Structured Support of Reading

PART ONE: Phonemic Directed Discovery (Reading)

It is beyond the scope of this short document to look at the phonemic directed discovery process in great depth. Instead it aims to set out the basic way of introducing a new grapheme-phoneme link to a learner using auditory clues (known as discovery words). Discovery words are chosen as they are good examples of the target grapheme-phoneme link. For example, 'pink', 'pigeon' and 'pomegranate' would be good discovery words for forging the link between <p> and /p/. But a word like 'phantom' would not be as the word does not start with the phoneme /p/. There are three stages to the process:

1. The target discovery words are uttered by the teacher. The steps are set out in Table 1.

Table 1

Steps in the Routine: Using Auditory Clues	Rationale
Teacher says[1] directed discovery words that illustrate the new learning point.	• So that the learner can hear the target sound embedded in words. • To encourage the auditory analysis of words and auditory discrimination of sounds.
Learner listens and echoes back.	• The learner utters words featuring the target phoneme as a stepping-stone to stripping away the extraneous information (i.e. all the sounds that are not the target phoneme). • The learner practises holding auditory information in memory.
Auditory focus (how the words sound): Teacher asks: "What sound is the same in these words?" (words can be repeated if necessary)	Learner's attention is drawn to the sound of the words – this encourages the analysis of the sound units within words
Learner says the target phoneme in isolation.	Learner holds the words in memory, analyses them for a common phoneme and then isolates this from one of the words.
Teacher asks: "Where in the words did you hear the sound?"	This primes the learner for the matching of the grapheme to the new phoneme as it alerts him or her to the position of the sound within the word. This allows the learner to look at the list of words and locate the shared grapheme
Learner replies or teacher prompts or models…	This prevents the learner from feeling failure or uncertainty.
Teacher elicits a summarising comment: "So the sound is … and you heard it at the … of the words".	This sums up the learning for the learner and acts as a bridge to the discovery of the grapheme.

[1] Note with some learners you may need to use pictures of the target words to support memory.

2. The learner sees the words written down and listens to discover where in the words the common (target) phoneme occurs i.e. makes the link between the symbol and the sound. The steps are set out in Table 2.

Table 2

Steps in the Routine: Using Text-based Clues	**Rationale**
Visual focus (how the words look): Teacher shows a list of the words used in the discovery to the learner. See Figure 1.	The list of words is carefully tabulated so that the target grapheme is in the same column).
Learner identifies the grapheme linked to the phoneme and highlights the grapheme in the target position in each word.	The learner finds the link between the grapheme and the phoneme him or herself.
Teacher elicits a summarising comment: "So the sound is … and it is made by the letter …. at the _____ of the word". Or teacher can do a reminder: *What was our sound?* *Where did we hear it?* *What do you notice about these words?*	The learner summarises what has been learnt with reference to the phoneme (sound) and the letter (using the letter name) that makes it.
Teacher gives the new reading card to the learner, who adds a meaningful image to the back.	The reading card captures the knowledge gained and personalises it because the learner creates his or her own meaningful image on the back of the card as the 'cue' or stepping-stone to the retrieval of the phoneme.

