Teaching Classification and Organization Skills in ESOL Composition[1]

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In organizing ESOL expository writing, students typically have difficulty with: 1) identifying and distinguishing the classifying criteria, sometimes mixing several categories at once; 2) identifying hierarchical categories in a superordinate/subordinate relation to each other; and 3) reclassifying the same content in different ways using different criteria or different hierarchies of categories. This paper relies on research in several areas—paradigmatic and syntagmatic responses in reading comprehension, formal schemata and reading comprehension, and Brunerian learning theory—to explore some classroom approaches to these difficulties. A set of guidelines for the practice of classification skills is proposed. In the following sections, several detailed examples are given of specific classroom pre-writing lessons, and how they may be analyzed in terms of these guidelines.

INTRODUCTION

Sometimes it is easy to recognize a classification scheme that is problematic:

> Animals are divided into (a) those that belong to the Emperor, (b) embalmed ones, (c) those that are trained, (d) suckling pigs, (e) mermaids, (f) fabulous ones, (g) stray dogs, (h) those that are included in this classification, (i) those that tremble as if they were mad, (j) innumerable ones, (k) those drawn with a very fine camel's hair brush, (l) others, (m) those that have just broken a flower vase, and (n) those that resemble flies from a distance. (Borges, 1937, p. 101)

A system such as this one is extreme, but every language and culture has its own underlying concepts of classification.[2] In regard to written compositions, even if Kaplan's (1966) famous rhetorical diagrams do not hold in a strong form, both ESOL and English L1 writers experience difficulties in understanding and producing the linear, nested, hierarchical, and parallel organizational patterns of typical English expository prose (Mackie & Bullock, 1990; Leki, 1991).

This paper relies on research in several areas to explore some classroom approaches to difficulties which ESOL students experience in reading and writing involving understanding and manipulation of classification categories. A set of guidelines for the practice of classification is proposed; techniques for exercises in organization are described in several sample lessons.

THEORETICAL FRAMEWORK

In organizing writing, ESOL students typically have difficulty in determining which ideas are "main" ones, and which "supporting". Further problems occur in writing paragraphs of equivalent "weight": one paragraph's main idea may be equivalent in level to another paragraph's supporting detail. In note-taking, or outlining a text—including their own writing—students often find it difficult to identify categories in a superordinate/subordinate relation to each other. When organizing pieces of content, they often have difficulty reclassifying the same content in different ways using different criteria.

The proposed teaching guidelines are based on research in three areas: paradigmatic and syntagmatic responses in reading comprehension (Johnson, 1981); formal schemata and reading comprehension (e.g., Carrell, 1984); and Brunerian learning theory (Bruner, 1973, 1977; Stevick, 1989; Winer & Schmid, 1986).

Paradigmatic/Syntagmatic Responses

Johnson's (1981) study investigated the relationship between performance on a word association test and a standardized college entrance reading comprehension test given to native and non-native English speakers. Responses to the prompt words were characterized in two ways (Johnson, 1981, pp. 37-39). *Paradigmatic* responses could be substituted for the stimulus word in a given context. These included opposites (including negator prefix such as *un-*), coordinates, superordinates (e.g., *red-color*), subordinates (e.g., *color-red*), synonyms, and definitions. That is, paradigmatic responses involved a horizontal or vertical movement within a conceptual hierarchy of meaning. Responses were judged *syntagmatic*, on the other hand, if they were from form classes other than the stimulus word, or were a sequential response or idiom completion, e.g. *color-picture, table-cloth*. That is, syntagmatic responses indicated an association of meaning without any particular hierarchical conceptual structure.

Analysis showed a significant relationship between type of response and reading comprehension level. Poorer readers tended to give fewer paradigmatic responses and more syntagmatic responses than did good readers, who showed higher levels of paradigmatic responses. However, Johnson cautioned (1981, pp. 75-78) that this was correlation, not causation; another explanation for this relationship might be that good readers have a more elaborate semantic system, and greater conceptual and experiential knowledge. Nonetheless, the author suggested that

> differences in [syntagmatic/paradigmatic] responses represent different
> ways of perceiving relationships and categorizing information, and that
> there is a connection between perceiving and categorizing related to
> levels of reading comprehension. (Johnson, 1981, p. 91)

Thus, the first guideline proposed here is that increased facility with paradigmatic responses may help reading comprehension, and that students can be directly taught to improve their ability and tendency to categorize information in paradigmatically oriented forms of organization. Such orientation and practical experience will help them organize their own writing in English.

