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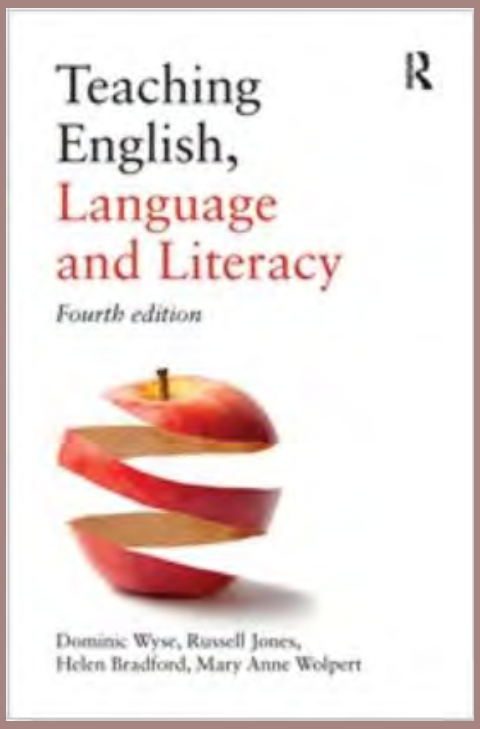

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Teaching English, Language and Literacy

Fourth edition

By Dominic Wyse, Russell Jones, Helen Bradford, Mary Anne Wolpert

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Chapter 4

The development of language

Theories and stages of language acquisition are addressed at the beginning of this chapter. We then explore how to maximise children's capacity to learn, achieve and participate through dialogic approaches to teaching. A brief account of educational policy for language in national, statutory government curricula is presented. The chapter reveals how understanding of the centrality of language to a child's development has grown over the last 30 years.

There are two important elements of language: communication and representation. Communication is the transmission of meanings, and we know that babies engage with communication from birth. But language is also a representational system that emerges with children's cognitive skills, enabling them to understand and organise the world. Language comprises different elements that are important for effective understanding and communication: phonology, vocabulary, grammar, and pragmatics are the four basic strands which mutually support and influence each other's development. To communicate effectively, children need to develop receptive language skills in order to become increasingly able to understand the language they hear. They also need to develop expressive language skills to convey their own thoughts, feelings and desires. Thus from a very early age children are learning through language, learning to use language and learning about language.

Nature versus nurture arguments are still a potent force in discussions about how child language develops. One of the most famous advocates of the idea that language development is innate was Noam Chomsky. In his early work, he hypothesised that children made use of a Language Acquisition Device (LAD). This device, he argued, is a special capacity of the brain that enables children to use the rules systems of their native language. Jerome Bruner countered that Chomsky's theory correctly identified this aspect of the child's capacity but that this was only part of the process of language acquisition:

> The infant's Language Acquisition Device could not function without the aid given by an adult who enters with him into a transactional format. That format, initially under the control of the adult, provides a Language Acquisition Support System (LASS). It frames or structures the input of language and interaction to the child's Language Acquisition Device in a manner to 'make the system function'. In a word, it is the interaction between the LAD and the LASS that makes it possible for the infant to enter the linguistic community – and, at the same time, the culture to which the language gives access.
>
> (Bruner, 1983: 19)

Messer (2006) shows the ways that such debates have continued to be an important part of thinking about children's language acquisition, while at the same time showing how theory has progressed. Messer cautions that there has been a welcome resurgence of interest in how adults speak to children and scepticism about all-encompassing grand theories such as Chomsky's LAD.

Chomsky's later work involved theories of minimalism. One of the important features of minimalist theory is the idea that many aspects of grammar are contained in the vocabulary of a language and its semantic information. Previous theories proposed that grammatical representations were independent of vocabulary. Minimalist ideas and other developments in the field have resulted in language-development theorists focusing on the way that the human brain operates more generally. Neuro-scientists have defined the brain's activity in terms of connectionist networks, neural networks or parallel distributed processes, which are different terms describing the same general phenomena. Connectionist networks have been explored by encouraging computers to learn grammatical features such as past tense. Computers have had success with both regular and irregular past tense forms. The point of such work is to research the extent to which language features are innate, hence not learnable by computers, or can be learned. Kuhl (2004) argues that infants use computational strategies to detect the statistical and prosodic patterns in language input which leads to the discovery of phonemes and words (see also the chapters on the development of reading and reading difficulties).

