** in the context of schools and youth-serving organizations, EDC researchers commented on the distinctive features of **GHOSTWRITER** casebooks and original scripts for **GHOSTWRITER** plays which would then be performed:

It is interesting to note how these two formats--the casebooks and the play--could each successfully offer to settings a literacy vehicle by which to encourage children’s broader development and yet do so in distinct ways. Whereas the casebooks offered an individual and private form of literacy expression, the play was inherently a collective and social endeavor (Char et al., 1993, p. 89).

Speaking more generally, the EDC report had this to say about how **GHOSTWRITER** offered compelling opportunities to read and write:

Children *experience success in reading and writing* because they engage with a wide variety of literacy activities. They had opportunities to read interesting text stories and engaging print on-screen, and they had access to colorful visual images on TV and in texts that added to their comprehension of story lines. They wrote in a variety of different forms for themselves, for CTW, and for others. By constructing a broader view of reading and writing, one that encompasses activities as diverse as using reference materials and creating rebuses, **GHOSTWRITER** offered many opportunities for children to engage in reading and writing and to feel they were successful in communicating (Char et al., 1993, p. 119).

**GHOSTWRITER** provided a major compelling opportunity to read in its large-scale distribution of free **GHOSTWRITER** Magazines (approximately 2 million copies a month in Seasons One and Two) directed to target-age children. Many targeted magazine recipients were in poor and minority settings with relatively little tradition of having a magazine that would be one’s own to keep, to read, to write in, and to look forward to receiving next month. As affirmed in every study that asked the question (Char et al., 1993; Rockman et al., 1993; Peterson’s, 1993; Hezel Associates, 1993; CTW, 1993), the **GHOSTWRITER** Magazine was appealing to kids and perceived

as useful by their adult supervisors. The child's relationship to GHOSTWRITER in print was reinforced and enhanced by the child's relationship to the GHOSTWRITER television series. The fact that distribution of this magnitude was accomplished with such favorable reception is a major indication of achievement in Goal III.

Among the clearest evidence available for Goal III (and by extension for Goal I) is the large number of letters written to GHOSTWRITER--over 450,000 in its first two seasons. It is unlikely that even an experienced adult writer would consider letter writing to be effortless. For children going through the multiple steps of writing a letter--many for the very first time in their life--it can be more than effortful; it can be a test of motivation and determination to overcome the seemingly endless barriers that come up: How do you write a letter? How much postage is needed, and where do you get it? Where is an envelope available? How do you address a letter? What is a zip code? And so on. The fact that almost half a million children have gone through such exercises in writing to GHOSTWRITER provides quantitative evidence with high face validity that they were motivated to read and write, and that their opportunities to read and write were "compelling."

There is considerable evidence, therefore, of achievement in Goal III.

### **Outcomes Beyond GHOSTWRITER's Three Curricular Goals**

The effects of GHOSTWRITER are innumerable, ongoing, and not restricted to the three curricular goals discussed above. While no formal assessment effort can be exhaustive within the unbounded category of "other" effects, several significant effects beyond those encompassed by Goals I through III have been identified.

A fundamental design strategy in creating GHOSTWRITER--to embed literacy in child-relevant drama--has potency well beyond the formal project curriculum.. There is an interdependent and inseparable "yin-yang" or "figure-ground" relationship between the pedagogical and the social/moral aspects of GHOSTWRITER. For purposes of this evaluation, the decision was made to concentrate the primary focus of accountability on literacy outcomes as expressed in the three curricular goal areas. With equal cogency, however, one could focus on the social/moral outcomes, whereupon effects in *that* domain would be primary. That which is considered primary is a matter of perspective. It is important, therefore, to see the social/moral dramatic *vehicle* for GHOSTWRITER as integral to the whole, and its impact as being in the center arena of GHOSTWRITER's effectiveness. Previous examples of successes within the curricular goals were frequently cited in the context of the social/moral dimensions, as in the basis for appeal, the basis for connecting literacy to real life, and the basis for many adaptations by schools and youth-serving organizations. From a different perspective, however, GHOSTWRITER's social/moral dimension is more than a setting for the modeling of literacy--it is the wellspring of a host of outcomes "beyond" the curricular goals.

The Nielsen Recontact Survey (Nielsen New Media Services, 1993b) clearly shows children's recognition of the social /moral dimension to GHOSTWRITER. Children in a national sample were asked if they thought they had learned anything from GHOSTWRITER, and if so, what. The results revealed the strong role of the social/moral dimension in these self-perceptions of impact. In rank order of frequency of mention, kids thought they learned about: solving mysteries, value of teamwork, togetherness, friendship, moral lessons of what *not* to do (e.g. steal, be mean), moral lessons of what *to* do (e.g.. be honest, nice), courage and tenacity, being helpful to people, and solving problems.

