

11. Supporting students across the curriculum

What will be covered

11.1 General support strategies

11.2 Content across the curriculum, including specific strategies for:

11.2.1 English

11.2.2 Maths

11.2.3 Humanities and social science

11.2.4 Science, including physics, chemistry, biology and general science

11.2.5 Health and physical education

11.2.6 Information and communication technology (ICT)

11.1 General support strategies

Key understandings

- Refugee background students will benefit from a focus on the literacy demands of the curriculum.
- It is important to prepare students for their work by activating and building on their prior knowledge.

One of the keys to supporting refugee background students is to focus on the literacy demands across the curriculum. Therefore, many of the approaches and scaffolds introduced in previous sessions will be useful when working with integrated topics and subject-specific work.

It is always important to think about the knowledge and skills that the task requires. For example, a science report is part description, part recount and part explanation.

Prepare students for integrated topics and subject-specific content by:

- not assuming knowledge (e.g. cultural knowledge about the Australian way of life);
- activating prior knowledge by questioning, brainstorming and using frameworks and scaffolds (e.g. KWL charts);
- building new content knowledge (e.g. using visuals, previewing text and making who, why, where, what, how, concept maps);
- checking that key vocabulary is known (e.g. building up lists of topic words, using picture dictionaries);
- checking that the key language structures are known by focusing on the language features (e.g. in games, through text);¹⁰⁰ and
- being clear about what you expect.

¹⁰⁰ DE&T (2006), Designing Effective ESL Programs – Professional Development for Teachers of Students with Disrupted Schooling (unpublished draft), module 2, p. 61.

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Other useful suggestions include:

- Encourage exploratory writing using, for example, journals, diaries and learning logs that include their:
 - initial expectations
 - description of what has happened
 - problems encountered
 - solutions tried
 - outcomes
 - reactions.¹⁰¹
- Introduce conceptual language using the following approach:
 - Identify three or four main concepts to be covered in the lesson.
 - Ask the students to discuss their understanding of these concepts in groups.
 - Have the students report back to the whole group on their understanding.
 - Scribe their responses on the board, clarifying and adding to this information.
 - Have students enter this information into a glossary.
- Apply macro scaffolding:
 - Have clear goals.
 - Understand the language demands of tasks.
 - Know the student's current ability and understanding.
 - Carefully sequence tasks to develop the skills to achieve the goal.
 - Gradually but constantly shift responsibility of task completion from you to the student.¹⁰²
- Use point-of-need scaffolding:
 - Elicit responses to draw students along a particular way of reasoning.
 - Cue responses in the form of a question (e.g. a term that starts with 'p').
 - Elaborate and redefine the requirements of a task.
 - Use 'we' to show that the learning has been shared.¹⁰³

¹⁰¹ Adapted from: Burke D et al. (2000), *ESL in the Mainstream Participant Manual*, DEET, South Australia, p. 245.

¹⁰² Sharpe T (2001), cited in: Hammond J, *Scaffolding*, PETA, NSW, p. 50.

¹⁰³ Dansie B (2001), cited in: Hammond J, *Scaffolding*, PETA, NSW, p. 36.

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Activity 11.1

Read through the topics and specific skills in table 11.1 below and brainstorm strategies and activities that you could use to develop these skills.

Table 11.1: Ideas for supporting students

Topic	Specific skill/knowledge	Strategies/activities
General knowledge about Australian culture	Learning about ANZAC day	
General knowledge about Australian history	Learning about patterns of migration post World War 2	
General knowledge about Australian geography	Locating the states on map Locating capital cities on a map	
Using a dictionary	Looking up the meaning of words	
Using an atlas	Locating The Great Victorian Desert on a map	
Developing research skills	Using the internet as a research tool	
Understanding how a textbook is organised	Using contents page Scanning headings and subheadings Finding page numbers and defined terms	
Creating a glossary	Highlighting key words and presenting their definitions	
Creating a bibliography	Ordering the bibliography and entering a reference	
Giving a speech	Ordering and linking information Using cue cards	
Organising a research project	Obtaining and organising information	

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Understanding the language of examination instructions	Understanding instructions for multiple choice.	
Understanding particular language points	Using terminology and the passive form in science reports (e.g. the water vapour rose and formed clouds)	

11.2 Content across the curriculum

Key understanding

- Each curriculum area places particular literacy demands on low literacy background learners.

