UNIT 8 ENGLISH ACROSS THE CURRICULUM

Structure

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8.0 OBJECTIVES

After you have read this unit and done the exercises you will be able to:

- enumerate the linguistic problems students face in learning content subjects;
- justify the need for familiarity with text structures for better understanding of content areas;
- distinguish between 'Content Obligatory' and 'Content Compatible' teaching of vocabulary and grammar;
- discuss how writing across the curriculum boosts the linguistic competence of the learners; and
- explain 'facilitative teaching style' in content classroom.

8.1 INTRODUCTION

Distinction has often been made between two sets of language skills - Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP). The abilities of interpretation, expression and negotiation are essential for interpersonal communication. Cognitive Academic Language Proficiency, on the other hand, is concerned more with the abilities of thinking and learning effectively from the curriculum processes. There is no doubt that both these sets of language skills need to be nurtured and developed. In reality, however, it is only the Basic Interpersonal Communication Skills that receive some attention in the language classrooms. The Cognitive Academic Language Proficiency remains totally neglected in the content subject classrooms. Teacher should also know that CALP involves some universal, cross-linguistic dimension of competence that once acquired can be transferred to any language. This suggests that if students are taught thinking and analyzing skills in L1 (mother tongue), these skills can be transferred to L2 (second language-English). Snow, Mei and Genese (1992) suggest that "traditional methods for teaching second languages often disassociate learning from cognitive or academic development," Most of the time learners receive little or no help to make optimal use of their limited second language repertoire in the content subject classrooms. They are neither taught how to read reflectively in content areas nor are they encouraged to pick up study skills for effective learning. Those who excel in
content areas do so largely because of their personal interest in the subject, aptitude and their own achievement orientation. The less interested depend heavily on rote memory. While most teachers concern themselves with presenting information in their subject, very few help students acquire the thinking strategies they need to actively construct meaning from print.

Content area literacy advocates are directing their attention toward "creating educational environments in which students are challenged to analyse, reflect, communicate and create. In such environments effective strategies for reading, writing, speaking, listening and thinking are more likely to develop more naturally and easily than when these are addressed as isolated elements." (Manzo & Manzo)

8.2 THE IMPORTANCE OF READING IN CONTENT AREAS

Although there are fairly graded sets of textbooks to teach English as a second language, no special attention is paid to the graded use of English in content subject textbooks. Hence, in a discussion on Propagation of Sound, a science textbook meant to be used in class VII, abounds in the use of lexical items of the scientific register – rarefaction, compression, vibration or non-scientific items like simultaneity. Moreover, ordinary everyday words like work, energy, stress or salt assume very special meanings in science lessons. Similarly, there are specialised texts for social sciences and mathematics which the students must understand. These specialised texts are embedded in extremely complicated sentence structures.

Students need a lot of help in transferring their reading skills acquired in the language classrooms to the content subject areas. This is because a number of English texts are narrative whereas science texts and many texts in the humanities are informative; they are expository or instructonal. The writer’s intention is usually to inform: to describe, explain and initiate readers into ways of observing, thinking about and doing things. In subjects like science or geography, a writer has very little choice about the facts he or she is presenting and the teacher primarily wants students to grasp what is being communicated: i.e. underlying new information.

Authors like Lutzner and Gardner (1984) suggest that there are certain ways in which information is organized or structured in content area subjects. Some of these are –

- description of a structure
- processes
- instructions
- description of crisis situation in history and how it was dealt with, etc.

Each of these text types has its own characteristic generic headings or information constituents and we expect these constituents to go together. This "going together" of related information constituents contributes to coherence or sense of the text. For example, a text that belongs to the topic type physical structure will deal with these information constituents – parts, location of parts, properties of parts and function of parts. The topic may be on the structure of a human tooth or an aneroid barometer or a suspension bridge of a medieval castle. All these descriptions would deal with different parts of the object, what the part looks like, what they are called, how they are made and where they are situated, what the function and purpose of a particular part is and how it works.

Similarly, experiments and practical activities cannot be undertaken without apparatus, material, procedures or steps, results and interpretation. Although the apparatus and materials would vary from experiment to experiment as would the
The structuring of information in content areas subjects is thus not accidental and knowledge of text structure can be used by students to anticipate and predict while reading and organizing information while writing.