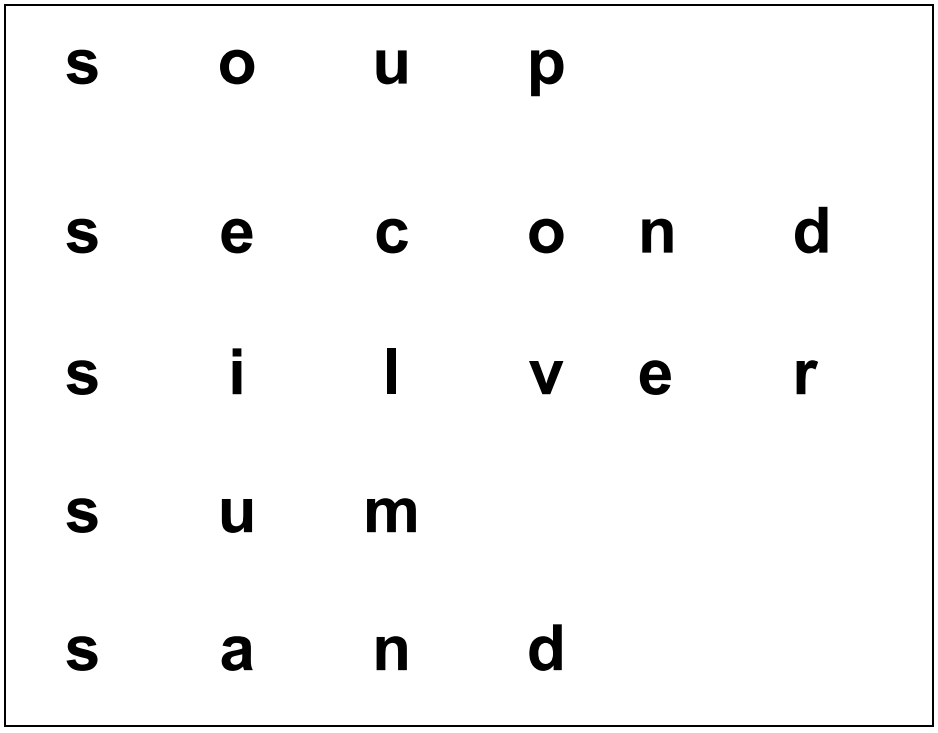

Figure 1

3. The information is captured on a reading card. Figure 2 shows the front and back of the cards respectively.

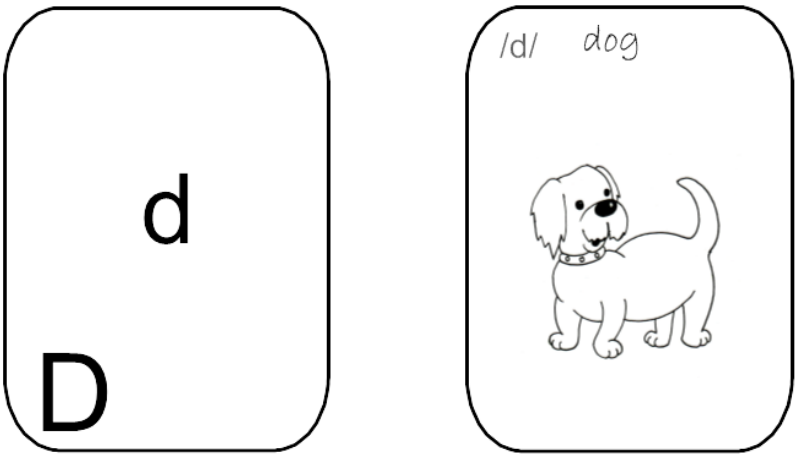

Figure 2

The front of the card is pre-prepared by the teacher. The learner creates his or her own sketch on the back of the card - this is important as it makes the link meaningful to them. In rare cases where drawing will take too long or dexterity or motivation to draw is an issue clip art can be use, but again the learner must be centrally involved in its choice – to forge the meaningful link. Note that in the example of a reading card the writing on the image side of the reading card is for teacher reference only. It is not added there for the learner to read. It is useful to add this because sometimes the learner's picture is not clear enough for the teacher to recognise (the written prompt for the teacher is needed so the teacher can check if the learner is associating the grapheme consistently with the image featured on the card).

Practising the New Grapheme-Phoneme Link

The learner gradually builds up a pack of reading cards, which are practised frequently. The routine is set out below in Table 3. As you read through it, make note of the rationale for each step – consider how each stage is built in to support the retrieval and retention of the link.

Table 3

The Steps in the Reading Routine	The Rationale for the Step
Learner holds pack with grapheme uppermost.	Because learner needs to see the grapheme in isolation in order to work towards automatic recall.
Learner shuffles the pack.	Because learner needs to see the graphemes in random order to ensure knowledge is flexible.
Learner looks at grapheme, says cue word and then the sound.	• Looking at the grapheme triggers the memory for the cue word (a meaningful visual memory).

	• When the word is recalled the target phoneme can be isolated (the picture is a stepping stone to the phoneme).
Turns the card over and checks by looking at the picture.	• Learner is responsible for checking own links. • If incorrect looking again helps establish or re-establish the link.
If the answer is correct, move rapidly on to the next card.	• Aiming for automaticity of production • Learner feels sense of mastery
If wrong/no response, tutor asks the learner to turn over the card, say the cue word and then sound. The card should then be reinserted into pack (in the middle) for another attempt.	Important to see how link holds up when other phonemes intervene – i.e. a better test than straight away.

PART TWO: Further Ways of Using Cards to Support Memory

The Use of Metacards (Conceptual Understanding)

Metacards are memory prompt cards that link to key bits of metalinguistic or conceptual information that are beneficial for the learner to reflect upon in order to enable the recognition of further examples later. As usual learners will benefit from creating their own metacards by making notes or drawing images on the obverse to personalize the cards and to log exemplar words or a short learner-appropriate definition. The front can feature either an image that encapsulates the concept being recorded or a word (for example, key metalinguistic terminology such as 'vowel', 'consonant', 'syllable' and so on). These can be provided by the teacher, or co-created with the learner. Figure 3 shows an example, created to demonstrate the suffix {-s} and how it is added to nouns to create the plural form. Note also how colour coding[2] has been used to indicate the word class (red underling indicating a noun).