Activity 11.2

Read through the information that follows regarding one or more of the following content areas:

- English
- Maths
- Science
- Humanities and social science
- Health and physical education
- Information and communication technology (ICT).¹⁰⁴

¹⁰⁴ Many of these skills are transferable across the curriculum areas.

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After you have finished reading, discuss what you have learnt with the group and create a tip sheet on how to support refugee background students in that curriculum area.

11.2.1 English

Here are some examples of how tutors in OSHLSPs support students with English.¹⁰⁵

➤ **Structuring essays**

Explain what makes a good essay. Focus the student's ability to structure ideas in a persuasive text (e.g. by finding and listing an argument and putting forward counter arguments).

Use structured overviews to order ideas, then link the ideas and add an introduction and a conclusion.

Tutor comment:

If they are not ... clear in their thinking ... [about] the topic, we'll basically brainstorm from scratch things that they associate ... with those topics and arguments and counter arguments and then ... get them in a list of one side and the other and start to structure things and link ideas and see what they think is stronger and start trying to sketch out how they will make an argument.

➤ **Discussing and clarifying ideas**

Tutor comment:

... sitting with them for fifteen minutes ... really impacts on them and ... discussing ideas with them and getting them to think a little more critically in terms of the way they approach the work they do.

... [if] they don't understand ... start at the beginning until they understand ... grasp what they don't understand and explain it to them to bring them up to a point where they can understand.

¹⁰⁵ The information for this section comes from: REPP (2006), Draft Case Studies of Out-of-School Hours Learning Support Programs for School-Aged Students from Refugee Backgrounds (unpublished), pp. 7–8 & 13.

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➤ **Correcting English assignments**

Tutor comment:

I could just pick up little things about English that is just different to how other languages are structured and show them how we say things; how you can tell that something sounds right. Where it's hard to do that is if English isn't your first language.

For example, in English, adjectives come before the noun, whereas in some languages adjectives come after the noun.

➤ **Simplifying the language**

Tutor comment:

If it's English I break down the words for them.

For example, explaining compound words such as overtime, breakfast and overseas.

➤ **Reading**

When students are shy to read, the tutor might start reading and ask the students to tell them about what they have read and retell it in writing.¹⁰⁶

11.2.2 Maths

Here is some information on how tutors in OSHLSPs support students with maths as well as other advice on supporting students in this area.¹⁰⁷

➤ **Assisting with maths tasks**

Slowly go through exercises and word-based problems in detail, and make them simpler.

Tutor comment:

Sometimes I'm explaining the same concept [up to] seven times before they actually understand it ... A lot of the maths ... for refugee children it may not be as common sense as I assumed. So they understand complex problems and they might fall down on something really simple which we take for granted ... This bridges those gaps because sometimes I explain simple concepts whereas the harder concepts they seem to grasp quite well ... You have to be really in tune with them ... [and] do examples that relate to them for them to understand and ... understand them and know what their hot buttons are and know what their interests are, so you can keep them actively involved and engaged.

Student comment:

You get a lot of help in maths, if you not understand, he'll explain it to you and show you how to do it and you have a chance to ask questions. He shows you examples, explains it very well, gives you revision and explains it over and over again so you can do it good in the test.

¹⁰⁶ An additional resource for developing skills in the English curriculum is: BBC Skillswise, Words, available at: <http://www.bbc.co.uk/skillswise/words/grammar/>, accessed 1 May 2007.

¹⁰⁷ The information for this section comes from: REPP (2006), Draft Case Studies of Out-of-School Hours Learning Support Programs for School-Aged Students from Refugee Backgrounds (unpublished), pp. 7–8 & 13.

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➤ **Practising times tables**

Use worksheets, chants and games to help student practise their times tables.

➤ **Providing resources, demonstrating and explaining how to use them**

For example, reference sheets of key mathematical terms and synonyms can be useful. Students can use these to check the terms used in word-based maths problems.