The very nature of text types in different content areas of the school curriculum demand reflective reading skills. When reading reflectively the reader "actually breaks the flow of his or her progress through the text and reflect on something s/he has read about or related to what s/he is reading about...But this does not happen unless the reader knows when and where to stop and reflect. Knowing when and where to break reading for reflection is facilitated by knowledge of text structure." And when students read expository and instructional texts, they need the support and guidance from teachers to be reflective, to benefit from their reading.

Check Your Progress – 1

1. Why should teachers and students know how information is organized in a text?

2. The style of reading a thrilling story is often called receptive. Can you guess why? Explain how the receptive reading of a narrative is different from reading a unit on different methods of farming in geography.
8.3 TEACHER SUPPORT IN LEARNING SPECIALISED VOCABULARY AND GRAMMAR

Snow, Met and Genesse (1992) suggest that the language teachers' use in a content classroom can be distinguished as two distinct categories - 'content-obligatory' and 'content-compatible'. Content-obligatory language is associated with specific content objectives. For example, when studying the topic of volcanoes in Geography, content obligatory language would include verbs such as erupt, force; melt; nouns such as magma, core, lava or cohesive devices as consequently, as a result and therefore. Similarly, in a discussion on the revolution of Earth round the Sun specialized lexis such as axis, tilts, rotates, orbits are examples of content obligatory language.

Context Compatible language, on the other hand, focuses on recycling language learned previously. For example describing a process using 'first, then, finally' and so on when teaching the lesson on volcanoes or language describing position (e.g. tilted towards, away from, move to, etc.) when doing the lesson on the revolution of the earth around the Sun are simple examples of context compatible language teaching.

Check Your Progress – 2

1. Look at the tasks given below, would you consider them content compatible? Give a reason for your answer.

   a. Write appropriate adjectives to go with each of the following nouns.
      hedgehog petals eagle oak bark

   b. Here are different words referring to features of the environment. Arrange them from small to large scales. One is done as an example.
      Stream, River, Brook → Brook, Stream, River
      Mountain, hill, hillock
      Bay, cave, gulf
      Wood, copse, forest
      Pond, puddle, lake

8.4 WRITING IN CONTEXT SUBJECT AREAS

Much of the writing that happens in the school is within other subject areas. It is therefore important to expose the children to writing tasks from various subject areas, right from the beginning so that they are adequately prepared for later writing tasks in school and in real life.

Since the mid-nineteen seventies, researchers in the western world have repeatedly pointed out a decline in the ability of students to write well. One reason given is that the students are not asked to write enough. Also writing work in other subject areas
of the school curriculum often is not viewed as writing. One does not look at the writing of a mathematics problem, or the flow chart of a geography lesson, or a report based on diagrammatic or tabular information as "writing". Yet students doing such tasks spend a very large amount of time. These tasks require the ability to present ideas logically, to choose the appropriate style and form accurately; sometimes they also tap the ability to transcode information from a diagrammatic to a verbal written form.

Writing research in recent years has highlighted the need to look at writing across the curriculum. This is because a very large amount of the writing that happens in real life or in the later school years in the second language is to do with other subject areas. It is important, therefore to extend the kind of writing tasks we undertake to include activities from across the curriculum.

Let us look at a few examples of writing tasks.

1. Ask students to use the price list given below to create three problems that can be solved by using one operation, and one problem whose solution requires two operations. Ask the students to find the solution to their own problems before giving them to others.

<table>
<thead>
<tr>
<th>Item</th>
<th>Price List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar</td>
<td>Rs. 20 per kg</td>
</tr>
<tr>
<td>Rice</td>
<td>Rs. 12 per kg</td>
</tr>
<tr>
<td>Tea</td>
<td>Rs. 80 per kg</td>
</tr>
<tr>
<td>Biscuits</td>
<td>Rs. 30 per kg</td>
</tr>
<tr>
<td>Match boxes</td>
<td>Rs. 15 per dozen</td>
</tr>
</tbody>
</table>

(To allow students to use different maths skills and concepts, one more line can be added saying 10% discount will be given on purchases of more than Rs 200.)