From the very beginning, the strategy for distributing and utilizing **GHOSTWRITER** involved alliances with other organizations and individuals. The goal of these alliances was to create synergisms where the combined power exceeded that of the individual elements. One important residual of **GHOSTWRITER** is the insight into how alliances and partnerships with schools or youth-serving organizations affect the definition of the task, the resources brought to bear in pursuit of its achievement, the way the goals themselves are articulated, the way the “stimulus package” is delivered, and the subsequent outcomes. The media materials become absorbed and integrated as instruments under the control of on-site mediators and supervisors, working face-to-face with children.

Repeatedly, in both schools and after-school settings, the social and moral themes of the mystery stories became the central focus as opposed to “merely” being the dramatic vehicle for modeling literacy strategies. The EDC report describes a Baltimore teacher who found the ways in which significant social issues (such as respecting the role of adults and not cheating) were reinforced by the program to be her most powerful experience in using **GHOSTWRITER**. As she explained, “I look at what my children need to live beyond their life situations. I have another role aside from academics” (Char et al., 1993, p. 52).

Perhaps the clearest example of using the social/moral dimension of **GHOSTWRITER** in the context of a youth-serving organization can be found in a program called LA’s BEST (Los Angeles’ Better Educated Students for Tomorrow) (see Char & Isaacson, 1994; CTW, 1994a). A goal of this program is to help children cope with problems of gangs, crime, and drugs. One of the **GHOSTWRITER** arcs, called “Building Bridges,” centered on the theme of gangs and neighborhood violence. **GHOSTWRITER** videos and supporting print materials were used by group leaders in their primary focus on violence reduction through group discussions and appropriate extended activities (Char & Isaacson, 1994). As one leader put it:

[Before “Building Bridges”], we didn’t have anything that deals with gang violence. We were never prepared to deal with the issue.... [The activities] are good because there’s much gang violence only a block away from the school. Lots of people are being killed around here, and the kids have become callous to what’s going on (CTW, 1994a, p. 19).

Another commented:

Yes, [we talk with the kids about violence] because we have gang shootings a block or two away. We talk to them about it, but it’s easier with “Building Bridges” because the kids can relate better to the video and the activities. It’s better than giving them a lecture or just talking about it (CTW, 1994a, p. 19).

Many effects of **GHOSTWRITER** are richly intertwined with effects of other influences as well, as in cases where **GHOSTWRITER** materials encouraged formation of a **GHOSTWRITER** club, which in turn required organizational structure and rules. These in turn provided opportunities for development of individual leadership abilities in children who previously had few positive encounters with reading and writing.

Another effect of the series--difficult to quantify, but unmistakable to close observers--is its impact on teachers and after-school group leaders who used the project. To them, **GHOSTWRITER** demonstrated in pragmatic and personal ways that materials that truly engage the voluntary

enthusiasm of children are powerful tools to work with. Leaders noted that the **GHOSTWRITER** materials helped them to draw valuable connections between social issues and literacy skills and develop their own skills and self-esteem as leaders (Char & Isaacson, 1994). Such insights will transcend the **GHOSTWRITER** experience.

A related effect is that the episodes provided a common experience for group activities. The universal availability of the series meant that parents could participate along with teachers and adult leaders. **GHOSTWRITER**'s modeling of literacy in life provided countless opportunities or "hooks" onto which local mediators could connect with individual children and site-specific goals. Adult gatekeepers provisionally accepted **GHOSTWRITER** because of its promise to help them interest children in reading or writing, or both. What kept them engaged as users, though, was the children's enthusiasm for the **GHOSTWRITER** experience.

Successful experience in using **GHOSTWRITER** in after-school settings supports the conclusion that after-school time, while not to be considered a laborious extension of the formal school day, can nevertheless be of educational value, and can raise the aspirations of after-school child care beyond custodial or recreational functions.

Still other outcomes of **GHOSTWRITER** can be tallied for CTW itself, in its accrued managerial experience in designing and producing multiple media projects, and in working with partners and allies to get materials distributed and utilized, and in reaching target audiences of poor and minority children with materials that are powerful both in terms of literacy and social/moral modeling.

While concentric circles of effects would extend outward a long way, the above discussion provides evidence of **GHOSTWRITER**'s positive effects within its three curricular goals and well beyond.

What has been reviewed in this report is a complex process of design, production, and management of **GHOSTWRITER**. This assessment has tracked both the strategies that were employed and the outcomes of those strategies, within and beyond the formal goal structure. There is documented learning from both the process and the product of **GHOSTWRITER**. Both have been tracked through a more-or-less sequential model consisting of distribution → awareness → reach → response/appeal → implementation/use → impact/effects. **GHOSTWRITER** has been innovative on all fronts, including design, production, distribution, management, and accountability. It is through such stretching exercises that new learning occurs, not only for the children in the target audience, but for the entire range of participants who make it possible.