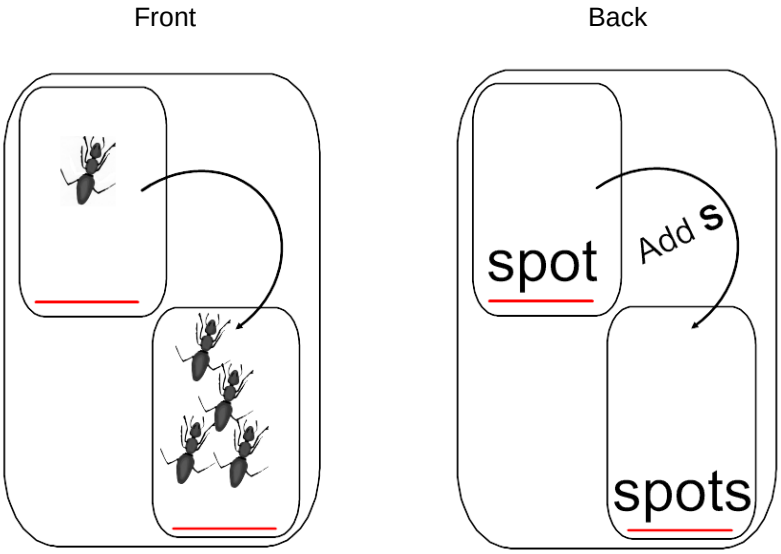

Figure 3

Note that larger versions of the card can be made to store more examples on the back if the learner benefits from this sort of focused collection of examples, or the learner might appreciate having a notebook with some pages dedicated to the collection of examples of the topics covered and rehearsed by the reading and re-reading of the metacard.

There is no rigid routine for the rehearsal of these cards. However, the practice of them should be as learner-led as possible. If examples are featured on the backs of some cards, it might often be an idea to look at the examples together then generate the definition or the key term

[2] NB: In using colour in this way, you must be sure that the learner is not colour-blind. If a learner is colour-blind you will need to develop another coding system – for example, using different lines/characters to represent the word class (>>>>>> _ _ _ _ _ …… ..... etc.).

from the discussion. It is not appropriate to use the cards solely as 'flash-cards' to trigger definitions. They should be considered stepping-stones to the understanding and discussion of complex linguistic and grammatical phenomena (or other types of conceptual information that needs to be recalled).

Structured Word and Concept Exploration

Recent research with children (MacKay, Levesque & Deacon, 2017[3]), has indicated a very particular type of deficit in analogy processing may be evident in children who are unexpectedly poor comprehenders. Considerable anecdotal evidence also suggests that one difficulty that older learners who are not retaining text or not able to consistently access text efficiently experience is difficulty with categorisation. Explicit structured work on categorisation may be an avenue to approach with such learners. Stahl & Shiel (1992[4]) suggest using diagrams to define what we know about particular things. This idea can be adapted to provide a template on large cards, that can be used to analyse words and the associations they have in a structured way. See Figure 4 .