2. Lifestyles have changed throughout history. For example a young person living at the time of the Indus Valley civilization would live differently and engage in different activities from what a young person would do today. Write a letter to an imaginary person from an earlier period in history. In this letter write about what life today is like for a person of your age. Think about how life would be different for this child and what are the things you might need to explain clearly.

3. Ask students to collect two different types of flowers and bring them to their next class. Tell them to make the chart given below:

<table>
<thead>
<tr>
<th>Observations</th>
<th>Flower A</th>
<th>Flower B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where did you find it?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ask students to look carefully at the flowers and complete the above chart. Then use the information to write a paragraph that explains how these flowers are alike and how they are different.
Another opportunity for integrating writing with other subject areas is in the project work that students take up. This may necessitate coordination with the subject teachers.

Check Your Progress – 3
How do you think the writing tasks given in this section help students to learn better?

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8.5 FACILITATING STUDENT LEARNING IN CONTENT AREAS

The importance of learning through interaction using group work and pair work has been proved in communicative classrooms. Research shows that collaborative learning methods can improve the effectiveness of student learning in content-integrated classrooms. In small groups and pairs, students are encouraged to make active use of language for genuine communicative purposes involving a variety of discourse types without the teacher’s constant intervention and control.

‘Context-embedded’ teacher talk, questioning and typical classroom exchanges also play a significant role in student learning. Teachers can link new learning to background knowledge and provide ‘Scaffolding’ by speaking more slowly, emphasizing key words and phrases, using simple vocabulary or grammar, building in redundancy through repeating, restating, paraphrasing the use of synonyms, antonyms, defining through exemplification, body language and so on. The teachers must decide how far to simplify the language without oversimplifying the concepts or content. The required language may be pre-taught, elicited from more linguistically competent students or provided as the need arises. Visual support such as visuals, videos, along with key visuals, tables or diagrams help to make the structure of the text explicit. In developing reading and speaking skills, tasks might include sequencing, predicting, information transfer and various types of information gap activities. Written outputs might be supported by such speaking and reading activities. Such tasks not only provide opportunities for cooperative learning but also help the learning of both content and language.

8.6 SOME BROAD CROSS-CURRICULAR ISSUES

So far we have been discussing some of the teaching-learning strategies for using English across the curriculum. Now we will turn to broader issues which impact...
"how curriculum should be framed" to make it genuinely cross curricular. This may not be directly in your hands as teachers, but it is worthwhile being aware of it.

As Chrysochoos et al. (2002: 37-38) state "the term cross curricular approach to learning is used to declare learning that does not follow the parceling out of school reality into separate school subjects .... like History, Sociology, Physics but examines each unit from all possible aspects. Therefore, the subject of transport is examined from the technological, historical, economical, psychological aspect, etc. A second characteristic of the cross-curricular approach is the exploratory nature of the teaching-learning process. It is a well-known fact now that children 'learn by doing'; therefore, the project method, which involves small-scale research, discoverylearning and creative thinking through collaborative work in pairs or groups, is used. Students collect information through the Internet, library and other school subjects through collective participation and come to a 'considered' position with support of documents.

Subjects such as History, Civics, Geography, Environment Education, economics, etc. can be taught through this method. For instance, students who study the Mughal period in history may remember dates and major battles, kings and queens. At the same time they can study literature, fine arts and music of the era. They can also discuss the architecture of the period along with the economic policies. This can be complemented with experiential learning through a visit to museums or some of the monuments.

The goal of this cross-curricular approach to teaching school subjects and foreign/second language(s) is to help (a) teachers realize the advantages of cooperation in lesson planning. The class teacher in cooperation with the teacher of different school subjects (e.g. music, history, economics) can organize team teaching (b) different school subjects can be linked (c) material will be produced which will stimulate the interest of students to work on projects (d) actively involve students in the educational process (e) linguistically, a lot of reading, speaking-listening and writing takes place in "authentic" circumstances. The language teacher will in the pre-learning activities present any new linguistic items e.g. vocabulary, grammar, which would be required for doing the project. (f) Finally, and most important, it helps students to be autonomous - a self-motivated and self-directed learner.