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## VII. APPENDICES

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APPENDIX A	<b>GHOSTWRITER PROJECT CURRICULUM</b>
APPENDIX B	COMMENTARY ON <b>METHODOLOGICAL ISSUES ENGAGED IN THE EVALUATION OF GHOSTWRITER</b>
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## APPENDIX A

### GHOSTWRITER PROJECT CURRICULUM

Curriculum development has been underway since the beginning of the research and development phase of GHOSTWRITER, under the direction of GHOSTWRITER's Content Director in consultation with the Executive Producer and Research Director, and with the guidance of CTW's Senior Educational Advisor. Throughout the process, the CTW literacy content team studied the research on literacy and consulted extensively with educators and academic authorities on literacy education.

In the early months of the project, prominent educators led content workshops at CTW's offices in New York, focusing on such topics as reading comprehension, writing in the early grades, stages of reading development, vocabulary instruction, and cognitive development of 7- to 10-year-old children.

The CTW group convened two separate seminars, inviting academics, classroom teachers, writers, television producers, and librarians to consider our emerging goal areas in light of their own experience and knowledge of children and literacy. During the first seminar, the CTW team began to identify the scope and approach of the project curriculum. As a result of these initial discussions, participants in the second seminar considered the first draft of a curriculum document. The CTW team left the seminar with a vote of confidence in its general direction, as well as suggestions for refinements and modifications.

The project's philosophy and assumptions about children and literacy provide the foundation for the curriculum. This approach emerged over the course of the research and development phase and includes the following concepts:

- Because children often do not recognize the strengths they might bring to developing and practicing literacy skills, the project will focus on these strengths, rather than on deficiencies, and encourage children to bring their own skills to bear when faced with new materials and tasks.
- Because reluctant readers and writers--the children we most want to reach--are often alienated from the printed page, the project will give children a number of attractive, compelling reasons why reading and writing can make sense in their lives.
- Because many children who experience difficulty reading and writing tend to be poor and from minority groups, and their language and experience are often different from the traditional school language and culture, the project will relate reading and writing to children's social lives and language, including a range of racial, ethnic, socioeconomic, and developmental backgrounds.
- Because background knowledge--and the ability to use it when learning something new--is so critical, the project will expand children's worlds by presenting reading and writing in a variety of rich contexts.

The document that follows is not intended as a comprehensive reading and writing curriculum. For example, academic authorities might differ on specific priorities among strategies. CTW's selection process was guided by criteria such as appropriateness to our audience, relevance to children's abilities, and compatibility with effective television teaching methods.

The curriculum provides guidance for project development as well as a framework for project evaluation. As in all CTW projects, the curriculum will remain open to change, subject to review in response to new research in literacy education, the needs and reactions of our target audience, and the effectiveness of the project itself.

### **GHOSTWRITER PROJECT CURRICULUM GOALS**

Many children do not choose to read or write on their own. They have not experienced for themselves the social or personal rewards of reading and writing. They do not have confidence in their abilities as readers and writers. They do not see how literacy connects with their lives.

In order to respond to these needs, GHOSTWRITER sets itself three major curriculum goals:

- GOAL I: TO MOTIVATE CHILDREN TO ENJOY AND VALUE READING AND WRITING**
- GOAL II: TO SHOW CHILDREN HOW TO USE EFFECTIVE READING AND WRITING STRATEGIES**
- GOAL III: TO PROVIDE CHILDREN WITH COMPELLING OPPORTUNITIES TO READ AND WRITE**

#### **The Audience**

The GHOSTWRITER project is designed for children in home, school, and community environments. It is targeted to second to fourth graders with an emphasis on third and fourth graders.

Of particular concern are children who become reluctant readers and writers--who do not see the personal relevance of the printed word or are experiencing difficulty understanding and creating text.

Because many of the children who need the project the most come from minority and/or economically disadvantaged backgrounds, we will tailor our approaches and materials to their needs and interests.

A more detailed outline of the goals follows:

- GOAL I: TO MOTIVATE CHILDREN TO ENJOY AND VALUE READING AND WRITING BY DEMONSTRATING THAT:**
  - A. CHILDREN FIND PERSONAL AND SOCIAL REWARDS THROUGH READING AND WRITING**
  - B. CHILDREN CAN TAKE ADVANTAGE OF THEIR ORAL LANGUAGE AND THINKING ABILITIES WHEN THEY READ AND WRITE**
  - C. CHILDREN UNDERSTAND THAT WRITTEN LANGUAGE IS MORE USEFUL AT TIMES THAN ORAL LANGUAGE**

The purpose of Goal I is to help children to find a place for literacy in their day-to-day lives and move into the world of readers and writers. Since the language and experience of many children in our target audience are often different from the traditional school language and culture, it is critical to empower these children to see how reading and writing connect with their lives.