Formal Schemata

The formal schema of a text is its "overall suprasentential or rhetorical organization. . . a conventional structure" (Carrell, 1984, p. 87). Unfamiliarity with the formal schema of a text can lead to problems in comprehension; in the classroom, it is both possible and helpful to teach students patterns of organization of written text according to formal schemata (Carrell, 1985). At a simple level, formal schema is often taught by such strategies as "find the main idea" or "read the first/last line of each paragraph". More advanced work in reading schemas involves both sentence level organization (Mackie & Bullock, 1990), and rhetorical organizational level, including concepts such as "directness/indirectness," and whether the "conclusion" comes at the beginning or the end of the text.

How do these two areas interact and affect comprehension at the level of an individual reading text? In reading academic expository prose, the difficulties students have in grouping information bits at appropriate levels of hierarchy can lead to difficulties in comprehension. A typical example of processing in an ESOL academic text is shown by "The Effect of Oil on Marine Organisms" (Long, Allen, Cyr, Pomeroy, Ricard, Spada & Vogel, 1980, pp. 39-51), which reads in part:

> First, as a result of an organism's ingestion of oil, direct lethal toxicity,
> that is, death by poisoning, can occur. However, in cases where the
> effect is less extreme, sub-lethal toxicity occurs. While cellular and
> physiological processes are involved in both cases, in the latter the
> organism continues to survive. . . Fish, crustaceans and mollusks in the
> immediate area suffered lethal toxicity, while several other species,
> including the striped bass and mussel, had sublethal responses to the oil.
> Scallops and clams became tainted and were thus inedible. (Long et al.,
> 1980, pp. 44, 51)

The main points in this passage can be represented in a web:

lethal effects		death by poisoning
ingestion of oil		
sublethal (bad) effects		inedible
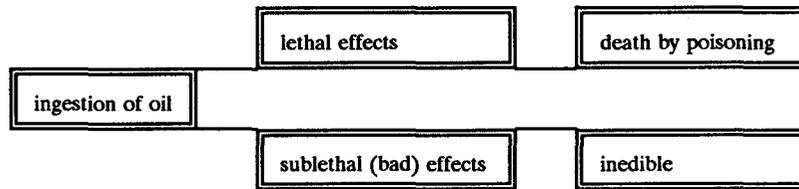
or in traditional vertical outline form:

    ingestion of oil
        lethal effects
            death by poisoning
        sublethal effects
            become inedible

Students reading this passage typically have difficulty grouping together items which need to be understood as in the same category or at the same level (e.g., clams-oysters, lethal toxicity-sublethal toxicity) vs. superordinate-subordinate items (e.g., mollusk-mussel, lethal toxicity-death by poisoning). The problem is not usually individual vocabulary items as such, but failure to catch the significance of syntactic cues, including overt markers, e.g., *however, and, both, such as*. The second guideline, then, is that training students to recognize and to use such cohesive ties facilitates their ability to read and write English more effectively (Williams, 1983).

Learning Styles

Much attention has been given to individual cognitive styles in learning language (e.g., Brown, 1987, Ch. 5; Oxford, 1993; Stevick, 1989). As adults, individuals tend to favor particular (combinations of) learning styles; for example, John-Steiner (1985) has explored successful scientists' use of visual and physical modes of representing reality, learning, and thinking.

Such work fits well with other approaches to learning theory. Bruner (1973, 1977) has proposed a three-stage model of developmental learning that is both progressive and cumulative. In the first, infant, stage, learning is *enactive*, that is, based on the actual manipulation of physical reality. In the *iconic* stage, children become able to learn by recognizing and manipulating visual and physical representations of reality. In the *symbolic* stage, the individual learns to process information and manipulate it by means of abstract systems—most noticeably and overwhelmingly the use of

LISE WINER

language, but also in systems such as mathematics or musical notation. Although many adults with formal education prefer to rely almost totally on learning through the language-symbolic mode—e.g., through reading textbooks and listening to lectures—individual adults always use all three modes, albeit in differing—sometimes very differing—proportions. In providing learning input and experience, Bruner recommends not only *allowing* for variation in modality, but *encouraging* it by starting, and sometimes continuing, with enactive and visual modes. As Winer and Schmid (1986) have shown with adult learners, physical manipulation of concrete objects can help certain groups of learners in applying and transferring patterns to other relevant content. While such enactive mode learning did not significantly help the students who already did well in symbolic mode alone, it did not hurt them or diminish their performance. (This principle, including movement from concrete object to pictorial to abstract written modes, has been tacitly applied to certain types of classification tasks designed to improve reading comprehension, e.g., McInnes, 1992.)