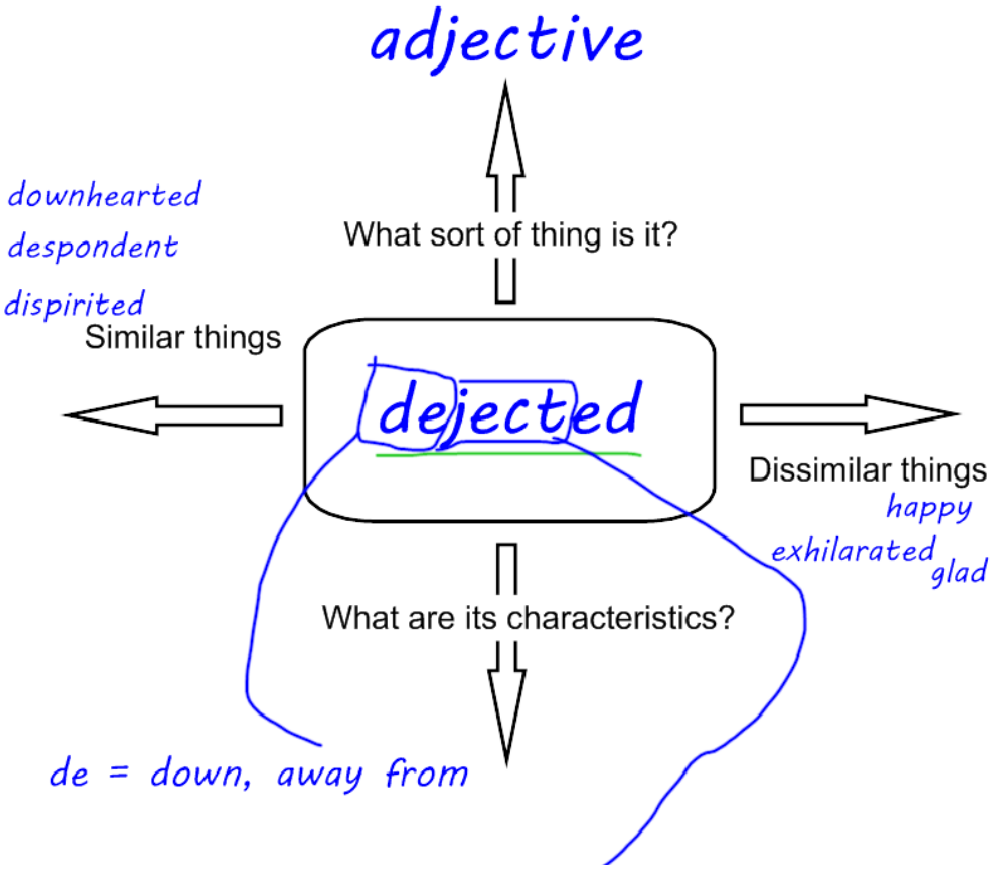

Figure 4

[3] MacKay, E. J., Levesque, K., & Deacon, S. H. (2017). Unexpected poor comprehenders: An investigation of multiple aspects of morphological awareness. *Journal of Research in Reading*, *40*(2), 125-138.

[4] Stahl, S.A. and Shiel, T.G., 1992. Teaching meaning vocabulary: Productive approaches for poor readers. *Reading and Writing Quarterly: Overcoming Learning Difficulties*, *8*(2), pp.223-241.

More generally think how synonyms can be used to promote understanding of words that are new to the learner – generating sets of synonyms can be very profitable as it can give a known synonym can act as a stepping stone to the new word's retention. This is because learners' semantic knowledge (prior knowledge of the world and the things in it) is tapped when providing synonyms. Similarly, providing at least one antonym can again provide an anchoring meaning by association. For example, knowing that 'happy' is an antonym for 'dejected' can help learners remember more nuanced information about the new word i.e. it does not just mean the opposite of happy (i.e. 'sad' or 'unhappy') but means 'dispirited', 'discouraged', 'despondent' etc.

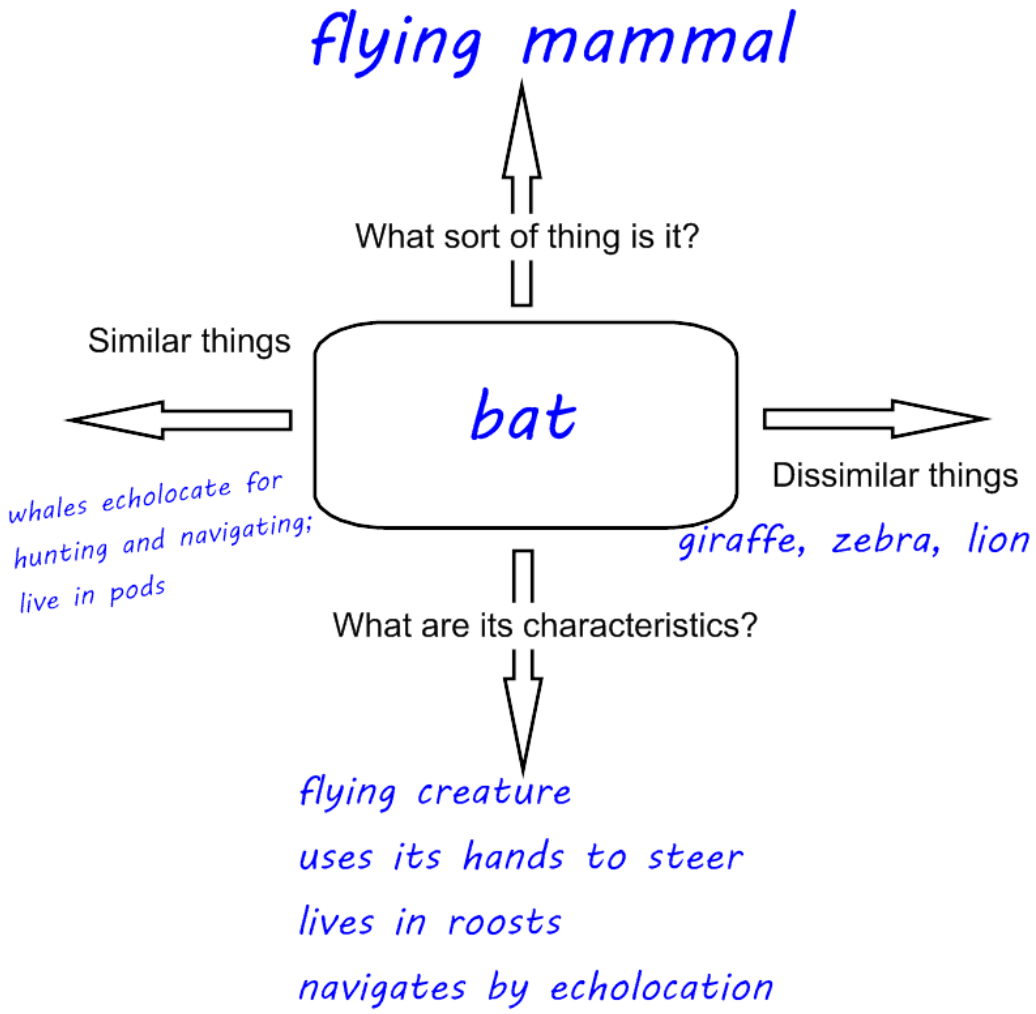

Figure 5

This sort of approach can be adapted for more technical terminology practice with words being deconstructed and analysed to engender deeper consideration of the word's meaning. The same approach can be used for words (see Figure 4) and for objects/things in the world (see Figure 5). Note how the word analysis version taps into synonym and antonym knowledge as well as word class and etymological knowledge. A blank card master is available in the Appendix of this document. This template could be enlarged for much more detailed work with adult learners on topic areas, key terminology, and also for group work.

