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ABSTRACT

A study examined differences between a prescriptive individualized approach to literacy instruction in adult basic education (ABE) settings. Six ABE classrooms participated in the study with four continuing traditional literacy instruction and two providing whole language-oriented literacy instruction. Average attendance per session was 12 adults. The classroom served as the unit of analysis, with a total of 60 hours of observation conducted by a trained observer over the 6-month implementation phase of the year-long project. The findings revealed substantive differences between the two modes of instruction along various dimensions of educational climate. Interpreted broadly, the findings suggest that whole language-oriented instruction is more andragogical in nature, more supportive of higher-order thinking with print, and a more compelling form of literacy acquisition for adult learners. Implications for ABE policies and practices were identified. (60 references and 13 tables/figures) (KC)

A NATURALISTIC STUDY OF THE ECOLOGICAL DIFFERENCES BETWEEN WHOLE LANGUAGE AND TRADITIONAL INDIVIDUALIZED LITERACY INSTRUCTION IN ABE SETTINGS

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Ecological Differences in Literacy Instruction

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Abstract

This report details a study which examined differences between a prescriptive individualized approach to literacy instruction and a whole language orientation to literacy instruction in ABE settings. Six ABE classrooms participated in the study with four continuing traditional literacy instruction and two providing whole language oriented literacy instruction. The classroom served as the unit of analysis.

The findings revealed substantive differences between the two modes of instruction along various dimensions of educational climate. Interpreted broadly, the findings suggest that whole language oriented instruction is more andragogical in nature, more supportive of higher order thinking with print, and a more compelling form of literacy acquisition for adult learners. Implication for ABE policies and practices are discussed.

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Introduction

Numerous reports, articles, books and policy statements cite the need for more extensive and upgraded adult literacy instruction to improve adult literacy performance (Chall, Heron & Hilferty, 1987; Chisman, 1989; Lytle, 1988; McGraw, 1988; Venezky, Kaestle, & Sum, 1987; Working Group on Adult Literacy, 1988). As a result, public consciousness has become sensitized to the adult literacy issue with diverse groups responding to the call for adult literacy learing opportunities, e.g., volunteer groups. Certainly there have been gains within the last decade in understanding the need for adult literacy education.

However, there are important aspects of adult literacy education that must go beyond awareness of the need for instructional opportunity: adult literacy instructional models, for instance, still lack adequate description, especially as these naturally occur in classroom settings. Lacking adequate description, experimental research efforts to discern critical features of instructional practices that significantly impact adult learner satisfaction, literacy achievement and application are seriously hampered.

Literacy instruction in adult basic education (ABE) programs provides an example. ABE has had a long history of prescriptive individualized instruction to meet adult learners' needs. Program philosophy as well as the open enrollment policy of ABE tend to

support this widely-used approach to literacy instruction. Reports are peppered with claims to success using individualized skill-based literacy instructional approaches; however, substantial evidence of success as a result of this methodology continues to elude researchers and program evaluators (Boracks, 1986; Sticht, 1989).

In fact, poor retention rates plague most ABE programs. Usually learner-specific reasons are cited for this, e.g., family, economic and/or transportation problems. Less frequently considered, however, is the possibility that the instruction conducted may simply not be compelling enough to warrant sustained effort and commitment from learners. For example, Boracks (1988) reports that one reason adult students drop out is that "they are not learning" and "their expectations from teachers and peers are not met" (p. 72). Czikzentmihalyi (1989) also suggests that "the chief impediments to literacy are not cognitive in nature. It is not that students cannot learn; it is that they do not wish to" (p. 115).

Agreeing that instruction may be at the heart of the retention issue, Kazemek (1989) proposes that more recent literacy teaching practices which use socially-oriented instructional strategies, integrated learning experiences, and active learner participation may be more motivating, thus potentially more influential in effecting retention. However, because so little attention has focused on how literacy instruction is actually conducted in ABE programs, the successful implementation of new models (e.g., whole language) and their comparison to traditional approaches are difficult to achieve.

If we are to move from "crisis" to "caring" in adult literacy education, detailed descriptions of adult literacy teaching and learning as these naturally occur are needed on several methodological levels. One such level concerns the ecological environment or "behavior settings" created by different literacy instructional approaches. Just as content and form interact to convey the overall message of a written work, instructional approaches and ecological features interact in ways that influence the meaning of the instructional experiences (Barker, 1978; Stodolsky, 1984).

Although the ecological environment has long been recognized as an important consideration in adult learning (Brookfield, 1986; Knowles, 1984; Tagiuri, 1986), very few studies have researched this dimension of adult programming and instruction. Darkenwald & Gavin (1987) examined the influence of social climate on drop out behavior in a GED setting, DeYoung (1977) the effect of climate on class success at a university level and Ennis, et.al. (1989) the educational climate of an elective university level course. Results of these studies are mixed with sometimes conflicting findings due to the different populations studied and design variations. For example, Darkenwald and Gavin, who used an experimental research design in a CED setting, found that dropouts prefer a less social classroom climate while Ennis, et.al., using an ethnographic approach in a university setting, observed that the social system was found to play an "influential role in the quality of adult learning experiences" (p. 82).

No studies were located which explored relationships between literacy instructional approaches and their corresponding ecological environments in adult literacy programs, e.g., Adult Basic Education. In light of more recent literacy studies which suggest that environment is a powerful influence on literacy behaviors and orientation (e.g., Heath, 1984), the educational arrangements or forms created by different literacy instructional practices in adult literacy programs warrant closer investigation. There are three reasons for this, in particular. One, as Nancy Cole (1990) has suggested, there is a great need to re-examine literacy methods to ascertain those that develop the problem-solving competencies so necessary for literacy demands in a technological society. Two, from a theoretical and research perspective there is need to explore the interplay of setting, participants, and literacy programs to further understand adult literacy acquisition and development (Ennis, et.a., 1989). Three, to mainstream adult education, there is need for a rich descriptive base of different literacy programs from which to prepare adult literacy teachers and to anchor practice (Kazemek, 1989).

Considering these needs, a study was undertaken to describe and interpret the ecological environments created by two different approaches to literacy instruction in ABE settings: a traditional individualized approach and a whole language approach. The study constituted one component of a broader literacy project examining literacy practices in ABE programs. The two approaches were selected

because of their distinct differences, their credibility based on research and practice, and their discernible theoretical roots. It should be mentioned that each was considered an "approach" in the broadest sense of that term, i.e., a way to conduct activities or a teaching model.

As an instructional approach, the traditional individualized approach may be characterized by a) exclusive use of commercially-prepared workbooks, b) teacher- or workbook-directed individualized instruction, c) an emphasis on reading over writing, d) a skills orientation, e) limited use of group work, f) an emphasis on prescriptive teaching and learning, and g) clear role distinctions between teacher and student. It derives from a longstanding skills-based view of literacy acquisition and development rooted in the behaviorist tradition (Goodman, 1989) and is supported by years of practice, e.g., Laubach Literacy Method, the Mott Basic Skills Program, and other commercially-prepared materials.

Whole language is somewhat more difficult to define because it seems to represent more so a perspective than a specific approach, such as the Language Experience Approach. It has been variously described as "developing literacy through reading and writing whole texts" (Weaver, 1988), "a philosophical set of beliefs about learning and language" (May, 1990), "a set of beliefs about curriculum" (Newman, 1985), and "reading and writing integrated every day" (Watson, 1988). In general, it may be described as an approach wherein language (oral and written) is used for authentic and

personally meaningful purposes while learning through active processes in the social community of the classroom (Goodman, Bridge & Goodman, 1990; Watson, 1989). It may be characterized by a) an emphasis on reading and writing as processes, b) the integration of reading and writing in real-life literacy activities, c) small group work, d) use of student-generated materials as well as those found in daily life, e) a focus on language functions over its forms, and f) inter-changeability of teacher-student role (e.g., Cambourne, 1989; Christie & Noyce, 1989). Due its recency as a set of literacy practices, it is less used in adult literacy programs.

By exploring the congruence of each instructional approach with current conceptions of literacy and its efficacy for meeting adult literacy concerns, background related to the study as well as the overall literacy project is provided in the following discussion.

Congruence of Each Approach With Literacy Views. Conceptions of literacy change with the times, are influenced by many factors, and take different forms for different people. Even so, it is possible to discern two prevailing conceptions of literacy in our culture: literacy as a skill and literacy as a medium. Granted this is a simplified characterization; however, the purpose here is to explore how congruent each instructional approach described above may be with these broad conceptions of literacy, then to consider the efficacy of each in light of current social needs.

Literacy as Skill (e.g., Chisman, 1989; 1990). From this point of view, literacy is perceived as a fixed entity, thus it can be

possessed once and for all. In general, it is thought to consist of a discrete and predetermined set of subskills which combine to produce reading and writing. To obtain literacy, one needs to master these subskills, usually in some predetermined, hierarchical order. Once attained, the individual is "set for life" as a reader; the individual has the skills and simply needs to replicate and apply them across varying contexts. A strong emphasis is placed on accuracy, since readers and writers are expected to control and use an arbitrary set of literacy skills. If a learner has problems with literacy, the assumption is that the individual has not "gotten" certain subskills accurately, thus more practice is necessary.

An industrial world-view is analagous to this conception of literacy (Toffler, 1980). Perceived as a skill, literacy is acquired through the systematic assembly of language parts, much like any other product. Programmed instruction, individualized learning kits, prescriptive literacy programs and workbook series reflect this perspective and serve as training manuals for the individual acquisition of literacy. In sum, literacy teaching and learning could be characterized as an "assembly line approach".

The traditional prescriptive individualized approach to adult literacy instruction seems congruent with this conception of literacy. It facilitates the production of a reader/writer as evidenced by the individual's mastery of a discrete set of subskills in a short period of time. On the other hand, the whole language approach does not seem to align as well with this conception since it does not

promote the sequential development of discrete subskills. Thus, it may appear to be less efficient in the production of an individual skilled at literacy, especially if judged by traditional standards.

Literacy as a Medium (e.g., Rose, 1989; Scholes, 1989; Friere, 1970). Perhaps somewhat more recent, this conception of literacy focuses on a more integrative coherence between know-how and use. In contrast to the view of literacy-as-skill, it focuses on literacy as a problem-solving behavior involving the use of personal knowledge to construct meaning with text. Increased attention is paid to context and how it influences the connecting of what one already knows to new information.

From this point of view, acquisition of a predetermined set of literacy skills will not suffice because literacy demands are various, uncertain and problematic. Instead, one needs to be able to use literacy flexibly to 'fit' the literacy demands of the situation. In other words, the individual needs to control the processes of literacy because it is these processes which provide greater generalizability across print-based situations. Abilities such as knowing how to use personal knowledge, to recognize different print contexts and conditions, and to activate self-correcting strategies and self-regulating skills take precedence over those more focused on discrete and specific print features. A major emphasis is on the functional use of literacy for personal knowledge construction.

The whole language orientation to literacy instruction seems more congruent with this conception than the traditional prescriptive individualized orientation. The former encourages negotiations with text, collaboration with more informed others and interactive problem-solving while the latter stresses recall of facts, individual practice of specific skills, and arbitrary standards of achievement. As a teaching-learning model, whole language, then, could be characterized as an "apprenticeship approach", one becomes literate through print-based exchanges with more literate others.

Which conception, then, seems more efficacious for meeting adult literacy needs within a technological society entering the 21st century?

Mindful of the complexities of literacy, probably neither alone and both together. Perhaps, as Venezky (1990) has recommended, it is time to "open to critical examination the various contemporary meanings offered for literacy and to outline a set of definitions, established according to the needs of both pedagogy and national policy." More recently, literacy has been described as "an ability to use print for personal and social ends" (Venezky, Kaestle & Sum, 1987, p. 5), "a social transaction between people mediated by written text" (Resnick, 1990), "interchangeably...a skill, a state, and an action" (Langer, 1988), "potential empowerment" (Gillette in Tuman, 1987) and "our ability to deal with discourse that projects a world" (Tuman, 1987, p. 30).

Embedded within these modern definitions is a view of literacy as a higher order skill serving critical thinking in problem situations. Perceived in this way, the conception of literacy as skill is certainly too narrow to meet this expectation. And teaching adults using an "assembly line approach" may not create the conditions for learning how to critically think with print.

The literacy as medium conception, however, may be too sophisticated for the realities of adult literacy instruction. Developing adult literacy using an "apprenticeship approach" tends to be time-consuming, makes special demands on participant commitment and on program design and setting. More importantly, it requires a teacher with much more expertise as an adult literacy educator (Chall, Heron & Hilferty, 1987).

However, without a fuller and more integrated conception of literacy teaching and learning, adult literacy research and practice will continue to lack coherent and authentic frames of reference to guide investigations and instruction. Consequently, what may be desired as literacy goals in general by the society and what is actually done in specific adult literacy instructional settings may be unwittingly at cross-purposes. If we are to understand the ramifications of what is done in the name of adult literacy, additional research is very much needed to examine the nature of the congruence between instructional approach and larger societal literacy goals (see also Alamprese in Chisman, 1990).

In an endeavor to understand relationships between instructional practices and literacy behaviors, a study was undertaken to describe two instructional approaches or models as they actually occurred. The study was embedded in a literacy project conducted under the auspices of the National Adult Education Discretionary Grant Program (see appendix A for a description). The overarching intent of the project was to explore the implementation of whole language teaching practices in two Adult Basic Education classrooms and to compare these to more traditional instructional practices in other ABE sites. More specifically the project aimed to a) describe the ecological characteristics of two approaches to literacy instruction in an Adult Basic Education (ABE) program - prescriptive individualized and whole language, b) explore the nature of whole language as a literacy instruction approach in ABE, and c) develop a whole language staff development program for ABE teachers.

The project was guided by five questions:

1. What are the ecological characteristics of a traditional approach to literacy instruction in the ABE setting?
2. What are the ecological characteristics of a whole language approach to literacy instruction in the ABE setting?
3. What are the ecological differences between these two approaches to literacy instruction?
4. What are the key characteristics of whole language teaching in the ABE setting?

5. What is the scope and sequence of a whole language staff development program for ABE teachers?

The findings related to questions one, two, and three constitute the research study and are discussed in this report. Information related to questions four and five are contained in separate documents (Connell & Roskos, 1990; Connell, Roskos & Cadou, 1990).