**GOAL II: TO SHOW CHILDREN HOW TO USE EFFECTIVE READING AND WRITING STRATEGIES BY MODELING:**

A. STRATEGIC APPROACHES TO UNDERSTANDING AND CREATING *IDEAS* IN PRINT, INCLUDING:

- (1) Setting Goals
- (2) Using What You Know (Activating Prior Knowledge, Brainstorming)
- (3) Getting/Making the Point (Understanding the Main Idea)
- (4) Organizing Ideas
- (5) Taking a Second Look (Re-reading, Re-writing)
- (6) Finding Out What Other People Know (Using Resources)

B. STRATEGIC APPROACHES TO UNDERSTANDING AND USING *WORDS* IN PRINT, INCLUDING:

- (1) Expanding Vocabulary
- (2) Reinforcing Decoding Skills

The purpose of Goal II is to help children to construct meaning--to make sense--when reading and writing. A strategic writer wants to *express* meaning and help readers understand it. Strategic readers want to *understand* a writer's meaning and work to make things fit. When children experience some of the benefits of literacy, they are more likely to persevere when it takes work to read and write. Therefore, the project will present strategies in meaningful contexts that address real problems and have personal payoffs.

**GOAL III: TO PROVIDE CHILDREN WITH COMPELLING OPPORTUNITIES TO READ AND WRITE FOR A VARIETY OF REASONS AND IN A VARIETY OF SETTINGS ACROSS THE PROJECT: AT HOME, IN SCHOOL, AND IN THE COMMUNITY**

The purpose of Goal III is to sell the power of reading and writing to reluctant readers and writers. Many children have not had fulfilling experiences reading and writing. Some children, in fact, may have had *only* unsuccessful or unhappy encounters with the printed page. Therefore, the project will offer a variety of relevant and satisfying reading and writing activities that go beyond school experiences with text.

## APPENDIX B

### COMMENTARY ON METHODOLOGICAL ISSUES ENGAGED IN THE EVALUATION OF GHOSTWRITER

#### I. INTRODUCTION

This special appendix addresses methodological issues related to the use of experimental designs in highly complex and variable projects such as GHOSTWRITER. A controlled experiment was originally planned as an important component in GHOSTWRITER's multidimensional evaluation program. Ultimately, however, it was concluded that requirements, both methodological and logistical, for a fair and rigorous experimental evaluation of GHOSTWRITER were beyond the scope of the financial resources and time frame available for the effort. The following narrative elaborates on related evaluation issues.

The value of complementary research methodologies has been acknowledged for years, the principle being that inherent limitations of one method can be offset by complementary strengths of another. Guba (1987), however, distinguishes between the complementarity of conventional and naturalistic *methods*, which he considers useful, and the relationship of their basic *paradigms*, which he argues are fundamentally incompatible. Guba sets out (in greater depth and detail than can be considered here) how the fundamental ways of looking at the world, and our means of understanding it, are incompatibly different and oppositional for traditional scientific positivism on the one hand, and naturalism on the other.

The argument is interesting in the case of evaluating GHOSTWRITER in that there are strong intellectual attractions and commitments to *both* paradigm camps (positivism and naturalism). It may well be that in some future scholarly work a thorough analysis of the opposing belief systems in GHOSTWRITER's context would conclude that this project is comprehensible only, or at least predominantly, under the tenets of naturalism. If that would be the case, it would help explain some of the struggles involved in attempting to analyze GHOSTWRITER by means of an experimental paradigm.

The methodological commentary in this appendix does not attempt an analysis along those lines. This opening reference to the evaluation literature (Guba, 1987; also Guba & Lincoln, 1989) does suggest, however, that the methodological issues encountered in GHOSTWRITER engage some important and controversial issues at the highest level of the study of evaluation processes themselves. The more modest goal of this commentary is to reflect on how methodology was considered with GHOSTWRITER, how various realities in the course of creating and administering the project had profound influences on the design and execution of evaluation methodologies, and how challenges were encountered in the attempt to design a formal experiment.

#### II. THE STRATEGY OF COMPLEMENTARY DESIGNS

The research planning for GHOSTWRITER called for a strategic mix, a mosaic, of four complementary methodologies:

- Collection and interpretation of any naturally occurring data that could be interpreted evaluatively in the **GHOSTWRITER** context. Called “indicators,” examples are numbers and content of letters that children sent in, favorability of critical reviews in the press, and anecdotes;
- Naturalistic studies that would observe in rich sociological detail the “unfolding” of **GHOSTWRITER**, i.e., the processes of introduction and engagement, in and by mediated settings in schools and youth-serving organizations;
- Surveys, both national and locally targeted, to get generalizable information about **GHOSTWRITER**’s reach and use in large contexts; and
- A formal experiment to establish under controlled conditions various cause-effect relationships attributable to engagement with the **GHOSTWRITER** project.

In the above plan, the first three parts of the mosaic were accomplished (indicators, naturalistic studies, and surveys). Additionally, much has been learned about the applicability of formal experimental designs to multifaceted projects such as **GHOSTWRITER**.