Using Flash-cards with Cloze Sentences

Sets of Pelmanism cards[5] with self-check symbols to indicate pairs can be developed to practise key terms and their definition (Figure 6). The cards could also be used to fill gaps in cloze passages either directly or as aides memoire to meaning. (See Figure 7).

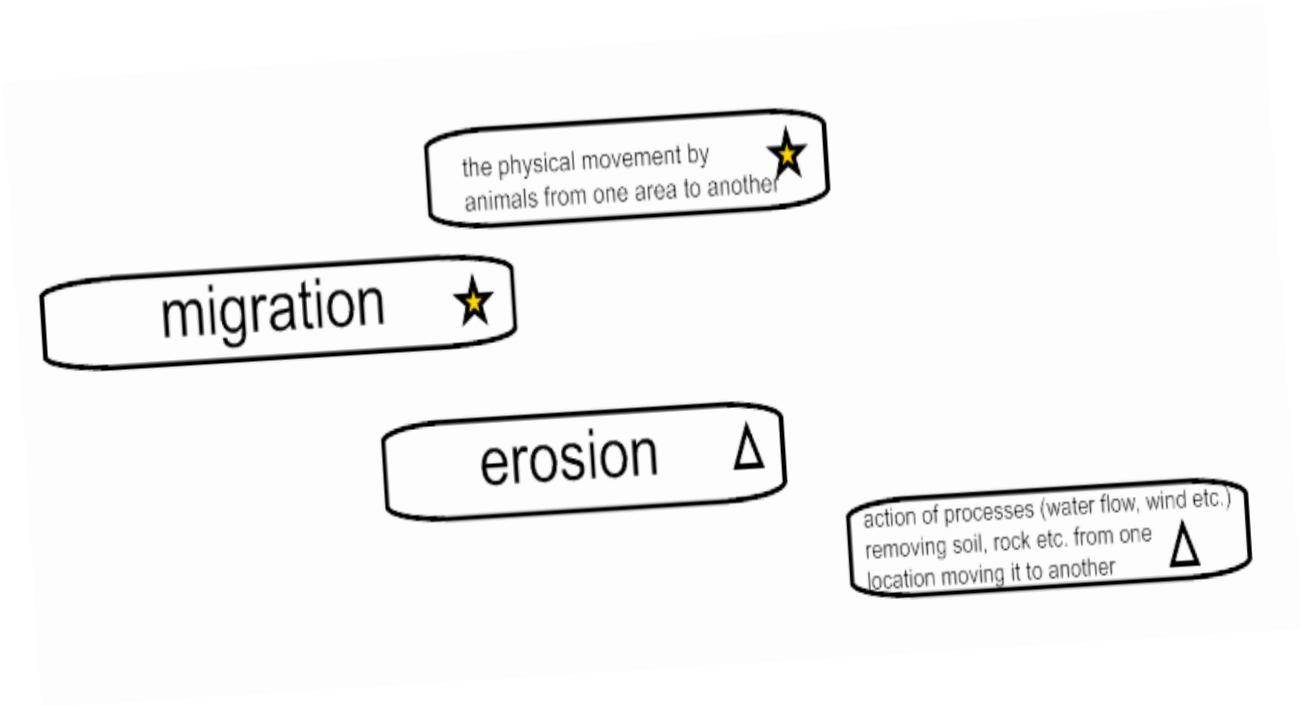

Figure 6

The sort of linked active method of terminology acquisition and practice shown in Figure 7, gives learners the opportunity to meet words in different ways that build towards expert use. Note that the cloze passages themselves can also have a self-check system built in – so a whole set of resources for new terminology could be produced that was entirely self-checking. The set would also provide a revision pack of key terminology that could be regularly revisited independently by the learner. This is seen as a method of learning new technical vocabulary in order to enhance the ability to taken in and remember complex text that features a high level of technical terms.

[5] A game based on finding pairs of cards that are linked in a particular way by remembering the position of cards when the cards facing upwards are blank.

This method looks at the words within different types of situations, including challenge games. This is likely to give a better chance of assimilation as engagement is more multi-faceted.