Method

Setting. The classroom served as the unit of analysis. Six ABE classrooms across a four county region were selected as sites for the research project. Average attendance per session was twelve adults. Average number of hours of attendance per participant was thirty-four hours. None of the teachers in these classrooms had been involved in previous whole language related inservice activities. All of the teachers were certificated, had substantial general teaching experience and some experience in ABE instruction.

Two sites were selected by the ABE program director as whole language classrooms for implementation of whole language-oriented teaching practices as described in the previous section. Four sites were selected to continue providing instruction as they had in the past, an approach similar to that described as traditional in the previous section. All sites were comparable in physical design, size of class, average attendance, number of hours of instruction, and material resources.

Procedures. The project included three phases: an initial two-month staff development phase, a six-month implementation phase, and a

four-month follow-through research phase. Only data related to the second phase of the project are reported here. For purposes of clarification, a brief description of the staff development component is provided below. A detailed description of the staff development program is available in a separate document (Connell & Roskos, 1990a). Follow-through research is still in the data analysis stage (Connell, Roskos & Cadou, 1990b).

Pre-Implementation Phase (Staff Development). All of the teachers involved in the project participated in some form of staff development. Since the teachers responsible for the whole language sites had little knowledge of this perspective, they were involved in more staff development than those teachers responsible for the traditional sites. Prior to actual instruction, the whole language teachers participated in eight three-hour sessions which examined the bases and teaching strategies related to whole language. Specific topics included: understanding the reading and writing process, understanding the adult learner, using process based strategies of instruction (e.g., the DR-TA, QARs, reciprocal teaching), creating a literate environment, and informal assessment tools and procedures. Both teachers developed an instructional cycle reflective of whole language principles which they used consistently in their classrooms. Briefly, it included the following phases: warm-up (a brief time devoted to shared reading), engagement (usually prereading and/or prewriting activities, e.g., semantic mapping), guided practice (small group work involving

processing and returning to text using reading and writing strategies, e.g., three level guides), and reflection and extension (responding to the text, e.g., in learning logs or other writing activities).

Teachers in the traditional sites participated in six three-hour sessions which deepened concepts related to traditional approaches. Specific topics included: individual conferencing, diagnosing student needs, material selection, recordkeeping, and instructional alternatives (e.g., using computer-assisted reading instruction and unique teaching methods). Generally, these teachers employed instructional routines that facilitated prescriptive individualized instruction, e.g., provision of self-paced learning packets for students.

Implementation Phase. One chief interest of this project was to examine how different literacy instructional approaches may impact the learning environment based on the premise that educational settings do influence behavior. This position derives from ecological psychology which suggests that individuals and environments are inter-dependent (Barker, 1978; Wright, 1967). As Moos writes:

> Educational settings can and do make a difference in students' lives. This difference can be for better or worse. Students and [educators] are correct in assuming that their choices and policies matter and that the educational settings they select and create have varied impacts (1979, p. 273).

From our point of view, the ecological environment created by different literacy methodologies within the context of ABE programs has the potential of influencing an individual's stance toward literacy and shaping one's use of literacy as a medium for learning. In this sense, the environment becomes an important dimension of teaching and learning in adult literacy education. It "coerces" behaviors just as it is used to realize human intentions and behaviors. In brief, the environment is not a passive "relatively stable, reliable ground for action." Rather it is a dynamic and integral part of the evolving instructional context - influencing behavior as well as being influenced by behaviors (Barker, 1978; Bateson, 1979).

One main emphasis, then, during the six-month implementation phase was the systematic observation (Spradley, 1980; Werner & Schoepfle, 1987) of the ecological features of classroom sites, i.e., physical arrangements, human components (roles), and activities. A total of sixty hours of observation were conducted. In the tradition of ecological psychology (Jacob, 1987), an external observer conducted the observations and strived to develop a friendly, albeit nonparticipating role.

Since the ecological environment was the observational focus, the field notes resembled "behavior setting surveys" in that the intent was to inventory the environmental setting of each site, to create a running record of the activity structure, and to note interaction patterns associated with place-time-thing constellations

(Barker, 1978; Stodolsky, 1984). For example, the physical arrangement of each environment was sketched and its contents periodically inventoried. In addition, the activity narratives included participant-participant interactions, participant-object interactions, and participant-location interactions which were subsequently itemized and tallied. However, unlike "behavior setting surveys" in the tradition of ecological psychology, certain quantifiable data were not collected, e.g., number of minutes participants spent in each instructional location.

Samples of teachers' instructional planning documents were collected. In addition, copies were made of students' learning logs in the whole language sites.

Data Analysis and Preliminary Findings. The sixty hours of observations yielded a total of twenty-four classroom "scenes," twelve of each approach. These scenes were analyzed using a form of structural analysis (Werner & Schoepfle, 1987) which resulted in the designation of three large sectors in the classroom environment: instructional locations (where instruction took place or behavior settings), props (material resources used for instruction), and activities (the teaching plan). Analysis also revealed differentiations in the participants' roles within each sector: teacher only, teacher and student jointly, student only.

All the observational data were then re-analyzed by sorting these into the sectors and inventorying different items and instances by role. These procedures resulted in the development of taxonomies

of the instructional context of the whole language and traditional ABE sites, as depicted in Figures 1 and 2 respectively.

[insert figures about here]

In addition, participant-participant, participant-object, and participant-location interactions were analyzed using analytic induction (Goetz & LeCompte, 1984) to determine patterns of interaction. Participant-object and participant-location patterns were incorporated into the taxonomies.

Analysis of the participant-participant interactions revealed four patterns of interaction. One pattern was referred to as Type A and represented what appeared to be four-way interactions between all the participants: teacher-students, students-students, participants-text. Another was referred to as Type B, characterized by talk among students and a text with the teacher as a nonparticipant. A third pattern, referred to as Type C, reflected the more traditional question/answer format common in many classroom settings: teacher directs question or comment to a student and the student responds; most interactions are teacher-initiated. The fourth, or Type D, was the nonverbal interaction between a student and a text, e.g., a workbook. The fifth pattern represented an interaction which was not related to the ongoing instruction.

A typology of these types was constructed and is illustrated in Figure 3. Participant-participant interactions were also analyzed for frequency of distribution by type. These results are summarized in Tables 1 and 2 below.

[insert figure 3]

[insert tables about here]

Findings

Each taxonomy illustrated above could be viewed as the underlying structure of a "cultural scene" (Spradley, 1980), complete with physical setting, human components, and activities. It depicts the ecological environment or milieu to which behaviors are attached and with which they have relationships (Barker & Wright, 1955). By analyzing the relationships between the structures, certain characteristics of a culture emerge. For example, how cultural environments differ in their properties and patterns of behavior and how they shape individual behavior (Barker, 1978). By treating the taxonomies as structural models of cultural scenes, it becomes possible to discern patterns of literacy behaviors and cognitive orientations toward literacy which may have deeper implications for adult literacy development and learning (Marshall & Rossman, 1989; Spradley, 1979).

Taxonomic analysis serves as a useful tool for discovering relationships between structures or categories within cultural scenes (Werner & Schoepfle, 1989). Upon examining the parts of a taxonomy in relation to one another (between-category relationships) and to the taxonomy as a whole (category-to-taxonomy relationships), a system of meaning emerges which characterizes the overall culture.

In the following discussion, the taxonomies of the milieu of the whole language and traditional approaches to literacy instruction are analyzed using this procedure. The purpose is to ascertain the impact of the different ecological environments created by the instructional methodologies on patterns of literacy behavior.

Following this analysis, the taxonomies are interpreted, using categories from Tagiuri's taxonomy of educational climate (Tagiuri, 1986) to determine the overarching patterns which characterize the ecological environment created by each instructional system. These patterns, then, are used as a basis for hypothesis generation about relationships between specific literacy approaches or models and adult literacy behaviors.

The Ecological Nature of the Traditional Approach as a Cultural Scene

Overviewing the taxonomy of the traditional classroom, the supremacy of the teacher within the classroom environment becomes apparent, since this individual assumes a key role in all the major sectors. Focused observations in each of three domains of the taxonomy support this inference and introduce between-category and category-to-taxonomy relationships.

Instructional Locations. Referring first to instructional locations within the scene, it is obvious that the teacher had access to the most spaces, a total of five. In fact, some locations were rarely frequented by learners, e.g., the file cabinet, the materials' area in some classrooms, and the blackboard area. The following excerpt from the field notes highlights the notion of 'spatial privilege' within the traditional approach.

> The teacher has her cart (for materials) and is pulling materials...One student comes in and the teacher immediately moves to her and has materials ready for her. Another student is sitting, waiting for materials from the teacher.

Most often, within traditional sites, the teacher or an aide brought materials to students, unless the teacher had established a system for including all materials within student folders.

The teacher also demonstrated the most freedom of movement between instructional locations. Every on-site visit of the traditional scenes included observations of participants entering the scene and remaining virtually in the same place until the end of the session. Observation #7 provides an example.

> A male student has arrived. It is 1:00 P.M. He receives his folder and sits down at the table. He immediately starts writing. At 2:30 P.M. the student is still writing, having completed what he reports as "thirteen lines" of text. (#T7)

Although the teacher seemed to move about frequently throughout the instructional spaces, the learners tended to remain stationary, only moving for designated breaks or to return printed materials to a cart or shelf.

Instructional Props. As for instructional props, observations indicate that, although teachers and learners shared the majority of literacy instruction props, the teacher always authorized interactions with the props. The following field note provides an example.

> The teacher gets a workbook for the student that has math problems for her to do. She gives another student three more math problems to do in his workbook. (#T5)

The major instructional prop was referred to as the "individual folder." It represented the main source of written text used by the teacher and learners. The folder included workbooks, worksheets, and assignment sheets which the teacher used to monitor individuals' progress and performance. It should be noted that no actual books or texts in the general sense were used in these ABE sites. Written language or text was exclusively in a workbook format.

Across sites, the general routine for individual folder "work" was as follows:

- The teacher pre-selects tasks to be included in the folder work;
- Adult learners 'sign in' and pick up their folder;
- Learners sit down (routinely in the same place) and complete the work;
- Learners check their own work, using answer keys;
- Teacher answers specific questions related to the folder work, evaluates learner performance, and provides more "work" as needed during the session (usually brought to the student).

The centrality of the individual folder as a literacy instruction prop is indicated by three sources: the field notes, the frequency of Type C (two-way instructional exchanges of the question/answer type) and Type D (instructional exchanges where the student interacts alone with a workbook or text) interactions, and the teachers' planning. Indeed, this prop could be viewed as the primary medium of literacy exchange in these traditional classrooms.

Instructional Activities. Observations of instructional activities revealed that the teacher directed and managed most activities by telling others what to do and when through verbal directions or "individual folder work." The field notes are replete with instances of this. Several examples follow:

- The teacher is working with a student, giving directions about how to do a workbook page (#T1).
- The students had taken their files from the teacher and were working independently (#T4).
- They (the students) call P. (the teacher) over for help on a workbook page (#T4).
- L. (the teacher) tells them what they will be doing next week in their workbooks (#T8).

The dominance of the teacher in literacy-related exchanges is also evident in the interaction patterns that characterize the scene. For example, Type C interactions (two-way exchanges of the Q/A type) account for 90% of all interactions noted during the observation period.

Between-Category Relationships. By combining and analyzing the observations within each category, between-category relationships can be determined. To facilitate this process, Spradley (1979) suggests the creation of a schematic diagram which highlights patterns across categories within a scene. This strategy was used to aid recognition of between-category relationships in the traditional classrooms. Figure 4 illustrates the between-category patterns which emerged.

[insert figure 4]

As the Figure suggests, the activity and location categories appear subordinated to the instructional props, primarily the individual learning folder in this scene. The folder determines what kinds of literacy activities people will do, when, how, and where they will do them. In short, literacy activities and behaviors in the scene seemed to be initiated and terminated by the folder. For example,

> 7:00 P.M. All the students are still working on their individual folders. J. (the teacher) works with a male student individually. She stops momentarily and goes to another student. She takes one set of materials from her, goes to the file and gets a new set to give her. She shows the materials to her and tells her to keep the materials in her folder. J. returns to the male student and points to something in the folder. She then tells a female student to bring her math (from her folder) "over" (to the teacher's desk) and she will check it.
>
> 7:30 P.M. All students are still working on their own individual folders. (#T10)

Thus, in the traditional sites, activities and locations appeared reliant on one instructional prop which, in turn, was managed by the teacher. Somewhat like the Wizard of Oz, the teacher controlled the scene from behind the "individual folder work," deciding the reading and writing others will do, how, when and where. The teacher's

decisions as to what individuals would do were usually based on skill-based pre-tests which accompanied the various workbooks commonly used in the sites. Rarely, if ever, did direct instruction occur without the folder serving as the springboard or basis for instruction. Indeed, the individual learning folder was so efficient and powerful that literacy 'education' could occur without the actual physical presence of the teacher within the scene. It was not uncommon for teachers in these sites to be late or to leave the room while students quietly followed the prescribed regimens of their individual folders.

Based on these patterns, the predominant between-category relationship that emerged was one of dependence. Learners depended on the teacher and both depended on the instructional prop to guide literacy behavior. In short, literacy activity was subordinated to object, namely the folder. What seemed to matter was not so much the learners' unique literacy needs nor even the teacher's instructional expertise, but rather completion of the prescribed agenda of the individual folders. As a result, the literacy behaviors and interactions in this community were text-driven and text-dependent. It is of interest to note that even though the instruction appeared to be individualized, it was, in fact not, in the educational sense of the word. The participants worked alone, as individuals, but they did not engage in individualized literacy learning activities. For example, no sustained literacy activities, using other than work-books as texts, were observed which focused on the actual employment

concerns and needs of the participants nor any which involved their unique personal issues, i.e., health or child care.

Category-to-Taxonomy Relationship. The between-category relationship of dependence shapes the larger category-to-taxonomy relationship. It may be characterized as hierarchical. At the top is "text" (in the form of the folder work) which the teacher manages. The learners are the workers. The teacher directs their literacy activities in the form of prescriptive "individual folder work" which accomplishes pre-determined goals; these may or may not be relevant to the participants. Each learner "does work" independently at his or her place. The work is monitored and evaluated quantitatively by the teacher as manager. The following example portrays this sense of hierarchy in the classroom environment as created by the traditional approach.