### **III. ISSUES AND PROBLEMS IN APPLYING EXPERIMENTAL DESIGNS**

Several issues of evaluative interest were engaged in the process of attempting to fit, conceptually and empirically, the design requirements for a controlled experiment onto the world of **GHOSTWRITER**, with its many forms and combinations. Within this report’s framework of “strategies and outcomes,” these experiences with experimental designs are instructive on both fronts. Some observations here affirm long-established principles; others may illustrate more novel or idiosyncratic considerations.

**THE TIMING REQUIREMENTS OF BROADCASTING.** One cluster of significant issues forms around the window of time in which an experimental test can reasonably be considered. Examples to be discussed here involve timeline demands of broadcasting, but the issues can also be seen more generally as an example of natural tension between managerial need for rapid feedback and the irreducible time requirements for designing, pilot testing, and implementing rigorous experimental research.

Natural timing cycles can require decisions before it is possible to inform those decisions with research outcomes. In a broadcasting environment, classical summative evaluation--i.e., research measurements on the extent of goal achievement for the complete and final product or service in actual use over time--is difficult at best and is sometimes logically impossible. Advance funding for multiple seasons is a logical solution to such problems, but is difficult to secure before there are any indications that the project is effective.

In recognition of these unavoidable dilemmas in timing, **GHOSTWRITER** project staff commissioned a series of research studies in the early months of the opening season that were essentially hybrid in nature, falling somewhere between typical formative and summative research. These studies went beyond the normal formative mission in that they were not entirely addressed to product improvement, but instead went into short-term effects and indicators of potential longer-term effects. On the other hand, they stopped short of standard summative evaluation given the brevity of **GHOSTWRITER** exposure and the interim nature of their impact measures. These studies are referred to in the body of the report.

**ESTABLISHING THE TREATMENT OR INTERVENTION.** Yet another significant timing issue is the duration required to establish the program “treatment” in the first place. If the evaluation of program outcomes is the goal, it is a logically necessary prerequisite that the program be delivered and established in its intended form. Otherwise, the measured “outcomes” would reflect not on the program but on some incomplete introduction of a partial program--a situation virtually guaranteed to underestimate the valid potential impact of the program. Furthermore, if there is concern about ecological validity, i.e., that the measured conditions reflect actual and natural use, these natural-use conditions (in *GHOSTWRITER*'s case, in home, school, and after-school settings) must be allowed to unfold before they can be incorporated within an experimental design.

*GHOSTWRITER*'s several elements each had distinctive time requirements for becoming established and operational. Establishing a loyal television audience was dependent upon factors such as promotion, awareness, feasible local scheduling, and satisfying trial viewing that motivated repeat viewing. This took time. Establishing the print distribution system with schools took time. With national youth-serving organizations, alliances and communication systems had to be negotiated at the national level, and then coordinated with regional and local administrations. An administrator in a youth-serving organization commented that, for that environment, it typically takes 2 years for an innovation to “take” on the national scene (Char, Miller, Isaacson, & Briscoe, 1993).

It is difficult to identify the point at which a multiple media system such as *GHOSTWRITER* can be proclaimed “established.” Whether a program is “established” or not is typically a social determination made by the primary stakeholders; it means that the program is considered to be “up and running” and “ready to be evaluated.” Whether or not a program is “established” according to these criteria, the pragmatic demands of decision-making--e.g., whether to continue or not--cannot be delayed for a lengthy period such as 2 or 3 years, no matter how strong the rationale on the part of the evaluation. Based on timing issues alone--exclusive of fundamental conceptual issues such as defining the essential attributes of the treatment and the outcomes--accommodations to varying demands and values are inescapable.

Of the four complementary methodologies in the mosaic strategy, the first three--indicators, surveys, and naturalistic studies--are adaptable to an “unfolding” program; their ability to document the process of introducing and establishing the program is in fact a major contribution toward *GHOSTWRITER*'s summative evaluation. An experiment, however, needs an established treatment and a stable environment in order for its results to be interpretable. In the early phases of the *GHOSTWRITER* project it was realized that committing to an experimental design in the first or even the second season would be problematic for that reason. Beyond constraints of time and resources, there were conceptual issues involved in defining what the “treatment” was, i.e., what measurable elements constituted “the *GHOSTWRITER* experience,” and what forms the outcome measures should take.

**DEFINING THE TREATMENT.** There are different levels at which one can think of a *GHOSTWRITER*-based experience. A focus at the micro level would reveal that each child's experience is unique, based on the individual differences he or she brings to the engagement with *GHOSTWRITER*. This holds even if the *GHOSTWRITER* element is manifestly identical for many different children, as is the case with mass-media materials. Only the case studies included in the naturalistic studies (Char, Miller, Isaacson, & Briscoe, 1993; Char & Isaacson, 1994) were able to record and interpret data at this individual level.