➤ **Other maths advice**

Mathematical texts, word problems and activities often contain references to terms and concepts that may be unfamiliar to ESL students. It is helpful to:

- Ensure students understand the instructional language (e.g. find the solution, simplify, use the formula).
- Read the problem aloud or discuss the investigation as the unfamiliar words may become familiar when they are spoken and put in context.
- Briefly paraphrase the problem on the board or explain a particular term.
- Model the task using simplified instructions and a demonstration of the procedure, to ensure that the student has fully understood what is expected.
- Encourage students to discuss the mathematics in their everyday language, and to relate it to everyday uses, before moving to mathematical terms and concepts.
- Explain terms and procedures prior to using them in mathematics activities.
- Revise and recycle vocabulary to reinforce understanding and familiarity with the language in context rather than present it as unconnected lists of words.
- Verbalise the strategies used to solve problems.
- Demonstrate mathematical language with visual support and concrete materials.
- Provide both oral and written forms of any new vocabulary and structures.
- Give the students lots of practise examples and repetition. For example, it can be helpful to follow the procedure of an example in a book and then go back to check that the student understands later.
- Provide point-of-need instruction and practise in working with calculators and currency.¹⁰⁸

Consider whether a maths problem:

- assumes cultural background knowledge;
- has any idiomatic or figurative expressions that may be confusing;

¹⁰⁸ Adapted from: DE&T (nd), *ESL Annotations to The Mathematics Teacher Support Materials*, available at: http://www.eduweb.vic.gov.au/curriculumatwork/esl/es_sample.htm#math, accessed 20 June 2007.

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- has accessible and unambiguous language or any difficult words (remember that difficult words may be the function words of sentences such as prepositions, or words like if, but, when or also); or
- has words that convey different meanings in different contexts (e.g. a person's face, a clock face, a face of a cube, to face north).¹⁰⁹

11.2.3 Humanities and social science, including the arts, history, geography and economics

In this area it is helpful to:

- Build up lists of terms or concepts and how they relate to one another.
- Support students working on extended research tasks by breaking down and outlining each step of the task.
- Model a sample answer (e.g. an analysis of the results of research or a discussion of the implications of the research).
- Help students to interpret text in their own words, rather than copying large sections of text. You can do this by using mind maps, diagrams, lists, data charts and tables or highlighting key parts of the text.¹¹⁰

11.2.4 Science

Scientific English tends to be precise, economical and formal. It draws on a number of technical terms and expressions that have to be learned. ESL students need to learn most of these terms while developing the language skills, oral and written, to classify, analyse, summarise, compare, define, infer, hypothesise, describe and explain.

It is helpful to:

- Find out what students already know about the topic.
- Introduce background information and terms they may be unfamiliar with.
- Explain key terms and concepts in context as some vocabulary may have different meanings in different contexts (e.g. the base of a pyramid, base the argument on, a base element).
- Be explicit about what is expected and break tasks down into small steps.
- Reinforce understanding with visuals (e.g. charts, displays, annotated diagrams, concrete materials).
- Highlight key terms and principles and build up a glossary of key terms where possible.
- Simplify instructions and questions if needed.¹¹¹
- Use a mixture of open-ended questions (e.g. why? and how?) and closed questions requiring yes/no responses.

¹⁰⁹ An additional resource for developing mathematical skills is: BBC Skillswise, Numbers, available at: <http://www.bbc.co.uk/skillswise/numbers/wholenumbers/>, accessed 20 June 2007.

¹¹⁰ Adapted from: DE&T (nd), ESL Annotations to The SOSE Teacher Support Materials, available at: http://www.eduweb.vic.gov.au/curriculumatwork/esl/es_sosec.htm, accessed 20 June 2007.

¹¹¹ Adapted from: DE&T (nd), ESL Annotations to The Science Teacher Support Materials, available at: http://www.eduweb.vic.gov.au/curriculumatwork/esl/es_sci.htm, accessed 20 June 2007.

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- Provide models of writing for different purposes (e.g. explanations, descriptions, reports) and summarise these.
- Introduce language features, such as the passive voice, and discuss them in context.
- Where possible, progress from the concrete level to the more abstract and relate previous experience and knowledge of the topic.
- Provide opportunities to practise more conventional, academic forms of scientific writing.
- Where possible, illustrate, demonstrate or role-play important terms and concepts, and summarise them.
- Provide questions to support students with their reading.

11.2.5 Health and physical education¹¹²

Health and physical education offer many opportunities for developing English language understanding and skills as language is used for a wide range of purposes. For example, students need to:

- follow and give directions;
- describe a range of environments;
- compare the consequences of varying an action;
- persuade members of their group to cooperate;
- predict the consequences of unsafe practices;
- discuss social and cultural differences in food choices; and
- argue, explain, agree, disagree and negotiate.