> A student has been sitting at the table. He has been working for about forty-five minutes on materials in his folder. He comes up to the teacher and says, "Tell me how bad I'm doing." He is referring to a twenty-seven item pre-test on punctuation and grammar which he has just completed. The teacher uses an answer key and checks the items. She indicates the score and the student listens. He then returns to his place at the table to do work in the English workbook. Meanwhile others are working individually in workbooks at their seats at the table. Some

> students enter from another room and the teacher says, "Sh-h-h-h...I have people working, here." It is very quiet as everyone resumes doing his or her paperwork in the folders (#T8).

The category-to-taxonomy relationship appears also to be a restrictive one for both teacher and learners, but particularly for the learners. This was apparent in the limited physical range of instructional locations and lack of diversity in props and activities.

In combination these two relationships created the conditions of a routine sameness which involved minimal personal contact and expression. As a result, the literacy community which emerged did not include particularly diverse, complex or functional literacy events. Rather, events tended to be repetitive, similar to one another and predictable. To summarize, Figure 5 depicts the hierarchical and restrictive category-to-taxonomy relationships that characterized the ecological environment of the traditional approach.

[insert figure 5]

As the Figure illustrates, literacy instruction in this environment seemed imposed on the participants. They became dependent on an instructional prop, the individual learning folder, which supported passive and skill-specific literacy behaviors. Literacy activity was restricted, confined to pre-selected workbooks and work-sheets. Finding the right answer was emphasized and mastery of discrete skills signified learning. As developed and practiced in this community, then, the value of literacy was to complete folder

work and to pass tests (e.g., the GED) - a particularly narrow view of literacy, rendering it almost nontransferable to other contexts of use.

The Ecological Nature of the Whole Language Approach As a Cultural Scene

In contrast to the taxonomy of the traditional orientation, the taxonomy of the whole language classrooms readily appears more varied and complex.

Instructional Locations. First, a variety of instructional locations were available to both teacher and learners. This is apparent in the total number of different learning sites indicated in the overall domain (a total of twelve).

Another striking characteristic of the whole language classroom was the greater freedom of movement among the participants. For example, the learners would frequently change seating positions to engage in group work or they would "get up" during instruction and move about as a part of instructional activities. In general, teacher and learners would freely move about, creating a variety of traffic patterns, e.g., to the map, between the tables, to the bulletin board, to the resources table.

Instructional Props. The whole language classrooms also included a wide range of literacy instruction props, e.g., different text formats (brochures, news articles, graphs) and multimedia (overhead, maps, VCR). Many of these props were handled jointly by the teacher and the learners, sometimes initiated by the teacher and other times

by the learners. Few of the actual learning props were exclusive to the teacher. Those props not shared with the learners tended to be of an instructional planning nature, e.g., a notebook for organizing the day's plans. An example is provided in Figure 6 below.

[insert figure 6 here]

Many of the literacy instruction props were selected by the participants as a part of their learning activities, including printed materials that "flow through" daily life, e.g., newspapers, TV guides, coupons, advertisements, announcements, pamphlets, etc. For example, over a series of sessions, the participants had decided to study heart disease. They brought in brochures, pamphlets, and articles related to this topic. The teacher also provided ABE resources, such as selections from workbooks and GED related text excerpts.

Decisions about topics of study tended to be collaboratively made by the teachers and the students, especially as the whole language approach became more familiar to the participants. Learner-specific goals, such as GED preparation, were embedded within the exploration of these broader topics. Responsibility for materials resources related to the topic seemed to become a joint venture with participants and the teacher contributing. As a result, the literacy instruction props in this environment were diverse and more connected to the participants and their real life activities. In addition, the resources were generally accessible to all.

Instructional Activities. The literacy activities in the whole language scene seemed more interactive and participatory. This was

indicated, in particular, by the kinds of activities in the teacher/learner and learner domains: conferencing, brainstorming, questioning text, working in pairs. Activities such as these require active learner involvement and social participation. The interaction patterns corroborated the participatory nature of the whole language classroom. Type A interactions (four-way with teacher and text as participants) predominated, accounting for approximately 55% of the total interactions observed. Furthermore, as the group worked together, the literacy activities increasingly revolved around themes which were jointly selected by the participants as important areas of learning, e.g., nutrition, inexpensive family vacations, and earth ecology.

Of special note are the teacher's activities: facilitating discussion, thinking aloud, demonstrating planning. These are behaviors associated with modeling problem-solving and critical thinking with print. Not only was the teacher modeling these behaviors, but she also encouraged participants to demonstrate these behaviors, as the following examples indicate:

- The T says to the group, "I'll bet you remember more of the story when you predict rather than just reading it all the way through" (#WL3).
- The T gives directions on questioning as part of the reading process. She reminds them to ask themselves: What do I think? How do I know? What's going to happen next? (#WL2)

- The T says to a student, "How did you go about deciding on that answer? Tell us about your thinking" (#WL4).
- The T demonstrates to the students how to find the meaning of a word by looking for other words (#WL4).

Of particular interest, too, was the way in which text was viewed - almost as another participant: it was read, discussed, responded to and questioned. The following excerpt from a discussion highlights this quality of instructional activity in the whole language classrooms.

[The students have read an article on nutrition and conferenced with one another about the content. In the following, they are now engaged in a general discussion of the content and the nature of the text. This was a common cycle in the whole language orientation: read, conference, discuss, analyze, write.]

T: So, what you're saying then is poor nutrition gives you low resistance to colds and things. That's kind of important because our weather's been fluctuating up and down this winter, OK. Now I also put a little question after that paragraph, 'Would you rewrite the first sentence?'

S: (female) We [their group] say 'Yes.'

T: OK...why?

S: (another female) Because the first sentence it tells you there's two ways to lessen a heart attack.

> What we want to know, in the first sentence, what they are. We don't wanna read half way through the paragraph to find out what the two ways of havin' a heart attack. We feel that it should say it in the first sentence. Like, ah, 'two ways to lessen a heart attack would be dieting and exercise.'

Between-Category Relationships. Based on these observations, two between-category relationships emerged and are displayed in Figure 7.

[insert figure 7 about here]

As the figure implies, teacher and learners engaged in literacy activities which were facilitated by learning props and locations. For example, they may have brainstormed on a topic (the activity) at the blackboard or overhead (the location) which was further explored and elaborated through text (the prop). Consequently, the emerging relationship between categories of location, props and activities seemed to be a supportive one. The emphasis was on activity which was enhanced by props and places. Locations, props and activities were pressed into service for the realization of participants' intents and goals. Printed texts became one medium, among others, for instruction, i.e., discussion and personal writing.

A functional relationship between categories also emerged. In these classrooms "things" were subordinate to the participants; instructional activities and props were used by the teacher and learners to gain information about issues relevant to the participants. The excerpt on nutrition cited above provides one example. The overall

instructional purpose was not written language, per se. That is, the intent of the discussion was not to find the main ideas of discrete paragraphs nor to correctly answer the questions at the end of the selection. Rather, it was to understand how one's diet affects one's health. Consequently, written language served to inform a larger, more relevant issue of genuine concern to the participants.

Category-to-Taxonomy Relationships. In combination, the between-category relationships undergird a larger category-to-taxonomy relationship of collaboration. The schematic in Figure 8 depicts this relationship. Although instructional schemes originated with the teacher, these were shaped and honed by the learners who freely expressed their ideas, concerns and needs related to their own learning, e.g.,

> "Eating habits on health rating and hereditary characteristics were most revealing to the class and invited further discovery. They want to study genes and food groups now!" (teacher log)
>
> "Today I learned about nutrition. I learned about how important dieting and eating proper foods can be, especially as you get older...I learned how to get someone to notice the importance of eating proper food, which can be done by diagrams, comparison films, also read the ingredients..." (student log)

The actual literacy instruction was also shared, as indicated by the range and number of joint teacher-learner activities in the taxonomy. As the whole language program developed within the sites, the instructional goals were increasingly directed toward some common purpose relative to the participants' needs, e.g., facts related to cholesterol or planning and budgeting a vacation.

As these relationships intersected within this community, conditions were created wherein literacy events became "occasions in which written language is integral to the nature of the participants interactions and their interpretive processes and strategies" (Heath, 1982, p. 50). In short, literacy "worked" for people, not the other way around.

In general, literacy instruction in the whole language classrooms tended to be meaningful to the participants, i.e., geared toward their expressed concerns and needs. The activities seemed to be interesting and engaging to the participants, as exemplified in the following comments:

- "I learned more on positives and negatives of division and I hope to learn more on graphs and maps in geography and history" (student log).
- "It's not only interesting (the content), it's been growth (personal) and it's been fun" (student log).
- "I really enjoy this class...it taught me to read with understanding" (student log).

- "I like (fellow student). He has a way with words that you would not expect. I read a paper he wrote and it had a lot of depth" (student log).
- "Had a very interesting evening. We read. Following the reading there was a session with Jim (a teacher). The questions he asked brought about some serious thinking. It helped me remember a few things I didn't realize I had read...had a lot of fun, as usual" (student log).

A Comparison and Interpretation of the Taxonomies

As the taxonomic analysis indicates, the two literacy instruction approaches created very different ecological environments and cultural scenes. At this point, it would be helpful to examine each of these in light of adult learning principles (Brookfield, 1986) and adult basic education literacy goals (AAACE, 1990).

For purposes of discussion, Tagiuri's (1986) taxonomy of educational climate will be used as a guide, for two reasons: 1) it includes indicators of educational climate that closely align with Knowles' elements of the andragogical process (Ennis, et.al., 1989), namely factors surrounding climate setting and learner involvement, as well as important ecological factors; and 2) it provides a framework for interpreting the compatibility of the climates created within different adult literacy instructional programs with overall literacy goals.

Educational climate has long been viewed as instrumental in the quality of learning experiences. It encompasses a range of instructional, social and cultural variables, i.e., instructional technique, teacher/learner role perceptions and beliefs, and design of the physical environment (Anderson, 1982). Its counterpart from an ecological psychology perspective would be the "behavior setting" defined as: "the standing behavior pattern together with the context of this behavior, including the part of the milieu to which the behavior is attached and with which it has a synomorphic relationship" (Barker, 1978, p. 34). In brief, the behavior setting encompasses all the objective aspects of the environment, e.g., the physical properties of the setting, the human components (their roles), and the activities or program. Also referred to as the "ecological environment," or "milieu," the behavior setting is the equivalent of educational climate. Of particular interest in this study is the instructional variable within the educational climate and how it may influence the literacy learning experienced within an educational context - context, here, referring to both the individual's perception of the environment and the ecological environment or climate.

Tagiuri's taxonomy includes four interacting categories: ecology (physical design), milieu (teacher/student characteristics and morale), social system (patterned relationships between participants), and culture (values, beliefs, and meanings held in common by participants). In combination these factors intersect to create meaning for

participants within a culture. In the following, taxonomic similarities and differences between the traditional and whole language approaches are examined along these categories. The comparison is then followed by hypotheses which may serve for future research.

ECOLOGY. According to Tagiuri, classroom arrangement and decor constitute the ecology of an educational setting, reflecting a narrower concept of ecology than that proposed in ecological psychology. Diagrams of the sites reflective of each literacy instruction approach are provided in Figure 9.

[insert figure 9 about here]

Obviously there were few differences in the basic ecological characteristics of the classroom settings within the two approaches. All included tables, chairs, adequate space, and some instructional tools, e.g., a blackboard or computer. In general, the settings were sparse but comfortable.

However, those differences that did exist were notable. Since the whole language teachers had been encouraged during the staff development period to develop literacy rich environments within their respective sites, their classrooms included many more displays of print, both commercially produced and student-generated. These were in the form of learning logs, student writing posted on walls, magazines on "resource tables", and message boards for both teacher and learners. In addition, the whole language classrooms had spaces which could be likened to "learning centers" - corner areas with

pamphlets, brochures, coupons, student writing which participants could peruse at will. Also, audio-visual aids were more frequently present and used, e.g., pictures, maps, overheads, VCRs.

By comparison, then, whole language classrooms tended to be more multimodal learning resources than traditional classrooms, including a wider range of print and other media accessible to participants on a regular basis. A pattern that emerged and characterized differences between the two literacy approaches was one of diversity and accessibility. The more diverse and accesible literacy learning materials were to teachers and learners, the more the educational setting was likely to be whole language in orientation to literacy instruction.

Considering the emerging 'literacies' in the modern world, such as visual and computer literacy, opportunities to use and manipulate literacy in other than book formats becomes increasingly important for adult learners, indicating a distinct advantage of the whole language approach over the traditional in terms of basic classroom ecology.

Multimodal classrooms, however, are relatively rare in ABE programming. One reason may be the tendency to locate programs in nontraditional settings, thus limiting access to technological resources. Another may be the tendency for ABE teachers, for a variety of reasons, not to use multimedia resources in their teaching of adults. Nevertheless, if the goal is to develop literacy skills to compete in a "global economy" in ways that respect adult learning

principles, then the multimodal nature of the whole language classroom seems more likely to facilitate that than the more traditional ABE classroom.

MILIEU. Milieu involves the degree of mutual respect, collaboration, support, authenticity and pleasure between participants in a setting. Together these contribute to morale in a context or situation. The activities domain of the taxonomies and the patterns of interaction provide clues to the morale in each instructional environment and point toward substantial differences between the whole language and traditional classrooms.

The milieu of the traditional orientation could be characterized as authoritarian, directive, and extrinsic to the participants. The nature of the teacher-with-learner activities and the predominance of Type C interactions (instructional exchanges initiated and controlled by the teacher) provide evidence of these tendencies. This is not to say that the participants did not pleasurably interact within the setting. They, indeed, did; however, such interactions tended not to be learning-related. Support, pleasure, and collaboration among the participants in the form of joking, teasing, and social conversation were common, but occurred outside of the learning activities during "breaks" or transition times between learning events. In fact, such "banter" so dominated the setting, at times, that little literacy instruction actually occurred. The frequency of off-topic exchanges (Type E) in the individualized setting (27%) corroborates this observation.