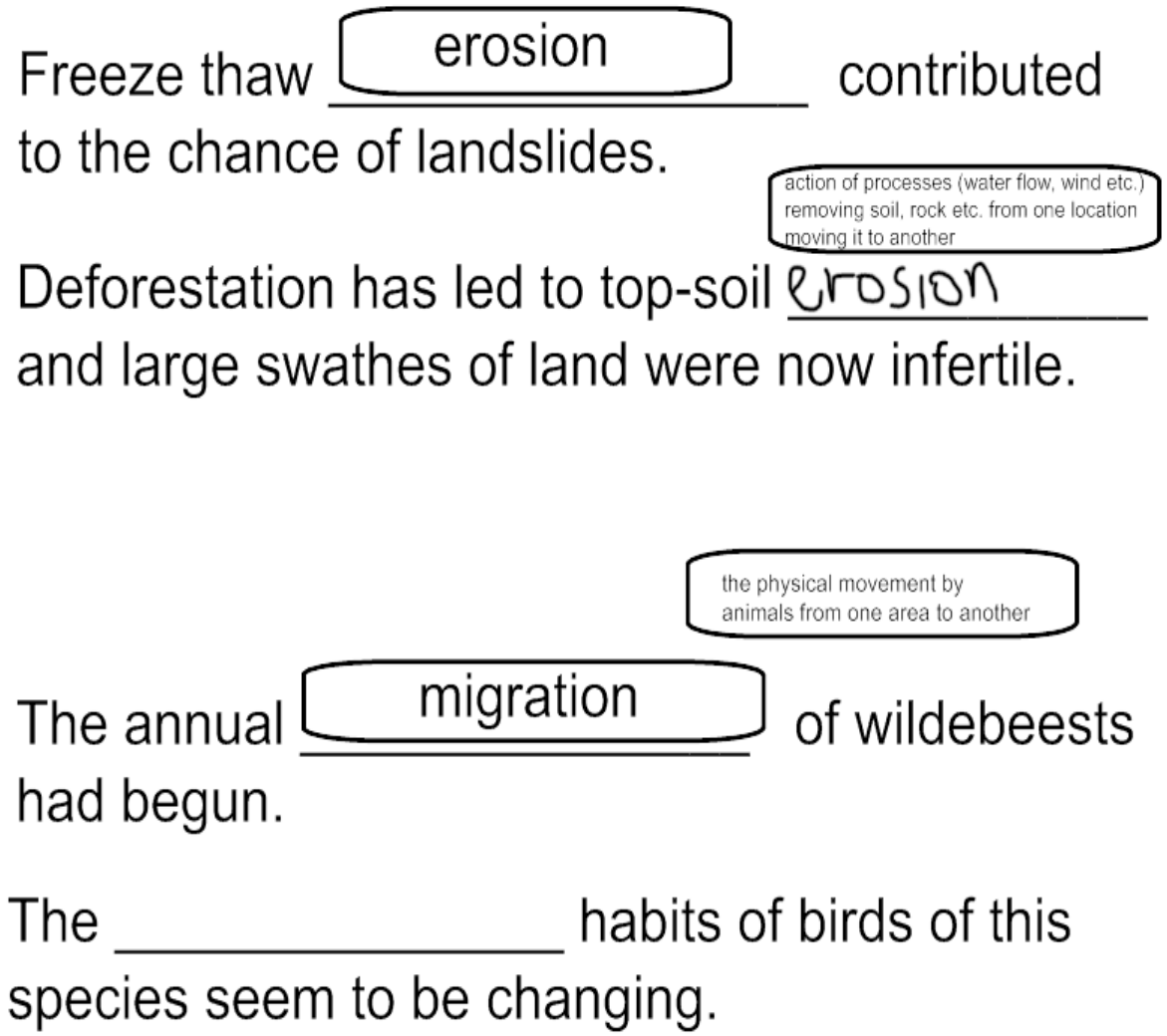

Figure 7

Summary

Explicit tuition that uses cards to capture and practise knowledge and refresh understanding can support a person to leap to the higher level of linguistic control that characterises academic discourse and workplace literacies too.

PART THREE: Formatting Text to Aid Accessibility

Standard Technology - Adjusting Documents

There are two basic ways to make the documents that you produce more accessible for reading, they are text modification and text structuring. We will look at these in turn.

Text Modification

Text modification changes the text by using the following features of word-processors in a structured way:

- Font Type
- Font Size
- Font Colour
- Screen Zoom
- Line Spacing
- Alignment

Some advice will tell you that there are "*Dos and Don'ts"* to make the text easy for readers with dyslexia, but it is worth considering these closely as readers tend to vary and what is frustrating or annoying to some will be helpful to others. Table 4 sets out some common advice and gives alternative viewpoints for you to consider.