Using English for real purposes in this way is crucial for ESL students. Many of these uses of English are complex, however, and tutors need to be aware of the language demands different activities may make.

The following considerations and approaches may be relevant.

➤ **Introducing new concepts**

When explaining new concepts, keep in mind that ESL students may not be familiar with the terms used but have some knowledge of the topic. Activities such as brainstorming and drawing concept maps allow students to show their prior knowledge, and therefore the content and language that is new to them that needs to be introduced.

➤ **Modelling language based tasks**

The structure and language features of texts the students are asked to produce may need to be modelled.

Introductory activities help students to manage such tasks. For example, a role-play followed by a discussion about appropriate language and the effectiveness of questions would be helpful before an interviewing task. Written tasks often require students to *describe*, *discuss*, *argue*, *compare*, *evaluate* and *explain*. ESL students benefit from studying sample texts

¹¹² Adapted from: DE&T (nd), *ESL Annotations to The Health and PE Teacher Support Materials*, available at: http://www.eduweb.vic.gov.au/curriculumatwork/esl/es_sample.htm#HPE, accessed 17 May 2007.

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demonstrating these purposes and identifying the structure and features that make them effective. They are also helped by strategies such as the modelling of texts and joint construction before they begin to write their own.

Consider the texts students need to use when researching. Their structure and language may need to be introduced to students to ensure they read with comprehension.

➤ **Introducing new vocabulary**

Students need to learn many new terms to get the most out of health and physical education activities. These include:

- names of body parts, equipment, shapes, food;
- prepositions and prepositional phrases (e.g. above, below, through, in the middle);
- time phrases;
- verbs (e.g. tuck, grasp, grip, exit, run, diet, exercise, grow, change, participate, cooperate);
- adverbs (e.g. backwards, forwards, sideways, carefully, thoughtfully); and
- adjectives (e.g. tight, straight, bent, rounded, front, rear, straddle stand, lower, upper, back, wide, narrow, rigid, upright, parallel, good, bad, right, wrong).

Suggestions for teaching new vocabulary include:

- Use visual aids to introduce new terms.
- Build up word lists for students to use when writing.
- Consider using labelling and information gap activities.
- Recycle language. Encouraging students to verbalise and describe what they have done enables them to use language in context and to become familiar with new terms (e.g. 'we used our hands and feet to hit the ball').
- Discuss terms that may have different meanings when used in other contexts (e.g. station) to avoid confusion.
- Use new language in a variety of topic-related reading and writing activities. Games, songs, cloze exercises and picture and word matching activities are useful for this.

➤ **Supporting group work**

For activities involving group work, model the language needed for effective participation. This involves directing others, following directions, negotiating and clarifying. Mixing ESL students with English-speaking background students can be helpful but monitor how well relationships are working and provide guidance on how to work cooperatively (for example, by defining each group member's role).

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➤ Giving instructions

Students may not have a shared understanding of the language of all instructions and directions. Give instructions in clear and concise language and in a logical sequence.

Demonstrations and/or written versions may need to accompany verbal instructions to show what students are expected to do.

Demonstrations may help students follow directions, but to become competent English users they need to hear the language often and to practise it in context. Pair work can be effective for this. For example, a student could direct a partner to follow a sequence of moves. Peer evaluation is also useful. Students could observe and comment on aspects of their partner's techniques (e.g. *It was a good jump. She landed with her knees bent.*).

11.2.6 Information and communication technology (ICT)¹¹³

Like science, ICT English tends to be precise, economical and formal. It uses a large number of technical terms and expressions not used in everyday situations. Much ICT language is specific in its use (e.g. google, mouse, memory, icons). ESL students need to learn most of these terms while developing the language skills, oral and written, to classify, analyse, summarise, compare, define, infer, hypothesise, describe and explain.

OSHLSPs can provide students with access to technology that they may not have at home.

It is helpful to:

- Illustrate, demonstrate or role-play important terms and concepts (ICT lends itself to this representation).
- Provide opportunities for students to explore and clarify new concepts by using and hearing technological language through a range of activities.
- Provide opportunities for students to rehearse what they will write.
- Model the way technical language is used in writing.

¹¹³ Adapted from: DE&T (nd), *ESL Annotations to The Technology Teacher Support Materials*, available at: http://www.eduweb.vic.gov.au/curriculumatwork/esl/es_tech.htm, accessed 17 May 2007.