In contrast, the milieu of the whole language orientation could be perceived as democratic, interactive, and intrinsic to the participants. Since the staff development program for the whole language teachers stressed interactive teaching strategies, functional uses of literacy, cooperative learning, and reciprocal teaching, this should be no surprise. The content as well as the collaborative nature of the activities that the teacher and learners engaged in, e.g., semantic mapping and conferencing, encouraged democratic conditions. The interaction patterns, in fact, reflected a greater frequency of instructional conversations as opposed to instructional directives. The milieu created in the whole language classrooms appeared to focus participants' humor, teasing, chatter and exchanges on learning-related matters, thus enhancing the pleasure of the learning activities, per se. As a result, the participants seemed to find the learning events enjoyable and personally rewarding.

Thus, there appeared to be important differences between the two instructional orientations. In fact, they could be viewed as polar opposites along three dimensions reflective of milieu: authoritarian-to-democratic, directive-to-interactive, and pedagogical-to-andragogical. As the instructional milieu became more democratic, interactive and andragogical, the more it tended to incorporate whole language practices into the literacy instruction. A correlate to this pattern also emerged. As participant talk shifted from social topics external to the learning events to exchanges relevant to the learning events, the more the setting reflected whole language as

presented in the staff development program. Whole language literacy instruction seemed to elicit more participant dialogue about learning-related matters.

One implication of these differences in ecology and milieu is that whole language teaching may be a much more compelling form of literacy instruction for adults over the long term. In other words, conditions seem to be created wherein social needs are met inside of learning events, not external to them, resulting in more sustained learner involvement and effort. Adult learners appear to be provided many more educative opportunities wherein they "take charge," thus creating a sense of ownership about their own literacy learning endeavors. In sum, they are afforded learning occasions "to use literacy for personal and social ends" (Venezky, Kaestle & Sum, 1987).

As a broad instructional approach, whole language seems to provide a more likely milieu for attaining this often-expressed literacy goal. However, it needs to be pointed out that in this project much staff development had been conducted to deepen the teachers' expertise and skill in literacy teaching and climate-setting to support their implementation of whole language in ABE classrooms. This presents a challenge to many ABE program directors and their teachers. The kind of commitment needed and the funds are substantial, calling for long-range planning and prioritizing-activities some ABE programs simply cannot realistically undertake because of the part-time nature of ABE personnel as well as staff turnover.

SOCIAL SYSTEM. The relationships that exist between participants in a setting reveal the social system that binds the participants together and influences the meaning-making process operating between them. Any social system may facilitate or hinder individual goals.

Using the relationships determined through the taxonomic analysis, it is possible to describe the social systems within the settings created by two instructional approaches. Their differences can then be observed and the implications for adult literacy instruction explored.

In the classrooms employing a traditional approach, the predominating relationship was a hierarchical one between text (embodied in the individual learning folder), teacher, and learners, with text pre-eminent. The superiority of the individual learning folder promoted a restrictive relationship between the participants and their instructional activities, resources and locations. The social system which developed in this setting could be characterized as "bureaucratic." Participant decisions, needs, and aims were subordinated to the predetermined instructional (and educational) agendas and routines of commercial workbooks. To function in the system, participants needed to do what they were told and to "get it right."

In contrast, the overriding relationship in the whole language approach tended to be a more collaborative one between text(s) (written language in various formats), teacher, and learners. The supportive relationship between participants and the functional one

between participants and materials fostered collaborative ties. As these relationships interacted, an "egalitarian" social system developed within the setting, wherein participants and text cooperated in the construction of meaning, using reading and writing as tools to do so. The emphasis was not on the "work," per se, but rather on meaningful participation in work for the purposes of understanding and applying information.

Thus, two distinctly different social systems seemed to be created by these instructional approaches. The general pattern differentiating the two approaches seems to be one of participant involvement. As the participants became more genuinely involved in jointly planning and executing instructional activities, the more the literacy instruction reflected a whole language perspective. For example, at the onset of the whole language program in the two ABE classrooms, the teachers' planning reflected more teacher control and decision-making (e.g., the teacher selected topics, articles and writing topics). However, toward the middle and end of the program year, the participants appeared to have increasing input into the literacy instructional agenda (e.g., they requested information on "traditions," then on "geneologies" and finally about "heredity and genetics").

On the other hand, the instructional agenda in the traditional approach appeared to undergo little change, with control remaining in the hands of the teachers as evidenced in their planning and the consistency of the instructional format (one-on-one teaching using the individual learning folder) over the research period.

The implications of the "bureaucratic" and "egalitarian" social systems for adult literacy acquisition and development are numerous and complex. However, perhaps central to many of these implications is the notion of "empowerment." Numerous definitions of literacy and many program philosophies include the idea that those who learn how to read and write will be more in control of their own lives, both in the individual and civic sense (e.g., Kozol, 1985; Friere, 1970; Resnick, 1989; Gee, 1989). If empowerment is central to literacy efforts, programs and campaigns, then an important curricular question does surface: How do different instructional orientations influence the learner's sense of empowerment with print?

From an ecological point of view, if the instructional context (physical properties, human roles and activities) does influence individual behavior (R. G. Barker, 1978; Stodolsky, 1984), the social system created within a classroom becomes an influential factor for purposes of empowerment. In short, the literacy instructional approach selected can make a difference in one's literacy behavior. Indeed, this is at the heart of Kazemek's (1988) argument that the nature of adult literacy education needs to be "transformed" from one-on-one teaching to "collaborative learning" among small groups of adults. He suggests that if adults are to become "users" of literacy in the proactive sense, then instructional methods and materials must be reconsidered: "We must learn how to go beyond the controlled texts and tightly sequenced skills approaches...[to] opportunities for the adult student and teacher to engage in

collaborative explorations of the whole adult's perception of the functions and uses of literacy..." (p. 482). Kazemek's point raises the possibility that if there is too great of a mismatch between actual adult literacy instructional practices and the literacy behaviors desired by the larger society, then adult literacy education may be virtually at odds with itself. Presently, this may be the case where traditional approaches are overrelied on to develop "empowered" adult readers and writers as newly envisioned by society.

Recently, Cole (1990) has proposed that general achievement can be conceived as "basic skills and facts" or "higher order thinking." She suggests that these fundamental conceptions of educational achievement and how learners reach these desired states need to be woven together to create new teaching and learning possibilities for meeting current and future educational needs. Something of this nature may be very needed in adult literacy education programs: an integration between the larger social aims of literacy programs with the instructional means selected to effect those aims. As Kazemek (1988) observes, "We need to learn from the best of our research, theory and practice" to realize our visions of adult literacy (p. 484).

CULTURE. Tagiuri describes culture as those values and beliefs held commonly by participants in a particular situation which serve to create meaning for them in that situation. Similarily, Spradley (1979) refers to culture as "the acquired knowledge that people use to interpret experience." However, he goes on to say that culture

"generates" social behavior, implying that it is not only a set of beliefs and values that constitute our "normal, everyday view of the world," but also our "normal, everyday ways of behaving" (Heller in Ferdman, 1990, p. 185).

Cultural views and behaviors are embedded in the patterns and relationships that shape the participants' activities and interactions, their shared experiences: commonly-held values and beliefs are revealed in how the participants describe and conduct their affairs. Literacy is an outcome of this social interaction and organization; it involves the "manipulating of symbols that codify and represent the values, beliefs, and norms of the culture...in a culturally-appropriate manner" (Ferdman, 1990, p. 187). Necessarily, then, its definition and consequences are in flux because the culture itself is ever-changing and evolving.

In the narrower context of the classroom, the cultural framing of literacy becomes more explicit as the instructional approach shapes the interplay of factors in the ecological environment (physical properties, human roles, and activities). In brief, a teaching-learning culture is created - the product of instructional interactions (across the categories of locations, props and activities) and organization (physical properties and roles). The process of becoming and being literate becomes identified with a particular instructional culture which may be more or less congruent with or responsive to the aims of the larger social culture.

In the following, the cultures created by the traditional and whole language approaches are described. These are necessarily only cultural sketches, since the overall design of the study did not include in-depth participant interviews which may reflect the participants' perceptions of their "social reality" within the literacy culture created in the classroom.

The Culture of the Traditional Approach. As the taxonomic analysis demonstrates, a high value was placed on materials and their routine use in the traditional classroom. Effort was directed toward creating, using, and maintaining "individual folders" which guided the literacy interactions of the teachers and students. Having the correct answer and passing tests were valued as marks of learning. A major literacy event tended to be the "passing" of the GED - a kind of culminating literacy event - which many participants did achieve. Memorization and accuracy were viewed as important literacy behaviors as demonstrated in attempts to "remember the facts" and to "get things right." Real life literacy uses related to daily life tended to be downplayed since energies were focused on "passing the GED" - an educational terminal point. In general, print was perceived as the final authority, superceding the teacher, peers, and personal experience.

Several precepts emerged from data analysis which seemed to characterize culturally-appropriate literacy behaviors in the ABE traditional classrooms within this study. The precepts are listed below with brief descriptions of supportive sources found in the observational data.

#1. **Texts teach adults, not teachers** as indicated by the centrality of the individual folder in literacy interactions.

#2. **Texts, then teachers, know best.** Again, the high degree of importance placed on the individual folder and its contents in literacy instruction suggested that the printed word was considered the supreme and final authority.

#3. **To really learn, you need to be quiet and alone;** this was consistently demonstrated in the organization of classroom life - sitting quietly at tables "doing work."

#4. **Real learning is hard and not typically related to what you already know** as revealed by participants' comments related to their individual folder work, e.g., "I know I'm doin' good (at learning) 'cause this stuff is real hard (fractions) and I don't know nothin' about it."

#5. **What you already know is not very important in reading and writing.** This notion is closely related to that above and was often hinted at in comments related to one's own learning capability, e.g., "I ain't very smart" or "I can't understand those big words."

#6. **Knowing many basic skills and discrete facts are marks of achievement** as repeatedly demonstrated in concerns for accuracy in workbook exercises and ability to "pass" tests (either in the workbooks or GED practice tests).

#7. **Accuracy in reading and writing is very important** as indicated by concerns for "being right" when doing workbook pages and

an emphasis on skills acquisition in reading and writing, e.g., "marking off" checklists of skills or recording the per cent of those correct on skills worksheets.

As precepts, these provided a guide for literacy behaviors within the traditional classroom, tending to produce a culture wherein literacy was clearcut and straightforward, consisting of a precise, universally defined set of skills as represented in the folder work. Here, one became literate by acquiring the requisite skills and once attained was considered literate across a wide variety of print-based situations from reading novels to workplace literacy activities.

This literacy culture could be referred to as technical-rational because it embraced a standardized, centralized (via the individual folder) and skill-specific approach to literacy teaching and learning (Toffler, 1980, chapter 4). Essentially, literacy education was interpreted as the "assembling" of a reader and a writer by means of the systematic accumulation of bits and pieces of language in an efficient manner. Various workbooks provided the parts of language which were parcelled out in the form of worksheet exercises for students to fit together into literacy. The "individual learning folder" embodied the literacy values and beliefs of this culture.

The Culture of the Whole Language Approach. In the whole language classrooms, activity seemed to take precedence over print, per se. For example, much emphasis was placed on discussion in the form of brainstorming or small group work wherein participants expressed their learning purposes and viewpoints. Workbooks and texts as sources

of information were used to achieve the larger purposes determined by the participants. Conversation and diversity in printed resources were encouraged. Complex literacy interactions (Types 1 and 2) frequently occurred and questioning by the participants (of print and each other) was viewed as an important thing to do. Instructional planning appeared to become increasingly shared between teacher and learners, involving real-life print resources. For example, toward the end of the research period, the students had suggested that learning time be devoted to a study of the solar system, because they wanted to know more about that aspect of science. In short, there was a strong emphasis on collaboration between participants for some common purpose and a de-emphasis on centralization and control.

Although the GED was still perceived as an important mark of achievement, it became increasingly viewed as one product of learning, not the embodiment of learning. For instance, the participants expressed less need to "study for the GED" as the program progressed. Instead requests to pursue topics of mutual interest tended to increase as evidenced by the teachers' planning notes, e.g., the solar system topic mentioned above. In addition, student comments like, "This'll probably be on the GED (information about navigating by the stars) it's pretty important" indicated a growing sense that information relevant to the GED could be attained in ways other than studying "the GED book." Thus, literacy in the whole language classrooms seemed to go beyond surface transactions with text toward a more active manipulation of text - a genuine "thinking with print."

Precepts guiding literacy behaviors in the whole language classroom as indicated by the observational data are summarized below:

#1. There are many ways to learn as indicated by the multimodal nature of the whole language classroom. A wide variety of learning tools used, including texts, workbooks, environmental print, A-V equipment, pictures, a globe, maps, etc.

#2. What a person already knows is important in new learning as modelled and practiced consistently through the use of strategies which relied on expressions of background knowledge.

#3. Talk is an important part of literacy learning as demonstrated in the consistent use of discussion and small group work (see Table 2), even when the teacher was not present as a facilitator.

#4. Teacher and print facilitate learning, but do not determine it as evidenced in the students' oral comments and their learning log entries.

#5. Questions are as important answers as indicated by the frequency of Type A (transactional instructional exchanges) and Type B (transactional exchanges without the teacher present) interactions.

#6. Literacy serves a real purpose; it is functional as indicated by the increasing collaboration between teacher and students in curriculum topic selection and implementation.

The meaning network undergirding this culture was largely a pragmatic one. The central focus was on achieving common goals for

which literacy was pressed into service. The nature of literacy instruction in this culture could be likened to what Schön (1987) refers to as "reflection-in-action":

> "freedom to learn by doing in a setting relatively low in risk, with access to coaches (teacher and peers) who initiate students into the "traditions of the calling" and help them, by "the right kind of telling," to see on their own behalf and in their own way what they need most to see." (p. 17).

Apprenticeship characterizes this approach to literacy education. It differs from the assembly approach in that it stresses learning by doing, demonstrations by more informed others, dialogue, authentic practice, and knowing-in-action. It is symbolized by small group activity wherein literacy learning is social and transactive in nature.

Clearly different cultures emerge from these instructional orientations. What habits of mind about literacy might these different cultures encourage?