Language acquisition

Infants learn language with remarkable speed: by the age of five, provided they do not have language difficulties, all children have acquired the grammar for the main constructions of their native language (Peccei, 2006). This is true across all cultures and in all languages (Kuhl, 2004). The term 'acquired' in this context is important because linguists make a distinction between emergent language constructions and ones which are acquired fully.

The main stages of children's syntactic development begin with single words and then move on to two-word phrases. After this, children's syntax develops

rapidly and on many fronts. Negative sentences such as 'I am not walking' and the use of complex sentence types will be areas that develop during the nursery stage. The ability to ask questions is another aspect of syntax that develops at this time.

The word morphological comes from morpheme. A morpheme is the smallest unit of language that can change meaning. For example, if we take the singular 'apple' and turn it into the plural 'apples', then the letter 's' is a morpheme because it changes the meaning from singular to plural. Morphemes that can stand alone, such as 'apple', are called 'free' morphemes, and those which cannot, such as *-s* in apples, are called 'bound' morphemes. Children's development of morphological understanding can be seen in their capacity to invent words, such as 'carsiz' (cars).

Lexical ☞ development is concerned with the development of vocabulary and so is not something that has a particular end point because we continue to add vocabulary throughout our lives. One of the features of children's lexical development is over-extension. An example of this is where children call all meats 'chicken' because they are familiar with that word but not others, such as 'beef', 'pork', etc. Another feature of lexical development is learning about the way that the meanings of words relate to each other, something called 'sense relations'. Synonyms such as 'happy/joyful' and antonyms such as 'happy/sad' are part of this. This means that children can learn about vocabulary from words that they know without having to directly experience the concept of the word in question.

Phonological development ☞ has been much studied, partly because of its link with learning to read. As far as talk is concerned, there are some understandings and skills that have to be acquired before those which are beneficial for literacy. For example, the young child learns to control their vocal chords. The sound/airflow which passes from the vocal chords is obstructed in various ways in order to form sounds which eventually become words. The place of articulation involves use of the teeth, lips, tongue, mouth and glottis. The manner of articulation involves obstructing the airflow to varying degrees such as completely stopping it or allowing some to pass through the nose.

Table 4.1 is a summary of Peccei's (2006) introductory chapters on children's language development. It shows the typical ages when significant developmental milestones in the areas described above occur.

Adults model (in an unplanned way) the conventions of language, providing feedback on the effectiveness of a child's ability to communicate by responding to them. They scaffold the child's language learning and enable the child to test their current hypotheses about how language works. The ability of adults to take into account the limited abilities of the child and adjust their language accordingly (so that the child can make sense of them) is intuitive for most. To this end, one of the important ideas in relation to children's language acquisition was the concept of 'motherese', the impact, appropriateness and helpfulness of language interactions particularly between mothers and their children

Table 4.1 Summary of stages of children's language acquisition based on information from Peccei (2006)

Age	*Phonological development*	*Sense relations*	*Vocabulary*	*Morphological development*	*Syntactic development*	*Discourse development*
Birth to two months	Vowel-like sounds such as crying and grunting					
Two to four months	Cooing					
Four to six months	Vocal play including rudimentary syllables such as/da/or/goo/					
Six months	Babbling such as/ba/ba/ ba/ or /ga/ba/da/do					
One year	First meaningful words					
Nine months to one year three months						Prelinguistic directive such as speech sounds and pointing
One year and six months to one year and eight months			First 50 words acquired			
One year three months to two years						Telegraphic directives: e.g. 'that mine', 'gimme'

Two years	Average vocabulary = 200–300 words	Begin to put words together in sentences. Noun phrases with premodification of the noun: e.g. more biscuit. Pronouns appear: e.g. '*me* want that'	
Two years and three months	Past tense inflection appears		
Two years to two years four months			Limited routines: 'Where's my X?', 'What's that?'
Two years and six months	Starting to acquire rules for inflecting nouns and verbs: e.g. 'breaked it' or 'mouses'	Multiple premodification of nouns: e.g. that red ball	
Two years eight months		Compound sentences: e.g. 'The dog bit the cat and then he ran away'	

(*Continued overleaf*)

Table 4.1 (Continued)

Age	*Phonological development*	*Sense relations*	*Vocabulary*	*Morphological development*	*Syntactic development*	*Discourse development*
Two to three years		Refer to all members of category as the same: e.g. all flowers as flower				
Two years nine months						Greater precision of articulation in self-repairs, increased volume and use of contrastive stress: e.g. 'It was *on* the chair!' (not under it)
Three years					Post-modified phrases: e.g. 'the picture of Lego town'. Complex sentences	Can cope with non-situated discourse
Two years four months to three years eight months						Embedded requests: 'Can I have big boy shoes?'