Table 4

Advice often given about text formatting …	**But consider….**
Use Heading styles for titles of sections and sub-sections gives a visual structure for readers and is crucial if documents are to be navigable using text readers for example.	
Use List styles for bulleted and numbered lists to make documents converted into PDF accessible to text readers.	
Use a Sans Serif font like Arial or Tahoma and not Serif like Times New Roman	Readers do have personal preferences and fashions in fonts change in published materials. Several years ago, Times New Roman was the font most often recommended for use with readers with dyslexia. Fonts are worth exploring with each learner, to see if one works better than another for them.
Do not use a font pitch of less than 12 points.	Fonts can vary in size considerably i.e. 12 points in Arial is far bigger than in Calibri, for example. Some readers will find print that is too big unhelpful – so again this can be a matter of preference.
Increase line spacing to at least 1.15 lines and up to 1.5 lines.	Slightly increasing line-spacing is often helpful for learners; however, some might appreciate double-spacing.
Spell out contractions such as 'you're' in full ('you are').	

Minimise the use of acronyms (like 'UK') and abbreviations (such as 'abbr.') when practicable and always use the full form (with the reduced form in brackets) when first used.	This is good academic practice anyway in most cases; however, it can become cumbersome to avoid some in very common use.
Do not underline text.	Some learners will find underlined text uncomfortable to read or find it obscures the identity of the letters, but others may not be sensitive in this way.
Do not use capital letters for more than a single word or for abbreviations	Some learners will find extensive use of capital letters uncomfortable to read or find it obscures the identity of the letters, but others may not be sensitive in this way.
Avoid *italics*, use **bold** instead for emphasis.	This may be a personal preference, 'bold' print can be visually disturbing for some learners.
Do not justify text, keep it left-aligned (justification inserts inconsistent spaces between words).	Many learners are helped by having a 'ragged' right-edge to the text – it is often said to help with place-keeping as well. But again, you might find a few learners are not sensitive to this spacing format, or who even prefer it.

Structuring Documents to Make them More Accessible

Structuring documents consistently is essential. Unstructured documents contain long sections of text, which can be difficult for readers to process. Structured documents can be read section by section, controlling the flow of text that the reader has to deal with. This can help readers from feeling overwhelmed or flooded by text, allowing them to take in more about the topic under study in one session.

All documents that you create should make use of the structuring features within word-processors. These features enable easier comprehension of the content of the document and improve the navigation of the document for all readers. However, the structure imposed by the features is vital for people who make use of screen readers to access the meaning of print.

All word-processors have what are known as 'styles', which are templates for paragraph formatting. In Microsoft Word (MS Word) these are accessible through the Home tab. See Figure 8.

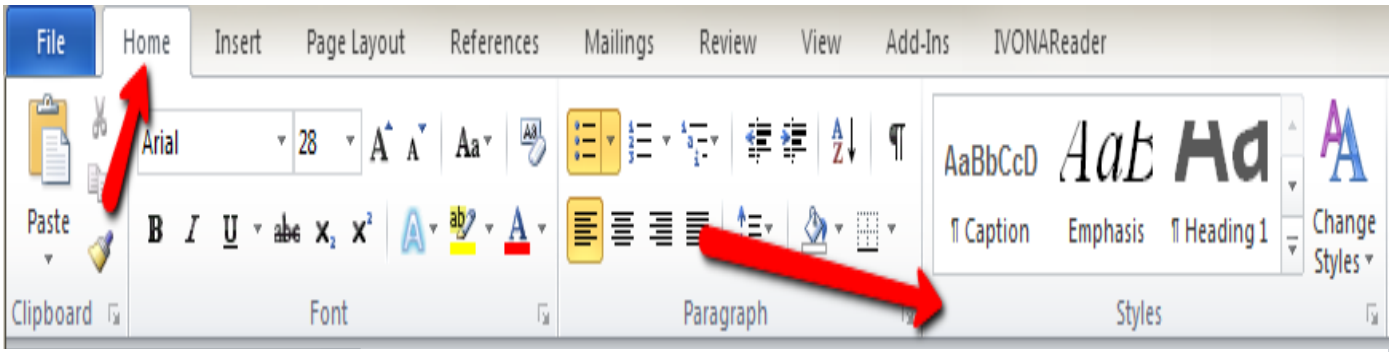

Figure 8

The 'styles' facility within word-processors enables you to give documents a predictable structure by using headings to indicate internal meaning-structure of the text. 'Heading 1' would be used for each of the main sections, with sub-sections indicated by the use of 'Heading 2', 'Heading 3' etc. as more sub-sections are added. Figure 9 shows a screenshot from MS Word, which can have up to nine different levels of heading.