For example, becoming literate within the individualized culture seems to involve close attention to language features, adherence to a prescribed sequence of learning, a striving for accuracy, an emphasis on school-based literacy functions and privacy while learning. A major cognitive strategy deriving from this culture could be described as linear, e.g., procedural, repetitive, situation-specific, and efficient.

In contrast, becoming literate within the whole language culture tends to be a socially-based transaction mediated by text (Resnick, 1989). The emphasis is on language functions, relevance to the learner, a search for meaning, real life literacy applications, and active involvement with print. One cognitive strategy that may be developed in this culture is that of problem-solving, e.g., consciously bringing past experience to bear on new print situations, questioning text, constructing texts, and interpreting authors' meanings.

Perhaps, to meet the literacy demands of a technological age, it is not that one of these strategies should be chosen to the exclusion of the other. But rather that the problem-solving cognitive strategy become more explicit in written language instruction. An observation from Kirsch's and Jungeblut's (1986) report seems appropriate here. They write: "Young adults (today) are able to use printed information to accomplish many tasks that are either routine or uncomplicated; however, this will not suffice for full participation in an information intensive society. The literacy skills of logic, inference and synthesis...are imperative for an autonomous, effective adult life." Although workbooks are available that purportedly teach this kind of functioning with print, these will not suffice either. For readers and writers to become competent in problem solving with text information, they need to regularly witness and actively engage in learning activities that foster such literate behaviors. Consequently, careful consideration must be

given to the teaching-learning cultures created by literacy instructional approaches implemented in ABE programs so that literacy is developed as a habit of mind and not a mindless habit.

To provide a brief overview of the comparative analysis of the ecological structures of the two literacy instructional approaches along the dimensions of Tagiuri's taxonomy of educational climate, key ideas are illustrated in Figure 10.

[insert figure 10 about here]

Emerging Hypotheses and Recommendations

Based on the descriptions and exploratory analyses of the ecological characteristics of the traditional and the whole language approaches to adult literacy instruction, three hypotheses emerge which may be used to guide further research.

Hypothesis #1. Different literacy approaches produce different ecological environments (educational arrangements or forms) which influence intended outcomes (literacy achievement) and unintended outcomes (attitudes about literacy and self-perceptions as a reader and writer) in different ways.

A basic premise of ecological psychology is that individuals and environments are interdependent. Although what an individual perceives in the physical and social environment may drive behavior, the environment simultaneously "imposes" itself on the individual, forming and shaping behaviors (Barker, 1978). Therefore, it is possible that the ecology created by the traditional approach influences achievement, attitudes and self-perceptions in ways that

differ from a whole language approach. These differences may have long-range consequences for adult literacy development. Several questions follow. For example, how do participants in these different approaches perform on measures of basic skills and on measures of higher order reasoning with print? Do participants demonstrate different attitudes in each setting? How do the participants in each ecological environment perceive of themselves as readers and writers? What ecological characteristics may contribute to or account for any differences? The recent interest in "situated cognition" (Brown, Collins & Daguid, 1989) and "distributed intelligence" (Perkins, 1990) may provide fresh insights for investigations involving ecological influences on student achievement and learning along these lines.

Hypotheses #2. Different literacy approaches produce different ecological environments which effect how their participants function with written language.

As suggested in this ecological study, ways of functioning with print may be more or less oriented to real life. For instance, in the whole language classroom, students tended to pursue topics related to their actual interests and needs, using print as one source of information. In so doing, they "studied" for the GED. In contrast, participants in the traditional approach "studied" for the GED, using print resources geared to this broad need, per se, and not necessarily their own specific needs and concerns.

It is plausible that the participants' repertoires of literacy functions within the whole language classroom actually broadened as a result of their experiences which has implications for adult literacy development and lifelong learning goals. Thus, an important question is: Do the ecological environments created by different instructional approaches influence individual's functioning with print and in what ways? Investigations along these lines may reveal insights about the functions of literacy across groups as well as ways to expand literacy use among adults. The research of Heath (1982), Teale (1986), and Taylor & Strickland (1988) may be helpful in examining authentic literacy uses in work and home life.

Hypothesis #3. The ecological environments created by different literacy approaches produce different conceptions of literacy.

The traditional and whole language literacy instructional approaches explored in this study reflect different perspectives of literacy acquisition and development. In the former, literacy tends to be perceived as a predetermined, discrete set of skills which one can obtain and then universally apply to print settings. In the latter, it tends to be viewed as one medium for thinking about experiences, problems and ideas. How congruent these conceptions of literacy are with the current and future realities of adult roles and responsibilities as literate citizens is of great interest and concern. Substantial descriptive research is needed to understand how specific instructional approaches influence adult learners' interpretations of the nature and functions of literacy. Furthermore,

it is important to determine how these conceptions are translated into daily life and shared with young children in these households. At this point, such research tends to be cross-disciplinary and exploratory in nature, e.g., intergenerational literacy.

Recommendations. The following recommendations are made based on the findings and interpretations of the study as well as experiences related to the broader project.

#1. Skill + Will.

To improve literacy instruction in ABE programs, long-term sustained staff development programs, reflective of current thinking about reading and writing processes are very much needed. In addition, these programs must attempt to deliberately and concretely link theory and practice.

To this end, stronger collaborative ties between university and ABE staff development project planning are highly encouraged. It is not enough to meet with teachers and discuss what is known, i.e., derived from practice. Substantial effort must be made to connect research-based knowledge about literacy learning with practice based insights. Furthermore, it is not enough to focus on "caring" for adult learners; the desire to improve adult's literacy behaviors must be undergirded by competence. Teachers need to "practice" effective literacy instruction strategies; these opportunities should be embedded in ongoing staff development programs. In short, the overriding goal of staff development in literacy teaching should be to foster the development of 'skill + will' within adult teachers, i.e., caring intertwined with expertise.

#2. Time Frames.

Serious consideration needs to be given to three time-related features of typical ABE programs which appear to mitigate against the development of critical literacy behaviors.

One is the open enrollment policy. This 'drop-in' anytime form of education seems to support an assembly-line approach to literacy learning. Based on observations in this study, the assembly-line approach tends to strip literacy experiences of meaning and relevance. Consequently, although convenient, it does not appear to foster literacy behaviors that endure nor that the learner needs to become a thinker with print. From our point of view, this policy warrants close scrutiny: 'dropping in' may be only facilitating 'dropping out' again.

A second is the time devoted to small group instruction. Current conceptions of reading and writing development highlight the importance of text-related instructional conversations. Observations, here, indicate that such conversations are rare in traditional ABE programs. To acknowledge the value of personal experience in adult literacy development, opportunities for conversation within learning experiences need to be substantially increased, even if the predominant instructional orientation is an individualized one.

A third has to do with revision of the instructional framework: how time is spent. Individualized literacy instruction tends to use instructional time in two ways: a) on an as-needed individual basis (typical in learning lab settings) or b) in pre-set instructional blocks on a specific content, e.g., math or English.

In the 'as-needed' format, students spend much of their time working alone and in a self-directed manner. Periodically, the teacher "checks in" and may provide up to fifteen minutes of individualized instruction. However, the bulk of instructional time is in the learner's hands with some learners spending less than five minutes with a teacher in any one session.

In the 'instructional block' format, teachers establish a cycle of "work," usually on a hourly basis. For example, all students will spend the first hour of the session working individually on math, the second hour on English, and so on. Again, the teacher rotates, providing individualized instruction on an as-needed basis, but now the 'teaching' is more focused and less random. Both time frames tend to create a group of 'lonely learners' who spend most of their learning time interacting with paper and not people.

In contrast, the whole language orientation uses instructional time by cycling through a series of whole group, small group and individual learning activities. For example, sessions begin with whole group discussions as a lead-in to the forthcoming text experiences followed by small group work or paired activities which are text-based and end with more small group work or individual projects. In the process students interact with different materials, the teacher and each other, thus creating variety in the learning experience. As a result, the use of time tends to be more fluid and responsive to the actual needs and interests of the participants. Furthermore, it allows the teacher to 'spread out' what may be termed

the instructional net effect: the teacher assists learners who assist each other.

The point to be made, here, is that instructional time which focuses on activities that involve literacy processes and social interaction seems to have allure and ultimately may be more effective than that spent on "troubleshooting" momentary learning problems of single individuals. In short, because of the way time is spent in the whole language orientation, it may be a more compelling form of learning with the potential of significantly impacting the retention of participants.

#3. Integration.

There is a definite need to integrate reading and writing in ABE literacy instruction. However, our experience has been that there is an even greater need to integrate these processes within content area learning. Participants in these ABE programs seemed hungry for connections between their learning experiences, their life experiences, and their goals. From our perspective, the GED, per se, did not produce sufficient conditions for the kind of connectedness these people seemed to be so desperately seeking.

We found, for example, that within the whole language orientation, theme or topic studies emerged and centered on the interests of the participants, e.g., nutrition, pollution, vacations. These became the real reasons for knowing about reading, writing, math, science and social studies. In addition, these topics seemed to become much more compelling motivators for the participants than the GED alone.

In fact, the GED became less and less of a focal point, while science, in particular, became an area of keen interest. Consequently, this form of integration appeared to make learning more personally satisfying, possibly because it helped people to make better sense of their lives. In the process they 'picked up stuff' they needed to 'pass the GED.' In sum, the GED was put in a new place - a means to an end (learning), rather than the learning end.

#4. Literate Environment.

We also suggest that greater attempts be made to make ABE learning environments more literacy rich and multimodal. It was very clear that participants in the whole language-oriented sites relished variety in instructional presentation and responded enthusiastically to multimedia tools.

Teachers need to be encouraged to include much more environmental print (pamphlets, brochures, advertisements, coupons, magazines, notices, newspapers) in their settings and urged to 'try' more multimodal instructional techniques. They can also be encouraged to invite their students to contribute to these efforts. Furthermore, displays of student work and print should be much more prevalent in adult learning environments. If we value literacy, we need to make that much more apparent and visible, no matter what the instructional orientation may be.

To close, we would like to express our thanks to all who assisted with this literacy project, especially the adult learners who so

generously shared their time and their thoughts. Reflecting on some of their voices which resonated so richly through their instructional conversations and the pages of their journals, we are reminded of Gee's (1989) definition of literacy as "the control of the secondary uses of language."

For the most part, we give shape and meaning to our experiences through our "primary discourse" which is predominantly oral in form and is acquired within a "society of intimates." However, literacy must necessarily develop in a "society of strangers" and is acquired only through exposure to models in natural, meaningful, and functional settings. Consequently, the "educational" activities designed for the literacy development of adults must necessarily focus on "acquisition" - the "taking on" of literacy behaviors in the company of more literate others. Our work and conversations with adults in this project have provided some insight into how such acquisition may occur.

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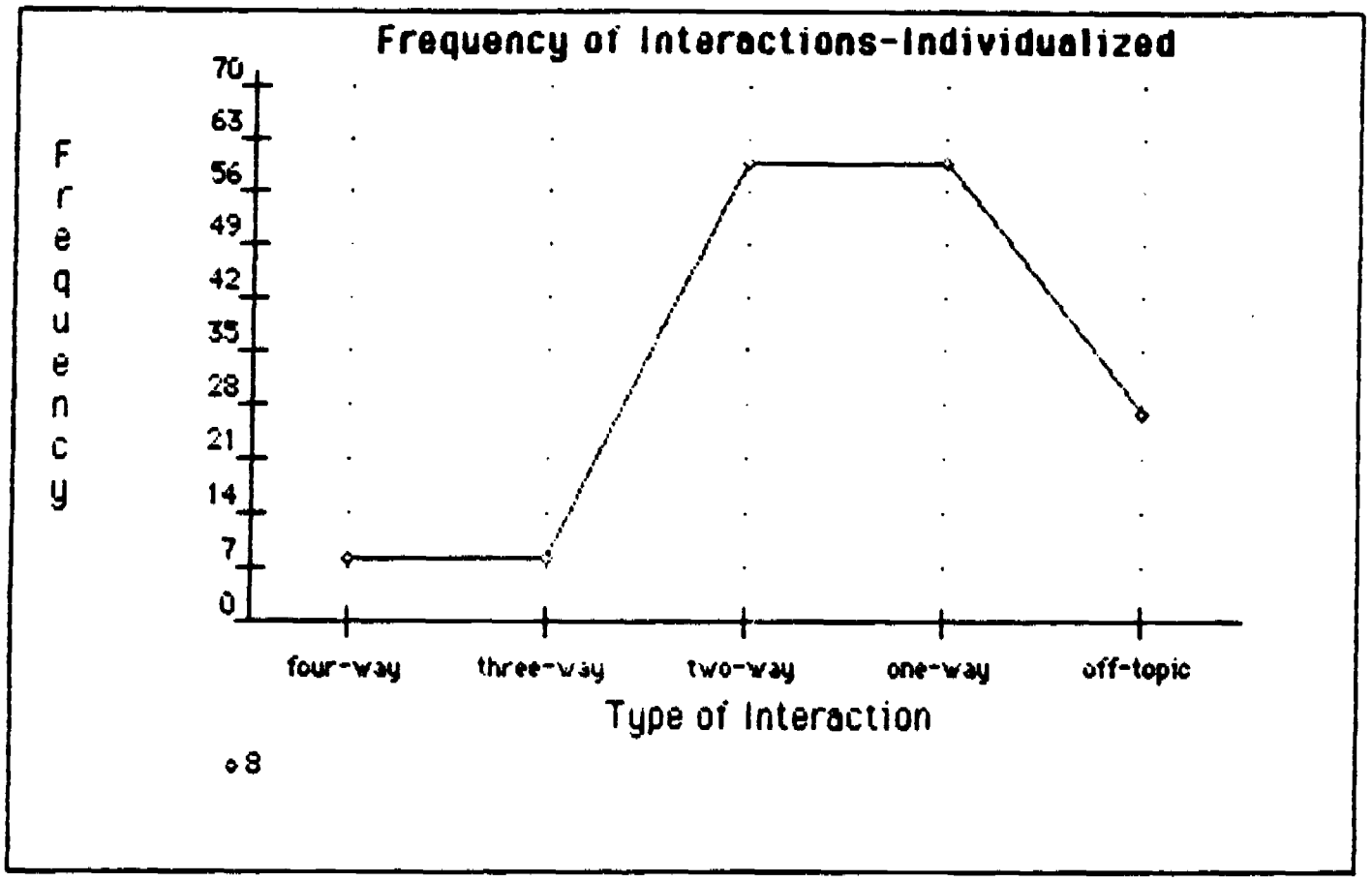


Table 1. Frequency of interactions by type in traditional individualized instruction orientation.