Three years eight months to four years		Conversation consists largely of initiation/response (I/R) exchanges
Four years		Elaborate oblique strategies: 'We haven't had any sweets for a long time'
Four years to four years seven months		Acquisition of auxilliary verbs (might, may, could) and negation. Child's response itself increasingly becomes R/I
Four years seven months to four years ten months		Greater ability to encode justifications and causal relationships allows for longer exchanges
Four to five	Spontaneously use category names: e.g. rose or daisy	

(*Continued overleaf*)

Table 4.1 (Continued)

Age	*Phonological development*	*Sense relations*	*Vocabulary*	*Morphological development*	*Syntactic development*	*Discourse development*
Four years six months					Coordination with ellipsis: e.g. 'The dog bit the cat and ran away'	
Three years eight months to five years seven months						Advanced embedding: 'Don't forget to buy sweets'
Six years old			Average vocabulary understood = 14,000 words. Average spoken vocabulary = 6,000 words			

(see Tizard and Hughes, 1984). This is now called Child-directed Speech (CDS) in recognition of the fact that it is not just mothers who modify their speech when talking to young children. The notion of CDS has helped our understanding of the degree to which a rich language environment assists language development, which has been well documented within research. Two examples of relevant studies here are those of Tizard and Hughes (1984) and Wells (1986). Both demonstrate the influence of language experiences on a child's ability to use language and communicate effectively. Wells' study, for example, found a correlation between the amount of conversation experienced with parents and other members of their family circle and children's rates of progress in language learning. Peccei (2006) points out that there is no clear evidence that CDS should be seen particularly as a teaching tool. She accurately observes that CDS is probably just a natural response to the fact that young children use talk which is semantically and syntactically simple; therefore if adults are to communicate effectively with them, they need to use a similar kind of language. This perhaps suggests that natural forms of communication between adults and children, commensurate with the child's language at different stages, are beneficial.

Language and the bilingual child

Kuhl (2004) argues that young children usually learn their mother tongue rapidly and effortlessly, following the same developmental path regardless of culture. Bilingual children are hearing two languages – or two distinct systems – which they have to internalise and respond to. At an early age, neither language is likely to interfere with the other so young children can learn two languages easily. Reese *et al.*'s (2000) research showed that bilingual pupils' success in learning to read in English does not rest exclusively on primary language input and development. The most significant finding was that parents' engagement with reading using the second language is beneficial both for their children's reading in the first language and their education more generally. Time spent on literacy activity in a child's native language – whether at home or at school – is therefore not time lost with respect to English reading acquisition.

The social and cultural aspects of language development are important as children learn, through talk, to place themselves within a specific social context; in this way, the development of language and identity are closely linked. The quality of social experience and interaction will vary greatly between children, and, during the early years, teachers need to be aware that some children will arrive at school appearing to be confident, articulate users of the English language, whereas others seem less comfortable language users. However, teachers should beware deficit models and remember that it is too easy to label a child's spoken language as 'poor', or even to say that they have 'no language', without sufficient thought. To illustrate some of the issues with labelling, Bearne analysed a transcription of a discussion including Sonnyboy, a six-year-old boy

from a Traveller community, demonstrating his ability to 'translate' language for other children:

Emily: I loves them little things.
Sonnyboy: Yeah . . . I loves the little sand things – that tiny wee spade . . . And this little bucket . . .
Teacher: Do you think it would be a good idea to ask Cathy to get some? *(Cathy runs a playgroup for the Traveller children on their site).*
Emily: What for?
Teacher: So that you'd have some at home.
Sonnyboy: And who'd pay for them? Would Cathy pay?
Teacher: No, it would be part of the kit.
Emily: I don't know what you mean. Kit – who's Kit? Me Da's called Kit – would me Da have to pay?
Sonnyboy: Not your Da – it's not that sort of kit, Emily. It's the sort a box with thing in it that you play with . . . like toys and things for the little ones.