Despite this understanding, there remains considerable prejudice in many ESOL classrooms against using experiential/sense-based learning for "adults", especially in classes oriented towards academic expository prose.[3] The use of pictures, movies, physical models, etc. is often regarded explicitly as "childish" or even as "cheating" or a "crutch" by ESOL teachers (who may also be confusing testing with teaching). Stevick (1989) has clearly documented variety in individual learning styles in *Success with Foreign Languages*. He points out (1989, p. 138) that "learners. . . often differ markedly with regard to what they consider to be 'natural,' and what they prefer to do or not to do. They differ also with regard to the kinds of data they seem to hold onto best."

In trying to accommodate individual learning styles in the classroom, it is clearly impossible to provide curricula tailored specifically for each individual learner. However, this is not necessary. The third guideline is to provide sufficiently *complex* and *varied* input of processing opportunities for learners in order to provide all individuals with the possibility of utilizing the mode(s) and strategies they learn through best.

The guidelines proposed here attempt to accommodate and encourage the inclusion of the theoretical principles discussed above. Thus, assignments that focus on organization should: a) develop facility with paradigmatic responses, including both horizontal (equivalent) and vertical (super/subordination) elements of hierarchy; b) teach the formal rhetorical organization of text;

and c) include different learning modes and cognitive learning styles. In the following sections, several examples are given of specific classroom lessons focusing on pre-writing stages, and how they may be analyzed in terms of these guidelines.

TEACHING STRATEGIES

Problems with Traditional Outlining[4]

In teaching reading and writing, outlining in one fashion or another is a frequently used technique for explaining and practicing concepts of organization and classification in English. Most classification exercises for ESOL writing typically choose something general and superficial, so that all students in the class can be presumed to have adequate background knowledge, e.g., "types of student in the class"—by nationality, sex, language, major area of study, etc. In outlining exercises, a typical result for "types of furniture" might look like this:

Furniture
  Tables
    dining table
    coffee table
  Chairs
    armchairs
    straight-back chairs

However, here the table categories are subdivided by use, whereas the chair categories are subdivided by general style. If a further, cross-cutting, criterion of classification is introduced, e.g., what material the chair is made from, manipulating the classification categories to include the same objects becomes even more difficult. In addition, despite the generality of the concept of furniture, the examples used above are clearly very culture-bound—unfamiliar or different for many students from Japan, the Middle East, and Africa, for example. In exercises such as this, there are typically two problems: criteria for organization and hierarchy are not made overt; and the content is often uninteresting or unfamiliar.

A General Pre-Writing Classification Exercise: Postage Stamps

The following exercise is designed to make the nature of categorization and classification overt and clear, and to help students identify and manipulate the concepts of category and hierarchy. It involves physical manipulation of tangible objects, and provides practice in (re)categorization and (re)organization. From a

LISE WINER

practical classroom point of view, it has several further advantages: a) the materials are easy to obtain and store and can often be supplied by the students themselves, giving them input into building the class; b) the exercise encourages cooperative communicative work in small groups; c) it is very cross-culturally applicable, and affectively highly positive, since all countries have stamps, and their content is often culturally important.

First collect postage stamps from different countries, trying to get as wide a variety as possible. Give each group of three to five students a small handful of about 20 stamps, and ask them to sort the stamps into separate groups in any way they want. (For sorting, a table is best, but sheets of lightweight cardboard, chair writing desks, or large notebooks can be used.) Students in each group decide how they will divide the stamps up, for example, by country, continent, subject, physical condition, denomination. The category itself does not matter, but it must be consistent, and must include as many of the stamps as possible. (Stamps which do not fit should be placed into a "bank" file; later, students can see if they fit better into a different category scheme.)

Considerable speech is generated as students negotiate, or discuss problems they have fitting the stamps into categories. After the sorting is completed, each group reports to the class on how they determined their major category, e.g., "topic":

| animals | people | buildings | flowers |

while the teacher writes these categories on the board. At this point students also discuss problems they had in dividing the stamps, e.g., where to put one stamp that shows *both* a person and a building. The next group reports, perhaps having:

| animals | people | flowers | flags |

Next, each group takes its *same* group of stamps, and reorganizes them according to a *different* category than they have just used, perhaps one used by another group. Again, this result is put on the board in words, e.g., "country":

| Canada | Malaysia |

or:

Canada
Malaysia

The third step is for each group to organize all its stamps by using *both* previous categories simultaneously, and arranging the stamps physically in "outline" form. For example, using the two

main categories of "country" and "subject" the outline (or piles of stamps) might look like Figure 1. (Note that there may be an "extra" category for stamps that don't fit readily into existing categories, or may possibly become a new category.) This outline, in words, is then written on the board.