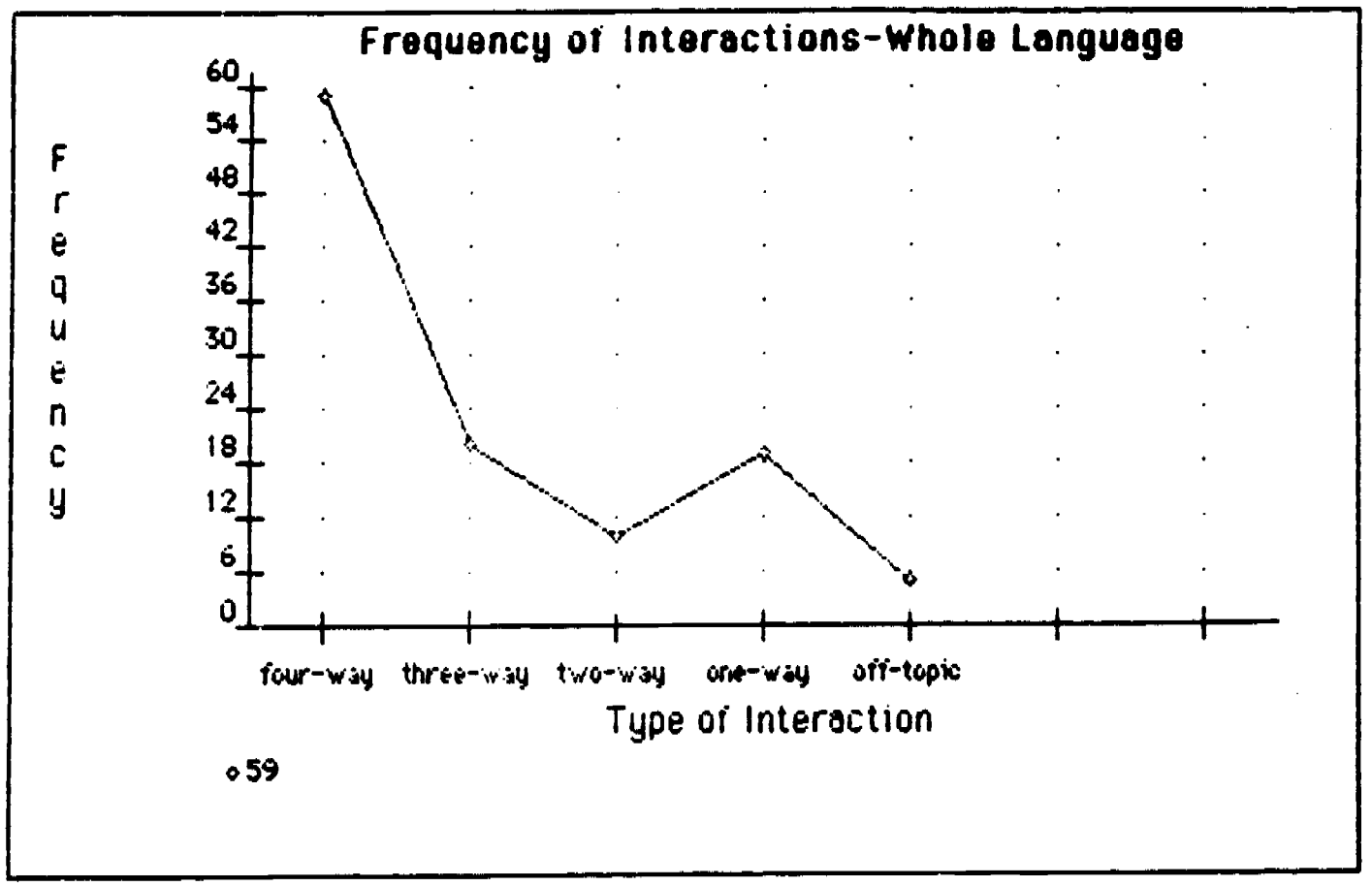


Table 2. Frequency of interactions by type in whole language oriented instruction.

List of Figures

Instructional Context	locations	teacher only	at the desk
			at the front of the class
			at the student table/desk
			at the materials' cart/file
			at the blackboard
		teacher & learner	at the table
			in adjacent space or tutor area
			at the computer
		learner only	at the table
			at the computer
			at the materials' cart/file
	props	teacher only	blackboard
			some files
		teacher & learner	workbooks & keys
			worksheets
			assignment sheets
			sign-in sheets
			tests
			individual work folder
		learner only	computer
	activities	teacher only	preparing assignments
			correcting assignments
			providing directions
			explaining/clarifying work
		teacher & learner	explaining/clarifying
			assignments/problems
			responding to questions
		learner only	working independently
			in workbooks/at computer
			correcting work

Figure 1. Taxonomy of the traditional individualized orientation to the literacy instruction.

Instructional Context	locations	teacher only	at the blackboard
			at the overhead
			at the globe
		teacher & learner	at the table
			at the "desk"
			in the "tutor" room
			in the library (adjacent)
		learner only	at the computer
			at the table
			at the "resource" table
	props	teacher only	lesson plan book
			blackboard
			overhead projector
			flip chart
			pictures
		teacher & learner	agenda on board
			reading selections, e.g., newspaper, texts
			wall maps
			jokes
			4x6 index cards
			globe
			graphs
			living plants
			tour books
			brochures
			pamphlets
			question guides
			learner logs
			study guides
			timelines
			graphs
			folder work
			word cards in envelopes
			coupons/advertisements
		learner only	magnifying glass
			large print selections
			folder work
			computer
	activities	teacher only	facilitating large group discussions
			orienting new students to program
			providing explicit directions
			directing specific learning activities
			thinking aloud about a strategy
			demonstrating instructional planning
			praising the learn[illegible]
		teacher & learner	conferencing
			actively listening in discussion
			brainstorming
			questioning about text
			questioning the text
			reading orally
			reading silently
			writing responses
			semantic mapping
		learner only	working in pairs
			independent working
			doing computer work
			writing in learning logs
			writing drafts
			writing finished work

Figure 2. Taxonomy of the whole language orientation to literacy instruction.

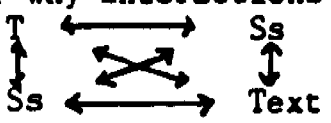
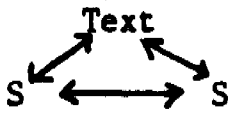
Type	Description	Example
A four-way interactions  	Instructional exchanges involving the T, the students, and the text where T and Ss are active facilitators & participants	• brainstorming • doing a DR-TA • semantic mapping
B three-way interactions  	Instructional exchanges involving students and the text where Ss are active facilitators and participants	• peer conferencing • doing reading guides in pairs and triads • DR-TA in pairs
C two-way interactions T ⟷ Ss	Instructional exchanges initiated and controlled by the T; typical Q/A format	• giving directions • answering a question • explaining a point
D one-way interactions Ss ⟶ Text	Instructional exchanges where the S interacts alone with text	• doing folder work • computer work • writing in logs
E off-task interactions	Exchanges unrelated to instructional intent	• making social engagements

Figure 3. Typology of types of interactions observed during literacy instruction.

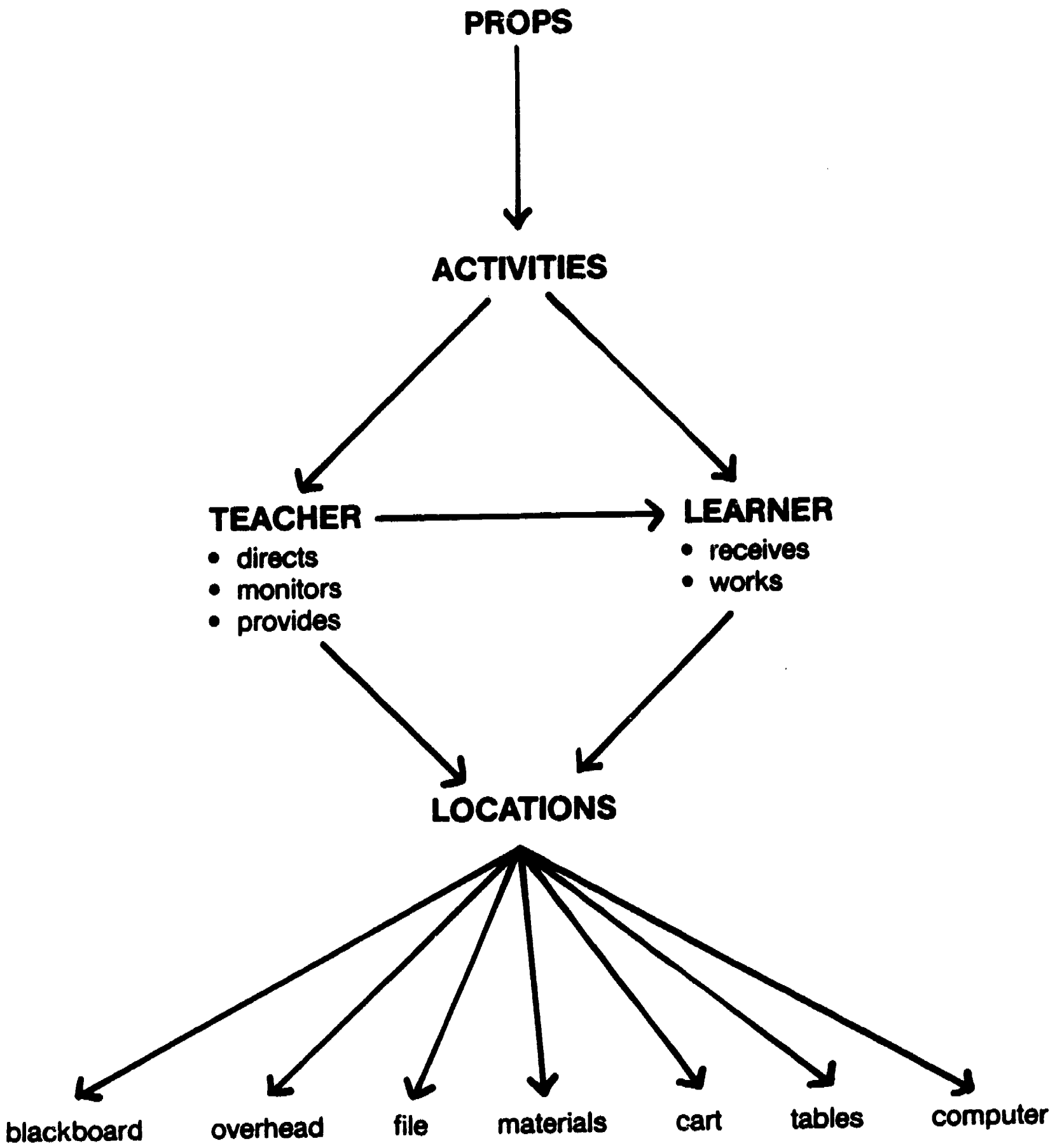


Figure 4. Schematic of between-category patterns in the individualized orientation (traditional).

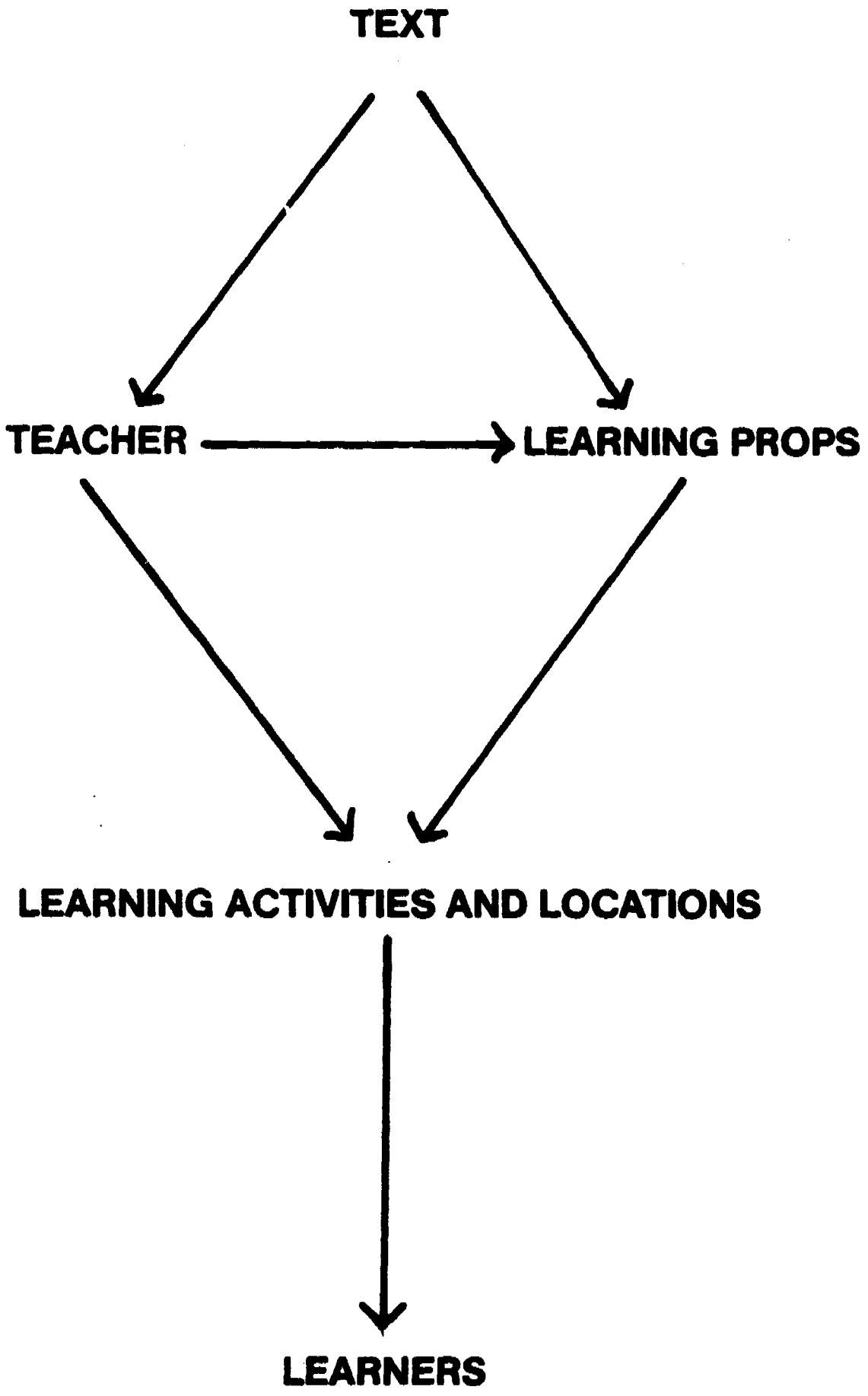


Figure 5. Category-to-taxonomy relationships in the individualized orientation (traditional).