(Bearne, 1998: 154)

It is important then that teachers understand about language diversity and the ways in which judgements are made about speakers in the classroom. From this perspective, it is equally important that teachers recognise their own histories and status as language users, and resist the temptation to impose their own social criteria on the child's ongoing language development. As Bearne goes on to point out:

> Language diversity is . . . deeply involved with social and cultural judgements about what is valuable or worthy . . . Judgements are often made about intelligence, social status, trustworthiness and potential for future employment on the basis of how people speak – not the content of what they say, but their pronunciation, choice of vocabulary and tone of voice. Such attitudes can have an impact on later learning.
>
> (ibid.: 155)

The following ideas can help to support bilingual children in the mainstream classroom:

- Encourage pupils' use of their first language in the classroom. If your knowledge of the language is poor, learn simple key phrases such as 'hello' and 'goodbye', 'please' and 'thank you'.
- Create a focus for speaking and listening activities.
- Include the child in activities and lessons right from the start; build bilingual learners' needs into the overall language and literacy objectives for the whole class.

- Integrate language learning within the lesson content of subjects other than literacy.
- Model speaking the English language. It is worth noting that some monolingual learners may also benefit from this strategy.
- Consider the use of visual aids such as pictures, photographs and real objects to support language learning.
- Involve parents in their children's learning if you can.

Chapter 26 talks in greater detail about supporting the language development of bilingual children.

Dialogic teaching

Classroom dialogue contributes to children's intellectual development and their educational attainment (Mercer and Littleton, 2007). Research has further shown that both interaction with adults and collaboration with peers can provide opportunities for children's learning and for their cognitive development (Alexander, 2000, 2004). Barnes (1971) found that language is a major means of learning and that pupils' uses of language for learning are strongly influenced by the teacher's language, which prescribes them their roles as learners. Barnes suggested that pupils have the potential to learn not only by listening passively to the teacher, but by verbalising, by talking, by discussing and arguing. Mercer and Hodgkinson (2008) built on the work of Douglas Barnes to further explore the centrality of dialogue in the learning process.

Alexander (2004: 48) argues that 'talk in learning is not a one-way linear communication but a reciprocal process in which ideas are bounced back and forth and on that basis take children's learning forward'. During dialogue, participant children (and their teachers) are equal partners striving to reach an agreed outcome and trying out and developing what Mercer (2000) has described as the joint construction of knowledge or 'interthinking'. Interthinking can be achieved through dialogue with pupils, but pupils can interthink with each other in a process of joint enquiry. Dialogic approaches to teaching are therefore based on two main premises: 1) children as active participants in learning; 2) children using language to learn.

Whole-class interactive teaching has been shown to increase pupil achievement (Alexander, 2000). The key word here is 'interactive', where pupils are allowed time for talk within a framework of effective direct teaching approaches. In order to be effective at direct teaching, teachers need to understand the complexities. Direct teaching does not mean simply one-way lecturing or 'traditional' teaching: it is interactive, it can occur between pupils and the teacher and/or between pupils and pupils, and it can involve several elements:

- clear, sequenced, structured presentations;
- effective pacing and timing;

- effective demonstrations and modelling of a particular skill or procedure;
- effective interactive structured questioning and discussion;
- relaying information that pupils do not know;
- introducing and modelling technical language/key vocabulary;
- relating to and building upon existing knowledge or understanding (for example refreshing pupils' memories of previous work);
- clarifying a sequence of cognitive or practical steps appropriate to learners;
- paired discussion work between pupils;
- pupil response and feedback;
- effective summarising;
- effective consolidation.

Whole-class interactive teaching also requires skilful questioning, and the kinds of questions that are asked to check understanding. The teacher might ask for examples, pursue an issue in greater depth with a particular pupil or check understanding of a process as well as the product or the single right answer. Underlying whole-class interactive teaching enables the teacher to have more communicative contact with pupils, which is itself a critical factor in effective learning.

Questioning is a powerful tool for teaching because it allows for supporting, enhancing, and extending children's learning. There are essentially two types of questions that teachers can use to elicit children's understanding: lower-order and higher-order questions. Lower-order questions are sometimes called 'closed' or 'literal' questions. They do not go beyond simple recall and children's answers are either 'right' or 'wrong'. Higher-order questions require children to apply, reorganise, extend, evaluate and analyse information in some way. Both types of question have their place within an effective pedagogy; the type of question asked and the form in which it is posed will vary in relation to its purpose.