8.6.1 Classroom Techniques

Chrysochoos (2002) has some important suggestions for classroom techniques when following a cross-curricular approach to teaching-learning. Methodologically the choice of the topics should be consistent with the students' interests and needs. Often, teachers in collaboration with the students choose the subject. They then brainstorm and give inputs on whatever they know on the topic, perhaps as a whole class activity. They get into groups to gather facts on different aspects of the topic. For example, one group would study the economic policy of the Mughal, while another would research on art and music in the Mughal period. Along with gathering ideas, the students' viewpoint, stances, values and attitudes should also be encouraged. Collaborative teaching in small groups is suggested. The teacher's role is to lead the students' exploratory procedures and develop their communicative strategies in socially authentic situations. They cultivate life skills, attitudes and values which would contribute positively to the students' socialization.
We give below a diagram from Chrysochoou et al (2002) which succinctly expresses the cross-cultural approach to teaching.

![Diagram](image)

### 8.7 LET US SUM UP

1. In real life children do not compartmentalize learning. In fact learning progresses from simpler, concrete, general and more holistic forms initially, to more complex, abstract, specific and fragmented learning at later advanced stage. Boundaries between subject areas have been artificially created purely for convenience. But the reading and writing skills that are available with the learners may not be adequate to do the required tasks in science, maths or social science classroom. As language pervades all areas of learning, it is essential for teachers to encourage language skills like reading, writing and speaking in all areas of the curriculum.

2. When reading for learning, the actual processes can be thought of as comprising five phases: decoding, making sense of what is said, comparing this with what one knows already, making judgments about the material and finally revising one’s ideas. But all too often the process stops at the second phase; the reader does impose a kind of local sense on the phrases and sentences as they occur, but does not trouble to establish their overall sense. The reader thus does not read reflectively and is not always able to use reading for learning.

3. Reading for learning can be improved by making students conscious of those features of logical arrangement that are common to all well written passages. The notion of information structure emphasizes the recognition of information constituents which keep recurring and help students deal with different text-types.

4. Language teachers, who are aware of the language demands of their subjects, take care of 'content-obligatory' and 'content-compatible' teaching of vocabulary and grammar.

5. A variety of writing tasks across the curriculum help learners to become better writers.

6. Small group work to exchange ideas or to bring out some very pertinent points is as important a tool of learning as teacher-led discussions.
7. Teachers, across different subject areas of the curriculum, need to collaborate to integrate content and language teaching.

8.8 KEY WORDS

Cross-curricular approach: This approach to learning declares that learning does not follow parceling out of school reality into separate school subjects like History, sociology, Physics, but examines each unit from all possible aspects.

Information Structure: The way information is organized in a piece of text.

Information Constituent: Elements of context - the sort of things we expect the text to be about.

Reflective Reading: To pause and to think about what is being read.

8.9 SUGGESTED READINGS


Brewster, Jean. Teaching English Through Content: Supporting Good Practice.

Teaching English in Elementary Schools - Teaching Writing 2 Block 4 CT104 - IGNOU.

8.10 ANSWERS

Check Your Progress - 1

1. A knowledge of information structure helps in anticipating and predicting the information constituents. The presence of related information constituents contributes to the coherence of a text. Knowledge of information structure helps in note making and summarizing. It also provides support for writing different kinds of text.

2. The style of reading a narrative is often called receptive. The story carries the reader along and stimulates the right questions without any conscious effort; indeed when one is reading a gripping story for pleasure, understanding does come without effort.

Reading a unit on geography however would require frequent pauses while reading and would require the student to pick out the main ideas, pick out the details, draw conclusions, compare and contrast, group and classify and
interpret tables, diagrams, etc. It would also mean that the reader follows the specialized lexia used in the text besides grasping the organization of the content.

Check Your Progress – 2

1. Both the tasks on vocabulary are content compatible, as they would enhance the linguistic competence of the learner. Whereas the first task would help in graphic/vivid descriptions of objects, the second task would clarify concepts about shapes and sizes.

Check Your Progress – 3

These tasks have a two-fold purpose:

a. clarifies concepts or ideas within the subject area

b. enhances the ability to communicate these through writing.