Feb. 28, 1989

Warm-ups

escapades or "feats" - an act, a deed, notable courage

Engagement

"Feats Above the Falls" Narrative

(locate on map) "Tell me what you think the story is about"

semantic mapping Study guide on board.

Read aloud - DRTA

3-level guide

answer S.G. questions (as part of writing assignment).

Retell the story

Guided Practice

Writing:

~~Write a letter to a relative telling~~ them about one of your escapades. or

audience - relative - retell the story

form: letter

or

form: news release

audience public

who? what? when? where? how?

Handout & explain Learning Log sheets, evaluating.

Figure 6: Sample lesson plan used in whole language orientation.

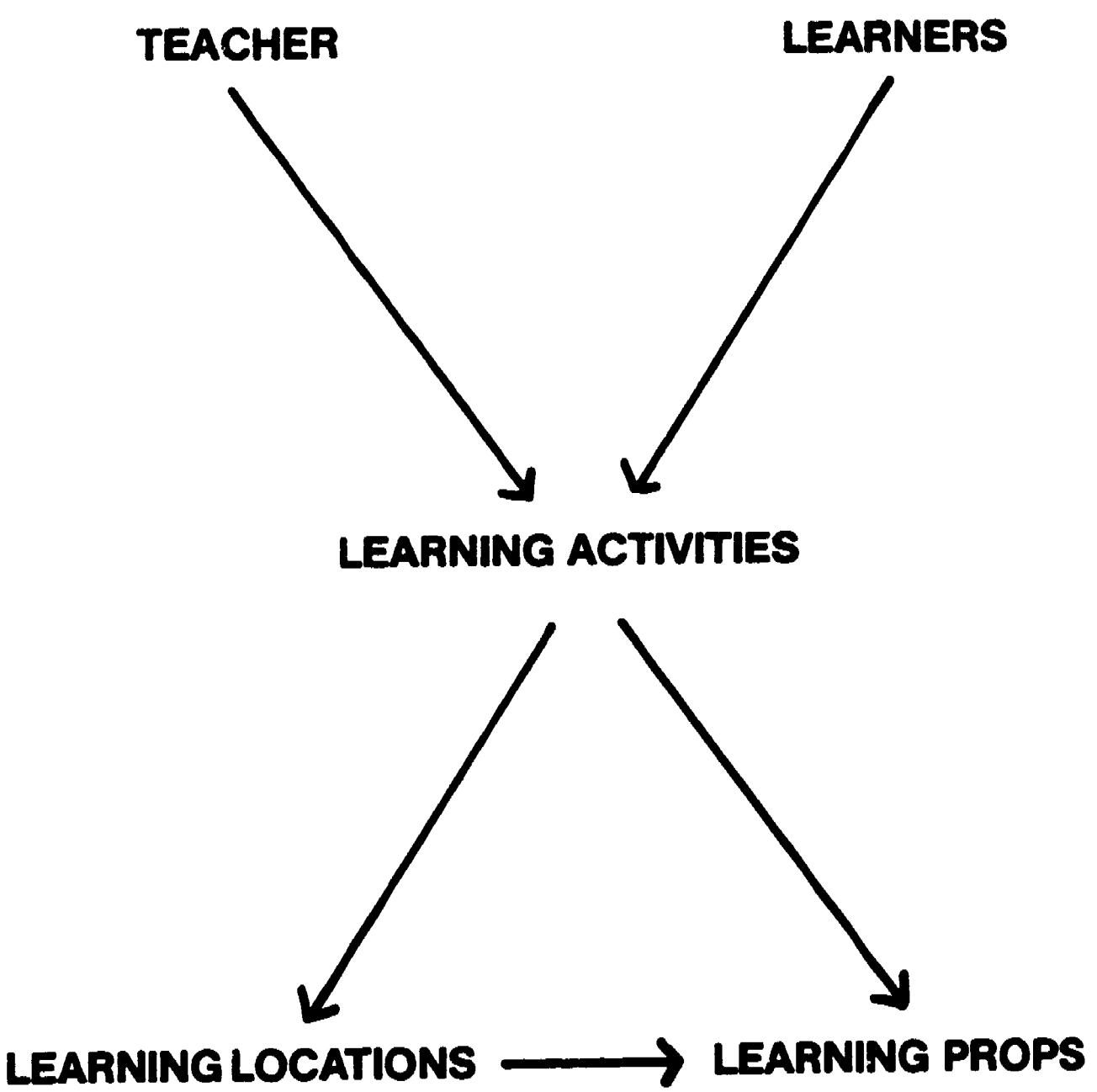


Figure 7. Between-category relationships in the taxonomy of the whole language orientation.

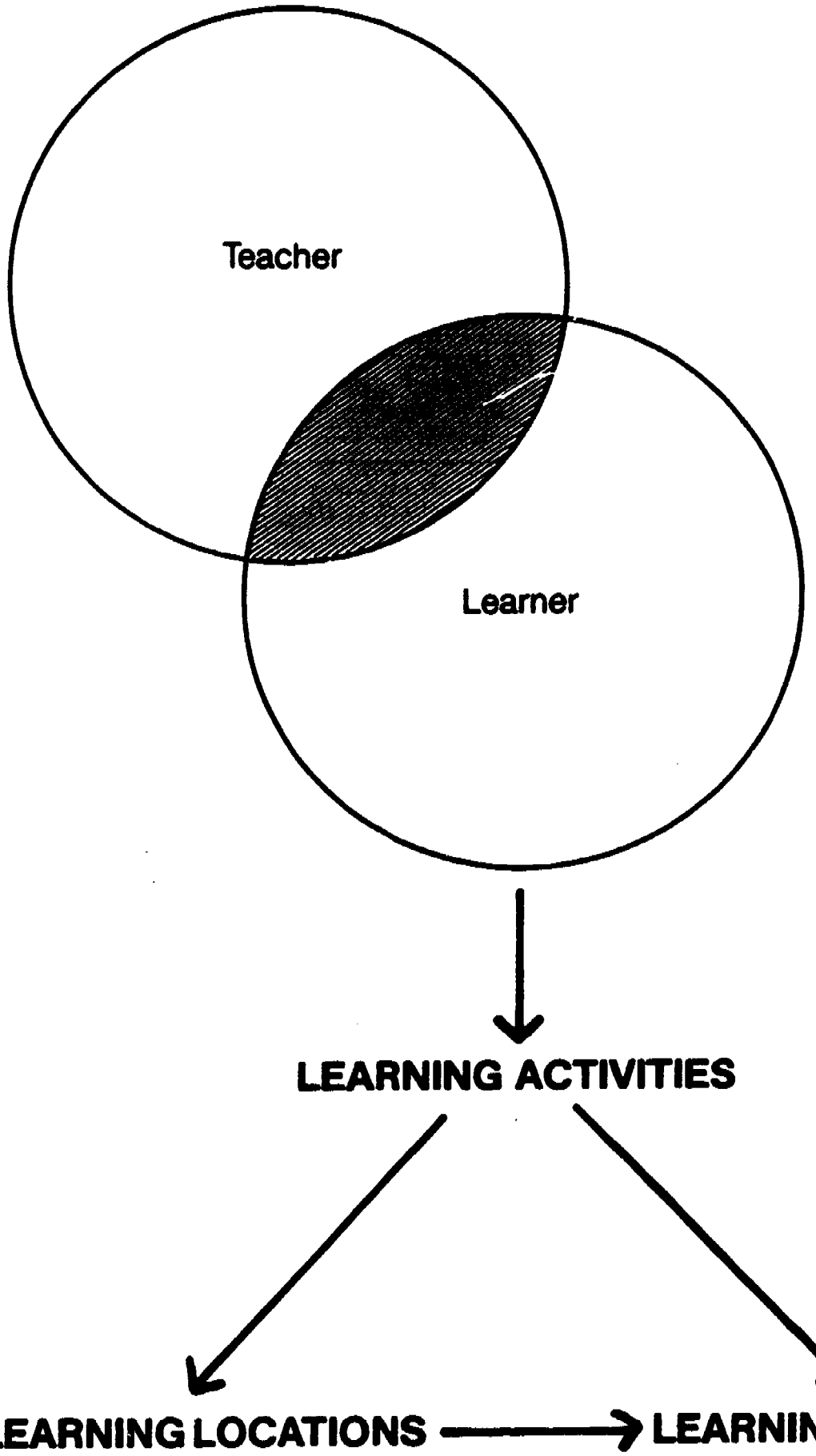
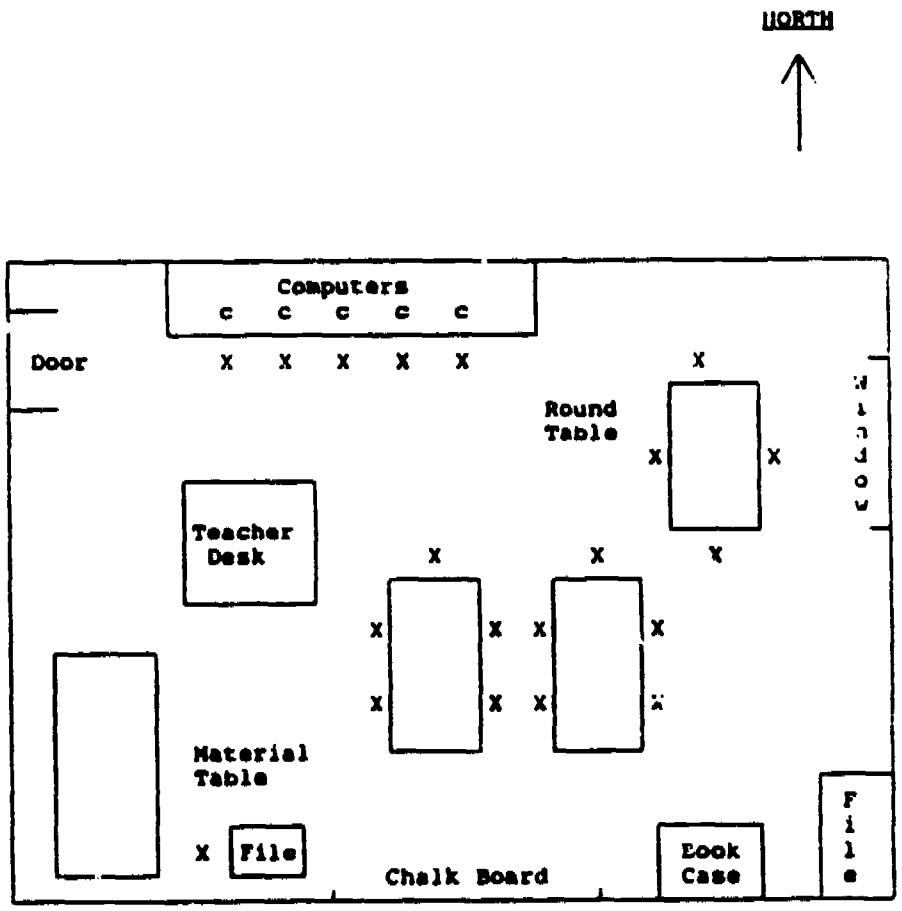


Figure 8. Category-to-taxonomy relationships in the whole language orientation.