In addition, questions need to be formulated to match children's learning needs. It is possible to differentiate questions for different abilities and different children. Different questioning *techniques* can be used in order to support children's learning more thoroughly, such as prompting, probing and redirecting. Prompting may be necessary to elicit an initial answer to support a child in correcting his or her response, for example simplifying the framing of the question, taking them back to known material, giving hints or clues, accepting what is right and prompting for a more complete answer. Probing questions are designed to help children give fuller answers, to clarify their thinking, to take their thinking further, or to direct problem-solving activities, for example, 'Could you give us an example?'. Questions can also be redirected to other children, for example, 'Can anyone else help?'.

In dialogic talk, the questions asked by children are as important as the questions asked by the teacher, as are the answers given. The teacher is not using questions solely for the purpose of testing pupils' knowledge, but also to enable

them to reflect, develop and extend their thinking. Wragg and Brown (2001) suggest several types of response that can be made to pupils' answers and comments. Teachers can:

- ignore the response, moving on to another pupil, topic or question;
- acknowledge the response, building it into the subsequent discussion;
- repeat the response verbatim to reinforce the point or to bring it to the attention of those that might not have heard it;
- repeat part of the response, to emphasise a particular element of it;
- paraphrase the response for clarity and emphasis, and so that it can be built into the ongoing and subsequent discussion;
- praise the response (either directly or by implication in extending and building on it for the subsequent part of the discussion);
- correct the response;
- prompt the pupils for further information or clarification;
- probe the pupils to develop relevant points.

These features indicate the type of response that can be made to pupils' utterances. It is easy for the teacher to miss important clues to children's understanding when they are too concerned with leading children towards a predetermined answer, so it is important to give children time to respond and, wherever possible, build further questions from their contributions. There are other matters to consider, for example allowing thinking time (particularly for complex responses); affording pupils the opportunity to correct, clarify and crystallise their responses once uttered, i.e. not 'jumping onto' a response before a pupil has had time to finish it; building a pupil's contribution into the teacher's own plans for the sequence of the discussion; and using a pupil's contribution to introduce another question to be put to another pupil. Galton and Hargreaves (2002) found that on average a classroom teacher waits only two seconds before either repeating a question, rephrasing, it, directing it to another child or extending it themselves. Their research showed that increasing wait time from just three to seven seconds results in an increase in the following:

1 the length of pupil responses;
2 the number of unsolicited responses;
3 the frequency of pupil questions;
4 the number of responses from less capable children;
5 pupil-to-pupil interactions;
6 the incidence of speculative responses.

Additionally, it is important to think about pace in relation to purpose – a series of closed questions may be appropriate, but at other times we want pupils to give more thoughtful and considered responses. To summarise: discovering what pupils know and what their misconceptions are requires

good communication skills, language skills and empathy. Unlike questions from teachers which elicit only brief responses from pupils, we can see that dialogic talk is a type of interaction where teachers and pupils make substantial and significant contributions.

Exploratory talk

Barnes (1976) and Mercer (2000) argue that exploratory talk is the kind of talk that teachers should aim to develop. When children engage in exploratory talk, they are almost certain to be working in a small group with their peers. They will be sharing a problem and constructing meaning together; exchanging ideas and opinions, considering and evaluating each other's ideas, building up shared knowledge and understanding. In other words, children are thinking together and we can hear them thinking aloud, hypothesising and speculating. Children might use words and phrases such as 'perhaps', 'if', 'might' and 'probably'; they give reasons to support their ideas using words such as 'because', and seek support from the group. In this kind of scenario, children are listening to each other and considering their response. When children are working in this way, their reasoning becomes apparent through their talk. However, this kind of talk does not come naturally to them: they need to be guided by their teachers to understand the value of collaborative talk.

Collaborative learning in group work occurs when knowledge and understanding is developed through pupils talking and working together relatively autonomously (Blatchford *et al.*, 2003, Mercer and Littleton, 2007). Mercer and Littleton (2007) define children as being engaged in collaborative learning 'when they are engaged in a coordinated, continuing attempt to solve a problem or in some way construct common knowledge'. The role of talk and knowledge and understanding of speaking and listening skills is therefore crucial to this process.