The relevant issues for an experimental design, however, go well beyond this micro level. A recognition of three categories of additional variation will convey some sense of the complexity to be faced in an experimental design:

- **GHOSTWRITER** is a multiple media project with multiple elements (TV, magazines, books, contests, etc.) in its array of offerings. An important variable to control or account for in an experiment would be the combinations (and perhaps permutations) in which the project elements were engaged or “consumed.” In itself, this turns out to be a very large number.
- Another variable is the extent to which each element is engaged; e.g., watching every show or reading every issue of the magazine is obviously a different “treatment” from infrequent sampling. In natural settings, this variable is multiplicative with the above-cited variable.
- Another variable is the environment(s) in which the child participates in the **GHOSTWRITER** experience. Viewing at home alone is a different “treatment” from viewing at home with a parent or sibling who discusses the program with the child. Both are different from a classroom viewing mediated by a teacher, and different still from viewing (or reading) in the context of a youth-serving organization. As discussed in a companion report (Children’s Television Workshop, 1994), **GHOSTWRITER**, when adopted, adapted, and mediated by another entity, becomes a different stimulus package.

The requirements of experimental design are challenged severely by the variability of treatments revealed in the three categories above. To represent them all is not feasible on the face of it. To select only a few conditions and define them as “the standard” is to leave the vast majority unattended. To standardize and control exposures over time (e.g., as when the experimenter might allow exactly 15 minutes of exposure to each magazine), furthermore, is to depart significantly from the very spontaneity and diversity of participation in literacy activities that the project seeks to elicit. Increasingly, such compromises to project integrity in order to accommodate an experimental treatment definition were seen as unacceptable.

**DEFINING THE OUTCOMES.** Complexities in defining measurable outcomes are distinct from the issues of defining the treatment, as discussed above, but are no less challenging.

**GHOSTWRITER**’s three educational goals are to motivate children to enjoy and value reading and writing, to show children how to use effective reading and writing strategies, and to provide children with compelling opportunities to read and write. These goals were developed in consultation with nationally recognized authorities in the field over an 18-month research & development phase that included a review of the literature on children’s acquisition of literacy skills.

The language of the goals acknowledges that reading and writing are complex processes that require a repertoire of strategies to be called upon and applied at the discretion of the reader or writer. They are not construed as a prescribed and sequential set of isolated skills. In addition, the goal language anticipates rich and diverse responses from children in their strategic approach to reading and writing. Such responses cannot be predicted accurately *a priori*. Therefore the goals are not behaviorally stated in a way that specifies the empirical indicators or standards for success and failure of achievement.

The indicators, surveys, and naturalistic methodologies are each capable in their own way of recognizing a variety of forms of evidence of goal performance. For use in an experimental design, however, these goals would require operational definition and standardization. Various

standardized tests were considered, but rejected because they did not capture the spirit of what GHOSTWRITER was designed to do. GHOSTWRITER was not committed to measurably raise reading comprehension scores, for example. That might be a natural extension or consequence if the three goals stated above were achieved, but, regardless of outcome, standardized reading scores would not be an appropriate direct measure of GHOSTWRITER's level of success.

There are inherent difficulties in objectively measuring qualities such as enjoyment and valuing of reading and writing (Goal I) or being able to capture the countless ways in which new insights into literacy strategies might be manifested in a child's life (Goal II). On the other hand, providing "compelling opportunities" to read and write (Goal III) implies the behaviors of reading and writing. These behaviors are more readily measurable among the project's three goals, and indeed the most direct and behavioral evidence falls in this category, as in the 450,000+ letters written to GHOSTWRITER by children.

Another difficult issue in the experimental assessment of GHOSTWRITER links back to the previous discussion of the multiple forms, intensities, durations, and environments in which project elements could be engaged. As a matter of pedagogical theory, it is unreasonable to have identical expectations of effect for each of the countless variations of GHOSTWRITER's availability and use. To tailor these expectations in such a way that, say, a success standard for each of several dependent variables would be modulated by the specific configurations of the GHOSTWRITER treatment (the independent variable) is to extend vastly beyond what current theory and measurement capability can provide.

The experience with the complexities of the GHOSTWRITER project implies that significant amounts of pilot work will be required if an interpretable experiment is to be conducted in some future effort. This pilot work will need to address virtually every feature of an experimental design: what constitutes the independent variable(s), the dependent variable(s), the moderating variable(s), and what are theoretically reasonable levels of expectation for measurable direct, indirect, and interaction effects.