Canada	Malaysia
animals	animals
people	people
buildings	buildings
flowers	flowers

The categories should be in the same order in both sections. Students then physically reorganize the *same* stamps using the *same* categories, but in the *reverse* hierarchical order, as in Figure 2. This same outline, in words, is put on the board:

Animals
    Canada
    Malaysia

People
    Canada
    Malaysia

Buildings
    Canada
    Malaysia

Flowers
    Canada
    Malaysia

Students can compare this outline to the previous one, and understand the concept of a symbolic representation based on enactive experience.

The stamps themselves are not used as a composition topic. Rather, this activity serves as an explicit cognitive exercise in developing facility with paradigmatic categories and classification. All three modes of learning are utilized for the students to arrive at the same point. Organizing the stamps in one way and then organizing the same stamps in another way is a concrete physical representation of the kind of logical manipulation that good writers use when organizing, re-organizing, focusing and shifting focus of pieces of content. This should be pointed out explicitly to students, both at the end of this exercise, and during the process of writing.

FIGURE 1

CANADA

animals

people

buildings

flowers

MALAYSIA

animals

people (none)

buildings (none)

flowers

FIGURE 2

ANIMALS

    Canada

    Malaysia

PEOPLE

    Canada

    Malaysia (none)

BUILDINGS

    Canada

    Malaysia (none)

FLOWERS

    Canada

    Malaysia

LISE WINER

Organizing with Post-it Notes: Glass-Blowing

Classification is of course a part of other discourse functions, such as "process". Prior to a field trip to watch glass blowing, groups of students are asked to bring in samples of glass, and to come up with words describing them, e.g., *fragile, green, clear, cracked, molded, breakable, perfume bottle, smooth, curved.* Each word is written separately on a small Post-it note (or small pieces of paper and tape). Each group sticks its notes onto a section of the classroom wall; students physically move the notes around into groups, and then label each group with a word (e.g., shape, color, method of making) on another Post-it note (either larger or a different color). This same procedure can be used after the field trip, with new words added about the manufacturing process, types of glass, etc.

Organizing with Pictures: Albatrosses

In one theme unit focusing on writing, students get considerable information on albatrosses: through written texts and a videotape about these birds. Scattered throughout this information are explanations of dangers that albatrosses have faced. One writing task is a composition on "Dangers to Albatrosses"; the organization for this topic is taught by beginning with a physical manipulation of pictures of the actual content of the proposed essay.

In the first step, various pictures of albatrosses and their environment are placed in a large pile. The teacher holds each one up separately, and students decide if it represents a danger to albatrosses; these are put in one pile. If students recall a danger from the information, but no picture is available, a quick sketch can be made, or a picture "caption" can be made by writing one or two key words on a large slip of paper and adding it to the picture pile.

In the second step, the class as a whole discusses how to sort the pictures (and captions) of dangers into groups; a chalkboard ledge is an easy sorting place and visible to everyone. Students direct the teacher to group pictures according to whether they are: a) examples of the same thing, b) are part of (subordinate to) other pictures, or c) include (are superordinate to) other pictures.

Next, students decide how to arrange the piles of pictures into two or three main categories using only one main criterion. For example, the criterion "Type of Danger" includes categories such as "Natural Dangers" and "Non-Natural Dangers," "Military/Non-Military," "Chicks/Adults." The pictures are moved around, physically, and organized into groups, until students are satisfied that the most inclusive and consistent arrangement has been made.

There is always discussion: Is scaring albatrosses away from the runways by flapping sheets at them a danger in the same sense as unforeseen poisoning? Should past dangers be included with present ones?

To help the transition from pictures to language, replace each picture with a summary word written on a strip of paper. Tape these to the chalkboard or wall in hierarchical linear outline fashion, e.g.:

```
Dangers to Albatrosses
    Natural Dangers
        predators
            sharks
            small birds
                eat eggs
            big birds
                eat chicks
        floods
        wind

    Non-Natural dangers
        egg-hunting
        pollution
            lead paint poisoning
            litter
                plastic toys
                    choking
                plastic six-pack drink-can rings
                    strangulation
        elimination of nesting sites
        bulldozed and buried
        collisions with planes
```

(Vertical lines connecting topics at the same organizational levels can be made to emphasize this representation of hierarchy.) The outline then serves as the basis for the students' written composition.