Ashtabula ABE Center



Streetsboro ABE Center

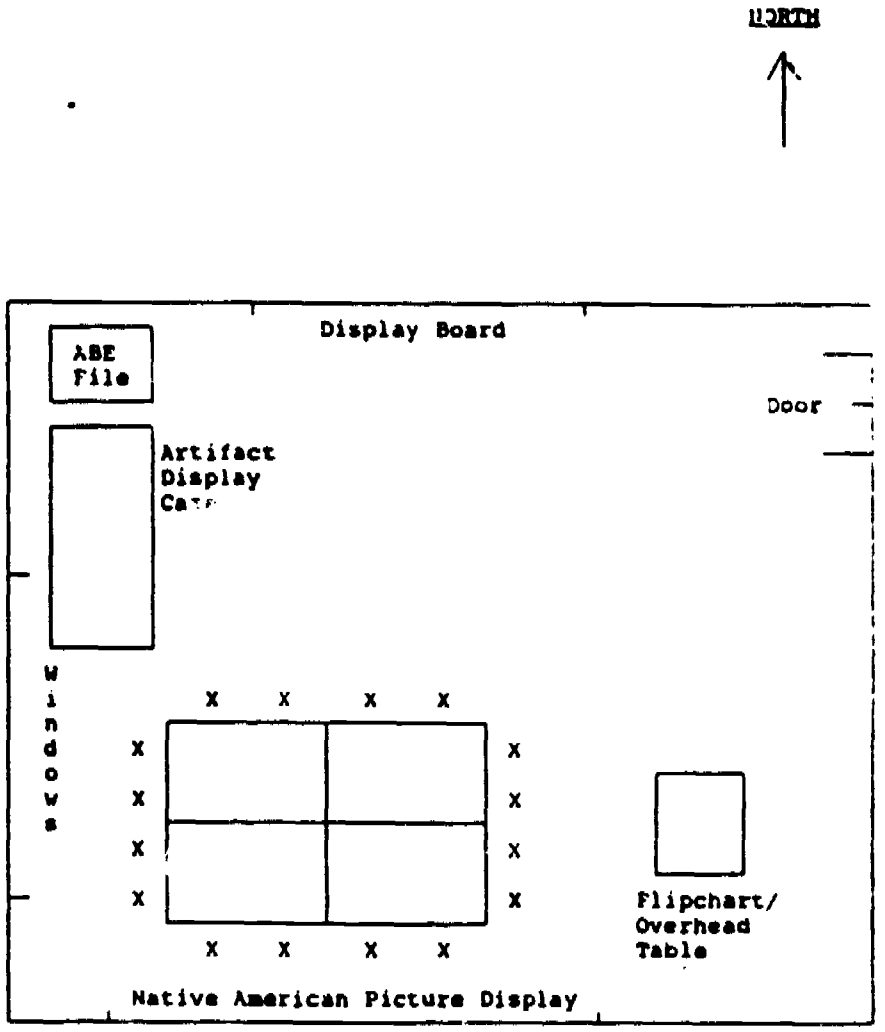
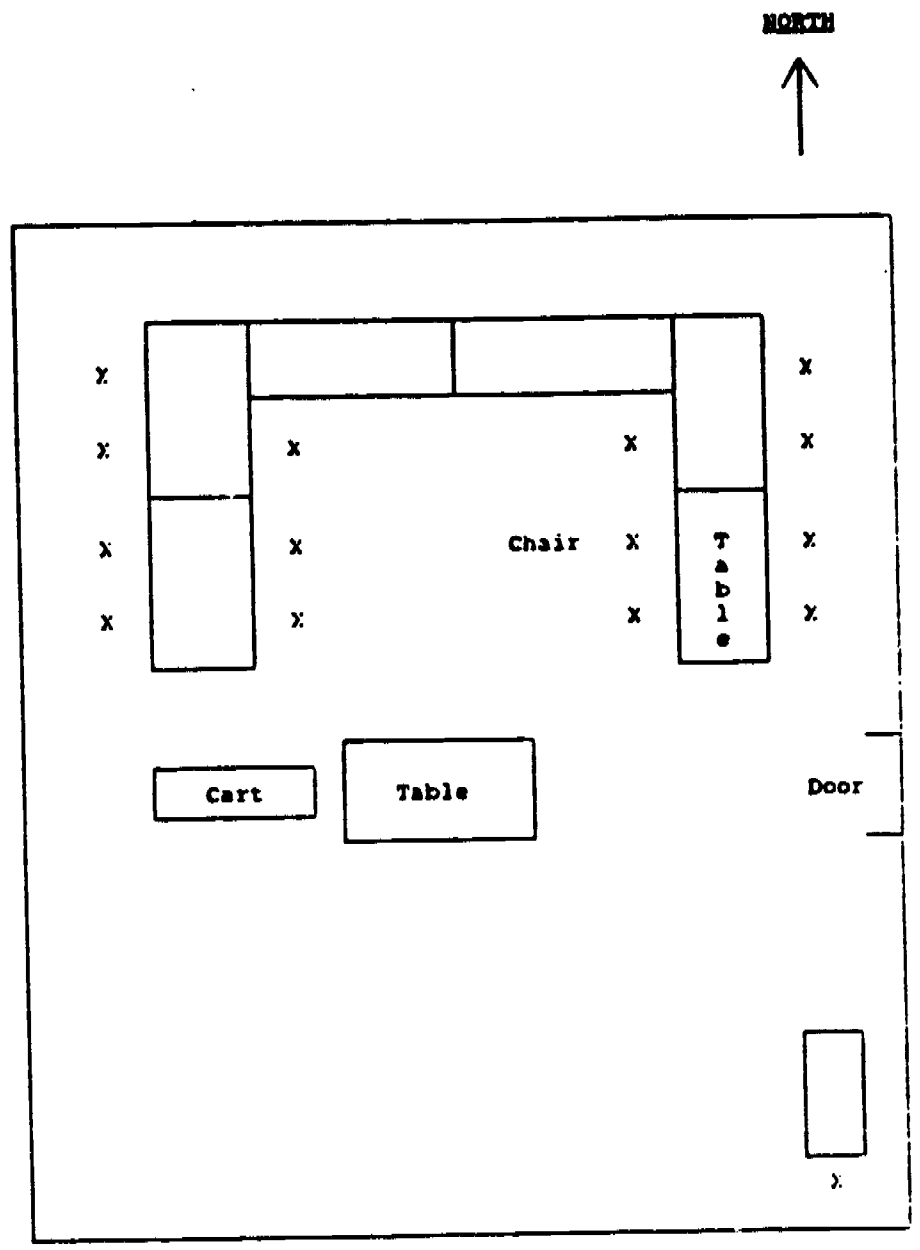


Figure 9a: Diagrams of whole language classrooms. (X = Chair)



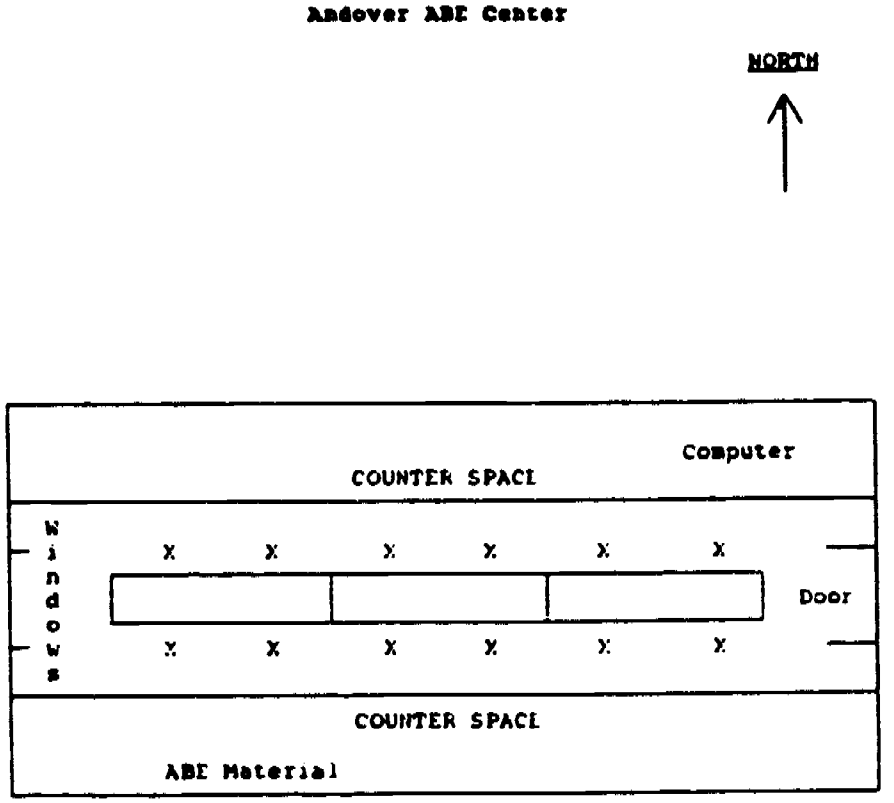
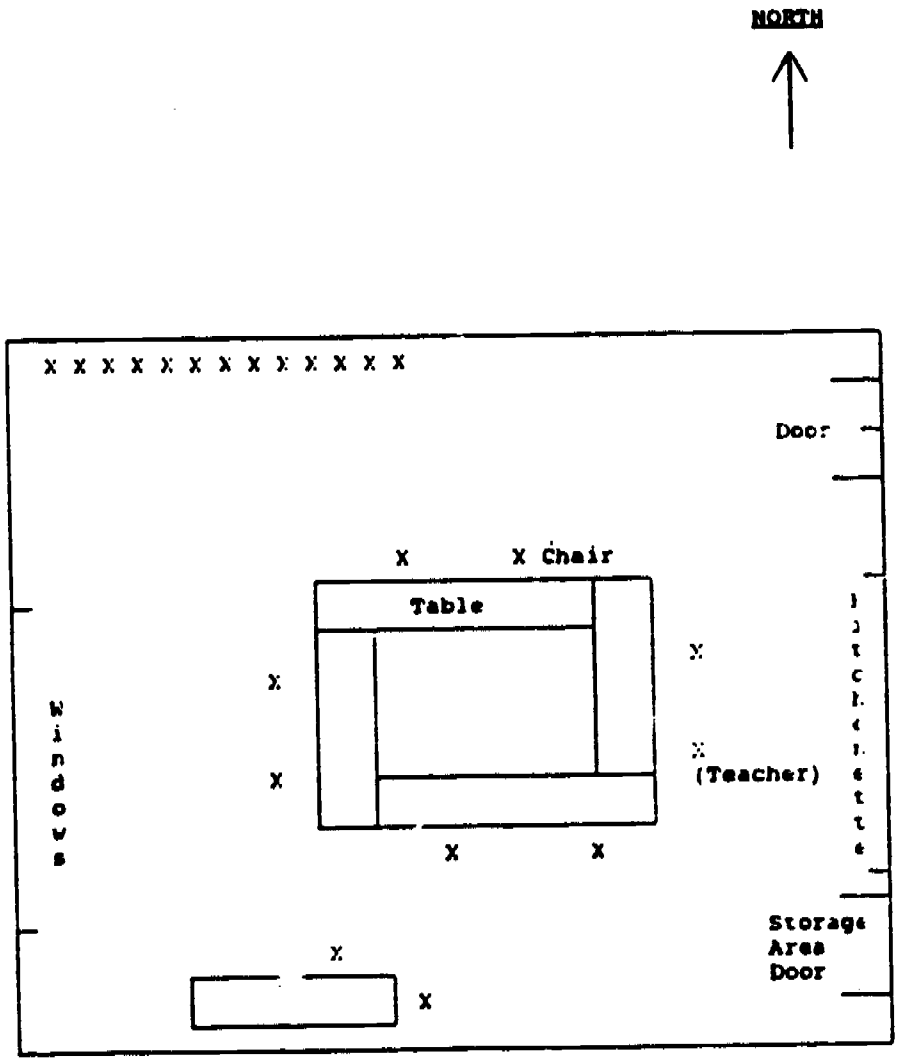


Figure 9b: Diagrams of individualized oriented classrooms (traditional). (X = Chair)

Garrettsville ABE Center



Ravenna ABE Center

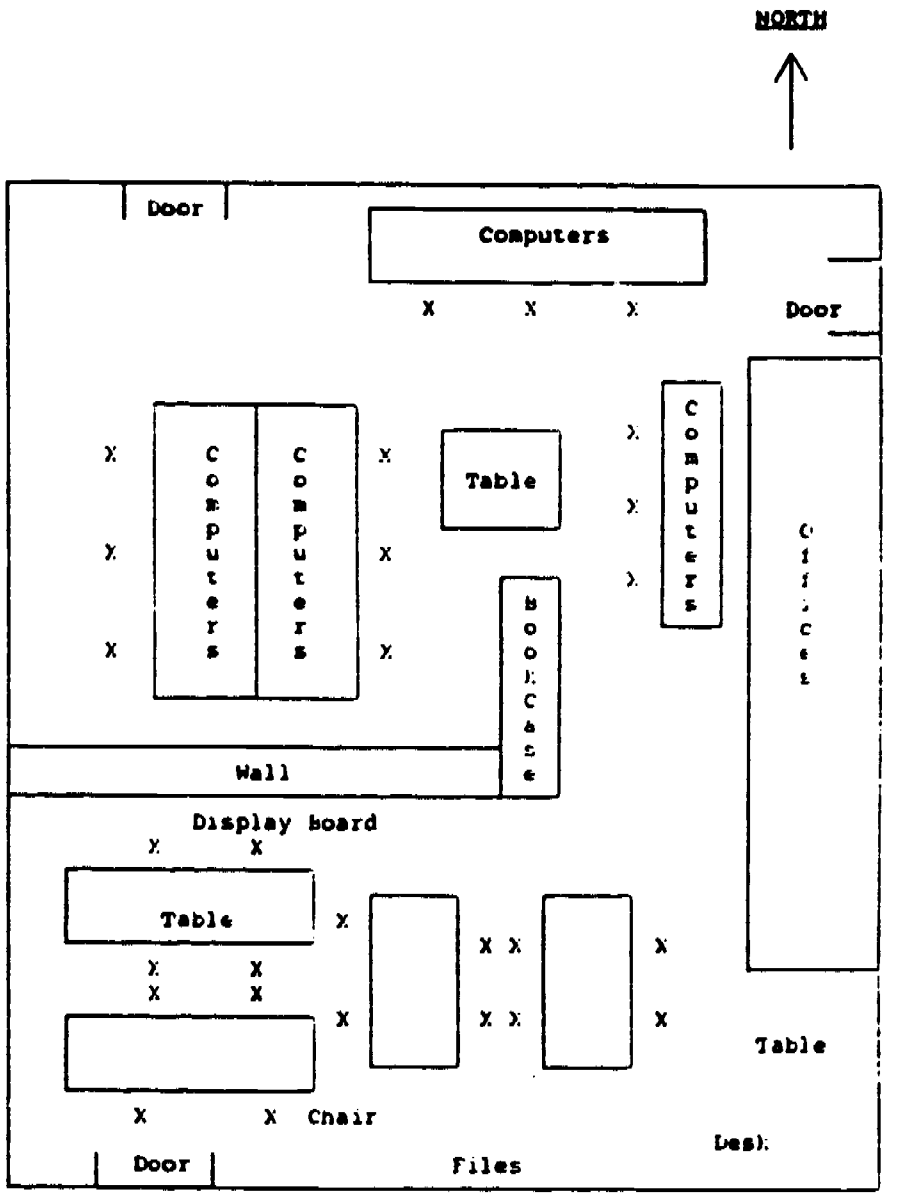


Figure 9b: Diagrams of individualized oriented classrooms (traditional). (X = Chair)

	Traditional/Individualized	Whole Language
Ecology	text dominant workbook-based routine limited access	multimodal diverse print sources accessible
Milieu	authoritarian directive extrinsic conversational exchanges external to learning matters	democratic interactive intrinsic conversational exchanges embedded in learning events
Social System	hierarchical restrictive closed	collaborative supportive open
Culture	technical-rational	pragmatic-reflective

Figure 10. A comparison of educational climate within each instructional orientation.