An argument could be made that the methodological constraints of experimental design are inherently incompatible with a complex project such as GHOSTWRITER, and that only naturalistic research methods will be able to reflect analytically the fluid dynamics and contextual influences that characterize this project. Alternatively, it can be argued that the strategic approach developed by CTW in its experimental assessment of its mathematics series for children, *Square One TV* (Hall, Esty, & Fisch, 1990), offers insights into a possible design. The essential feature of that work, for purposes of the connection being suggested here, is that judges who were "blind" as to a subject's treatment condition content-analyzed videotaped children's behaviors in grappling with a mathematical problem-solving task. This permitted the rigor of controlled exposure for the independent variable, as well as the flexibility and openness to wide variations of behaviors that could be classified within the dependent variable. However, this design still would not address many problems discussed previously for the GHOSTWRITER context such as multiple media components and different consumer environments. Yet another alternative would be to pursue a number of quasi-experimental designs that would possibly be more adaptable to the nature of the GHOSTWRITER project, but would offer those advantages at the cost of not being able to present hard evidence of cause-effect relationships.

#### IV. IN CONCLUSION

The methodological issues that have been raised and exercised by the evaluation of **GHOSTWRITER** have importance beyond this particular project. The hope is that this brief discussion of them can contribute to the further development of evaluation methodologies. The ultimate goal of any evaluation is to provide information that stakeholders will find useful. To achieve this, evaluation methodologies will need to be sensitive to the true nature and complexity of the project, rigorous in design and implementation, and implementable within the contextual realities of the project's natural environments. In this regard, the evaluation of **GHOSTWRITER** represents advanced work that establishes a platform for developing improved evaluation models in the future.

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## APPENDIX C

### DESCRIPTION OF TELEVISION RATINGS

Nielsen ratings are the industry standard for national television audience measurement in the U.S. They provide estimates of how many households were tuned to or how many people were viewing in an average minute of a program. They also provide estimates of cumulative reach, that is, of how many different households (or people) were reached by a program within some duration of time (e.g., a week, a month, an entire broadcast season). Numerous variations of ratings-based statistics can be calculated, but the major ones of interest here are cumulative reach and average-minute ratings.

A prerequisite of viewing, of course, is the availability of the program itself, therefore information about local station carriage and scheduling is also important in a ratings analysis.

Because of the high degree of local-station autonomy in public television, carriage and scheduling information are especially important. Fortunately, carriage of **GHOSTWRITER** was very high: over 300 stations made the series available to 96 percent of all U.S. television households. In its first season, most stations aired the series at the PBS network feed (6:00 p.m. on Sunday evenings).

As the series progressed, **GHOSTWRITER** was not immune to fluctuations in carriage and scheduling caused by local pledge drives and other preemptions. By the launch of **GHOSTWRITER**'s second season, it was apparent that local variations in scheduling were making it too complex for Nielsen to efficiently track specific episodes of the series. The more appropriate method for calculating ratings turned out to be akin to what Nielsen uses for syndicated programming, which anticipates local variations in scheduling (as compared to network prime-time programming, which anticipates lock-step uniformity in scheduling). Because of these somewhat different procedures for tracking audiences in Seasons One and Two, the Nielsen ratings statistics are not entirely comparable between seasons. In order to compare audience data on exactly the same basis, Nielsen ran a special analysis for the months of January and February for both Seasons One and Two; here, the Season Two methodology was applied to both seasons. These 2 months, January and February, are frequently used as indices for comparisons because television viewing is then at a seasonal peak.

The cumulative "reach" data for **GHOSTWRITER**, Seasons One and Two, are displayed below.

**Table 1**  
**GHOSTWRITER Cumulative Reach for Entirety of Seasons One and Two**

	<b>Season One</b> <b>(10/4/92- 5/30/93)</b>	<b>Season Two</b> <b>(9/6/93-4/24/94)</b>
Total persons reached		
number:	33,900,000	37,270,000
% of total U.S.:	14.1%	15.3%
Total households reached		
number:	20,300,000	22,800,000
% of total U.S.:	21.8%	24.2%
Total minority households (African-American & Latino) reached		
number:	3,760,000	4,930,000
% of total U.S.:	22.9%	28.9%
Total low-income households reached (<20K/yr.)		
number:	5,730,000	7,200,000
% of total U.S.:	20.9%	25.3%
Total reach among households with a child 6-11		
number:	6,810,000	7,510,000
% of total U.S.:	39.8%	44.7%

Source: Nielsen Media Research: **GHOSTWRITER** National Custom Cume Analysis: Season I (October 4, 1992 - May 30, 1993) and Season II (September 6, 1993 - April 24, 1994).

**Table 2**  
**GHOSTWRITER's Reach in Seasons One and Two for the**  
**Months of January and February**

	<b>Season One (Jan-Feb 1993)</b>	<b>Season Two (Jan-Feb 1994)</b>
<b>Total persons reached</b>		
number:	15,630,000	18,270,000
% of total U.S.:	6.5%	7.5%
<b>Total households reached</b>		
number:	10,240,000	12,250,000
% of total U.S.:	11%	13%
<b>Total minority households (African-American &amp; Latino) reached</b>		
number:	2,670,000	2,920,000
% of total U.S.:	16.3%	17.1%
<b>Total low-income households reached (&lt;20K/yr.)</b>		
number:	3,180,000	3,870,000
% of total U.S.:	11.6%	13.6%
<b>Total reach among households with a child 6-11</b>		
number:	4,230,000	4,650,000
% of total U.S.:	24.7%	27.7%

Note: The percentage of total U.S. households (HH) statistics shown above refer to the total U.S. households for that particular demographic. For example, in Season One, GHOSTWRITER reached 4,230,000 households containing a child 6-11; that number is 24.7% of all U.S. households containing a child aged 6-11. Source: Nielsen Media Research: GHOSTWRITER National Custom Cume Analysis, January - February (Seasons I & II).