If students need more practice, you can use the same topic but pick different ways of categorizing the same information, e.g., start again, but with Present/Past as the main divisions:

```
Dangers to Albatrosses
    Past Dangers
        egg-hunting
        lead paint poisoning
        elimination of nesting sites
        bulldozed and buried
```

```
Present Dangers
    predators
        sharks
        small birds
            eat eggs
        big birds
            eat chicks
    floods
    wind
    litter
        plastic toys
            choking
        plastic six-pack drink-can rings
            strangulation
    airplanes
```

The same pieces of paper are used, easily moved around to fit the new organization.

After writing the first draft of their essays, students can check their own or each other's work by making an outline of their drafts, and seeing if it matches the outline, and whether the draft *or* the outline needs to be re-organized.[5]

There are two particularly useful follow-ups to this task. One is to go back to the original whole set of pictures, and redevelop an outline on another topic, e.g., "Life-Cycle of the Albatross." The same process is followed, but different pictures (pieces of information) are selected. Some of the information will be the same, but it will have a different role and importance. For example, all of the dangers that might happen to a chick will be included briefly with other aspects of the chick's life. This exercise again emphasizes and practices selection and organization.

Another follow-up is a "zoom-lens" exercise in manipulating the expansion and contraction of supporting detail to be included within a particular category. After students have outlined and written on all dangers together, they can outline another composition, on *one* danger alone. The result will be a shifting of focus along the hierarchy so that more depth and detail will be included than in the first assignment.[6]

Adapting Traditional Topics

Traditional topics and techniques can be adapted to incorporate these guidelines. For example, in the "students in the class" exercise mentioned above, rather than simply writing the categories on the board, students can stand up and physically move themselves into groups by nationality, sex, language, major area of study, type of

shoes, birthdates, etc., and form a "living outline" which can then be transferred to words on paper, in a linear outline.

CONCLUSION

The proposed types of classification practice assume a high transferability of organizational skills between tasks. Concepts of hierarchical organization and the formal schema organization of expository prose are explicitly taught; individual learning styles are accommodated and encouraged by including enactive, iconic, and symbolic modes, and by making the identification and manipulation of categories and hierarchy overt. Once the skills involved are identified and practiced, students will be better able to handle more difficult, more abstract material because they will not be struggling with both content and concepts of organization at the same time.

NOTES

1. Many thanks to Doug Rice, Glenn Wharton and Julia Yobst for their field tests and feedback, and to Jean McConochie, Ruth McShane, and Ruth Johnson for comments on earlier drafts. The author is, of course, solely responsible for content and interpretation.

2. Peggy Dufon (pers. comm.) reported experiencing culture shock involving classification while shopping in Paraguay. There, fabric stores sell fabric but not needles. Needles are sold in notions stores, which do not, however, sell string. String is found in a hardware store.

3. Tarvin and Al-Arishi (1991) caution against stressing "sense" and "immediacy" over "reflection" and "contemplation" within communicatively oriented teaching approaches. The approach proposed here combines both aspects, explicitly, by involving students in task and process oriented activities.

4. Many native speakers of English have suffered through the ridiculous notion of "balance" in outlining: "If there's a 1, there must be a 2; if there's an A, there must be a B." This unrealistic and spurious rule should be explicitly and firmly tossed out. So, also, should excessive attention to the use and placement of numbers and letters of various sorts; equivalent levels in hierarchy can be represented visually simply by spacing.

5. There are, of course, real difficulties with requiring students to produce outlines of compositions before writing, as the writing process itself generates ideas which may not be evident before writing and therefore cannot be included in a pre-writing outline. However, in this case the writing topic is expository rather than expressive, and the content is already known—the idea-generating part of the process having been carried out during the information-gathering, reading, and organizing parts of the exercise. Furthermore, as the exercises should demonstrate, outlines are for guidance only, and should be subject to revision (rearrangement) *at all times*.

6. In visually representing organization, Mackie and Bullock (1990) advocate a technique using Coe's discourse matrix, which names and then diagrams the relationship between T-units based on levels of generality: coordinate, subordinate, same level of generality. It is probably useful for ESOL teachers to see this discourse

matrix as helping to identify desirable models for revision, as well as to identify cultural rhetorical patterns in the students' own writing.

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