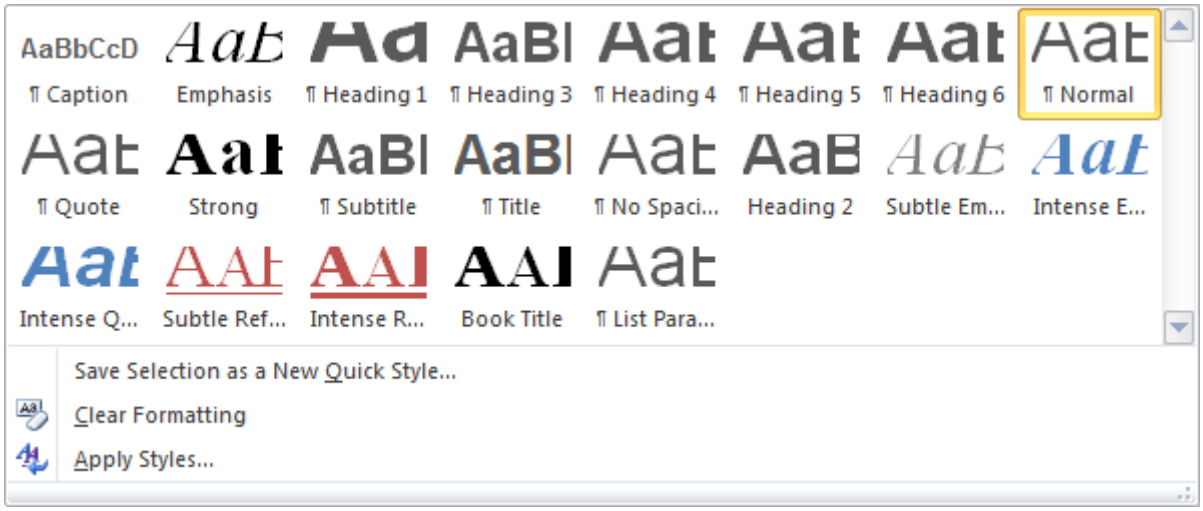

Figure 9

When a document contains this sort of careful structuring with headings, it is easy to browse the document using Navigation Pane or Document Map. Figure 10 demonstrates this.

This underpinning structure can then enable a Table of Contents to be automatically created.

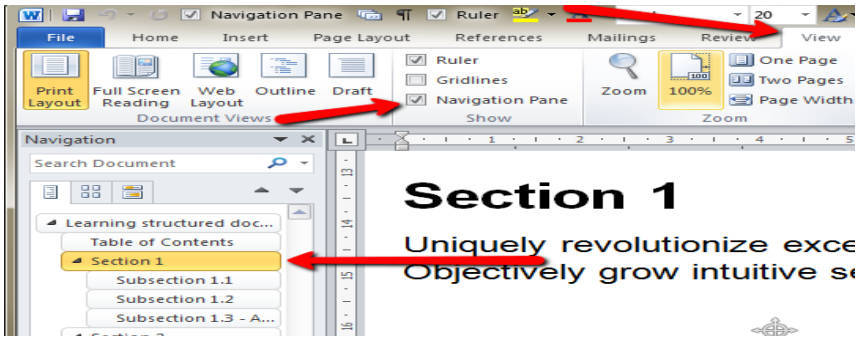

Figure 10

This is done by going to the References tab and choosing the Table of Contents option. See Figure 11.

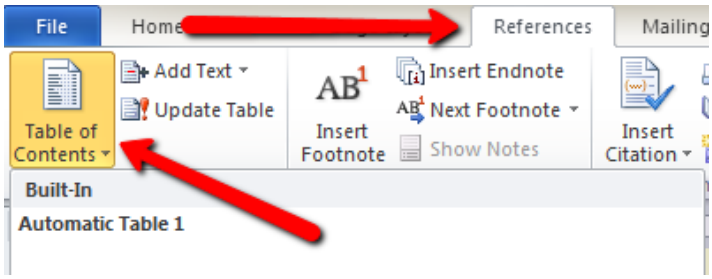

Figure 11

The font and text-formatting with the 'styles' facility can be modified to suit particular purposes or particular preferences. Figure 12 shows how this is done within MS Word.

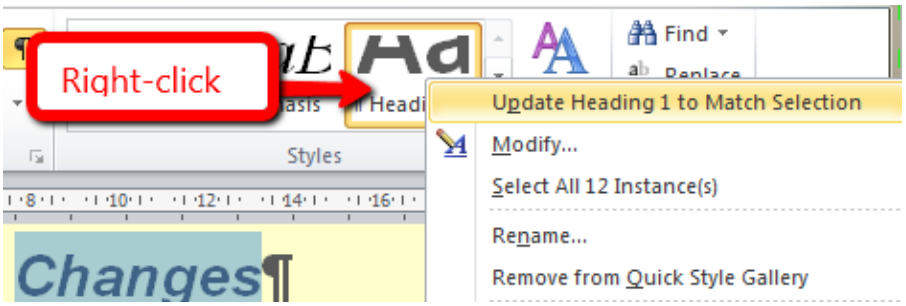

Figure 12

Summary

Using these sorts of word-processing features within the documents that you create provides an underlying structure that is incredibly useful to all learners, not just learners who have difficulty accessing print. The use of headings and sub-headings, if done effectively, gives readers the opportunity to scan and search documents in an enlightened way – helping them to structure their engagement with text in productive and beneficial ways.

APPENDIX