The data above include these noteworthy insights:

- GHOSTWRITER reached 34 million people in Season One, and 37 million people in Season Two;
- GHOSTWRITER reached 4 out of every 10 households in the U.S. containing a child 6 to 11 years of age in Season One, and even more (44 percent) in Season Two. (Note: 6 to 11 is the closest Nielsen age category to GHOSTWRITER's target audience age of 7 to 10);
- The reach was about the same among low-income households as it was for all households in general, and was even greater among minority households; and

- Season Two showed higher reach than Season One in every category examined: total persons, households, minority households, low-income households, and households with a child aged 6 to 11.

**GHOSTWRITER Ratings for Seasons One and Two**

There are countless influences on a rating beyond the qualities of the program itself being rated, and numerous comparison points from which to evaluate and interpret a rating. An average-audience rating, whether tallied for households or categories of persons, can be seen as a measure of appeal within the context of many other factors such as:

- Time slot (who is typically viewing at this hour of this day of the week, or week of the year?);
- Competitive programming;
- Audience’s image of the station, network, or producer;
- Awareness level, special promotional efforts;
- Length of time on the air, whether viewing has become a habit, whether characters are sufficiently known for the audience to identify with;
- Cultural salience, word-of-mouth “buzz” value;
- External influences such as cross-media reinforcements; and
- Institutional or parental persuasive efforts.

Two different forms of the Nielsen Average Audience (AA) for GHOSTWRITER are displayed in Tables 3 and 4 below.

**Table 3**  
**GHOSTWRITER National Average Audience (AA) Ratings, Seasons One and Two**

	<b>Season One (Dates Inclusive)</b>	<b>Season Two (Dates Inclusive)</b>
Household AA		
rating:	1.7	2.2
number:	1,582,700	2,072,400
Children 6-11 AA		
rating:	3.2	4.1
number:	691,520	900,360
All Persons 2+ AA		
rating:	1.1	1.3
number:	2,640,000	3,166,410

Source: Nielsen Media Research: **GHOSTWRITER** ratings for Season I (October 4, 1992 - May 30, 1993) and Season II (September 6, 1993 - April 24, 1994).

In Season One, the average minute of **GHOSTWRITER** was playing in 1.5 million households, and seen by almost 700,000 6- to 11-year-olds, and by over 2.5 million over 2 years old. In Season Two the average minute of **GHOSTWRITER** increased audience in all categories: over 2 million households, almost a million 6- to 11-year-olds, and over 3 million persons.

A special Nielsen analysis in Season One indicated that co-viewing of **GHOSTWRITER** was widespread: 40 percent of **GHOSTWRITER** viewers in the 6- to 11-year-old age range were viewing in the presence of an adult 18 or more years old. Thirty percent were viewing in the presence of a younger child 2 to 5 years old (Nielsen Media Research, 1992).

**Table 4**  
**GHOSTWRITER National Average Audience (AA) Ratings for the Month of February, Seasons One and Two**

	Season One February, 1993	Season Two February, 1994
Household AA		
rating:	1.9	2.6
number:	1,768,900	2,449,200
Children 6-11 AA		
rating:	3.5	5.7
number:	756,350	1,251,720
All Persons 2+ AA		
rating:	1.2	1.6
number:	2,885,280	3,897,120

Source: Nielsen Media Research; **GHOSTWRITER** ratings for Season I (October 4, 1992 - May 30, 1993) and Season II (September 6, 1993 - April 24, 1994).

At the peak of its ratings, in February 1994, **GHOSTWRITER** was drawing 1.25 million 6- to 11-year-olds per minute. To evaluate the competitiveness of this rating by commercial standards, a ranking was constructed of the 6 to 11 AA for all children's shows aired in children's blocks on commercial television, both network and syndication, for the same dates tabulated above: February 1993 and 1994.

In Season One, February 1993, in a ranking of a total of 81 commercial children's shows, **GHOSTWRITER** placed 34th. In Season Two, February 1994, among the 81 commercial children's shows at that time, **GHOSTWRITER** ranked 15th, in the top 20 percent.

Season Two progressed beyond Season One in both the number of different people reached and in the number of people viewing during any one minute, testifying to both the strength of the series and to the payoff of longer-term investments in series where loyal audiences can be built up.