For successful classroom interaction to occur, a collaborative climate must be established where children feel part of a learning community in which problems are solved and understandings are developed through collective cognitive action; simply grouping children and asking them to talk together will not necessarily help them to develop talking skills. Children need to understand what is meant by 'discussion', and have the skills to engage one another in speaking and listening in order to gain value from the talk activity. Children need to be taught how to talk to one another; they have to understand and share the aims for their talk. They need to recognise that if all the group can agree on a set of rules, 'ground rules for talk', then talk can proceed in a way which will make the whole group more likely to achieve success and develop new ways of thinking. These are some of the ground rules for exploratory talk:

- Everyone in the group must be encouraged to contribute.
- Contributions must be treated with respect.

- Reasons are asked for.
- Everyone must be prepared to accept challenges and justify responses.
- All relevant information should be shared and alternative outcomes need to be discussed before a group decision is taken.

The teacher should encourage the children to talk about and develop their own list of 'ground rules for talk', written in their own words. This can be placed on the wall or printed out as a reminder for small groups when they are working on their own. In order to assess the quality of group interaction, the teacher must be clear about the objectives for the task.

Speaking and listening in policy and practice

Prior to the 1960s, the idea that talk should be an important part of the English curriculum would have been greeted with some scepticism. However, educational researchers became increasingly interested in the idea that learning could be enhanced by careful consideration of the role of talk. Andrew Wilkinson's work resulted in him coining the new word 'oracy' as a measure of how important he thought talk was, a fact confirmed by the *Oxford English Dictionary* which lists Wilkinson's text historically as the first time the word was used in print:

> **1965** A. WILKINSON *Spoken Eng.* 14 The term we suggest for general ability in the oral skills is *oracy*; one who has those skills is *orate*, one without them *inorate*.

The coining of a new word is perhaps the most fitting sign of Wilkinson's legacy. The work of Wilkinson and other educationists resulted in speaking and listening becoming part of the National Curriculum programmes of study for the subject English and since the 1980s, the recognition of oracy as part of the early years and primary curriculum has been growing. Recent reviews of curricula in England further support a central emphasis on oracy. The *Cambridge Primary Review* concluded that oracy must have its proper place in the language curriculum. Indeed, spoken language is central to learning, culture and life, and is much more prominent in the curricula of other countries (Alexander, 2010). In addition, an increased understanding and focus on the importance of supporting children to develop early language skills has emerged (Sylva *et al.*, 2010). This recent work suggests, amongst other key findings, the importance of what happens in relation to a child's language experiences (both at home and in early years settings) during their formative years in relation to later educational outcomes.

Whilst few would now argue that speaking and listening is not an important feature of early years and primary teaching and learning, there are still a number of questions that need to be asked. One of the key questions concerns the

balance between speaking and listening, reading, and writing. To answer this question, there is a need to separate the curriculum content to be covered from considerations of teaching style. It seems to us that most of the debates about oracy and the recent considerations of talk in teaching and learning may have more to do with teaching style than a careful consideration of programmes of study. If national curricula are present, as they are in many countries, then it is appropriate that they should specify the content of the curriculum. This can apply to communication and language/speaking and listening just as it can apply to reading and writing and other subjects in the curriculum. However, there is a need for clear thinking about what this content should be. We would argue that if teachers' practice more routinely encouraged elements such as exploratory talk and dialogic teaching (Mercer, 2000; Alexander, 2006; Mercer and Hodgkinson, 2008), then it may be appropriate to reduce the overall content of the programmes of study for speaking and listening. This would require renewed thinking about what the content should be and might lead to more of a focus on some of the kinds of language exploration quite rightly advocated by the Language in the National Curriculum (LINC) project of the 1980s. Following this line of thinking, an increased understanding of how language is acquired and the importance of developing a speaking and listening pedagogy would give teachers a set of tools with which to support children's language skills and the confidence to interpret curriculum content creatively.

The National Curriculum in England divided the subject of English into Speaking and listening, Reading, and Writing. Four main areas of speaking and listening were addressed: children should learn how to speak fluently and confidently; listen carefully and with due respect for others; become effective members of a collaborative group; and participate in a range of drama activities. There was further emphasis on the importance of using spoken Standard English (→ Chapter 5) and some thought given to language variation. However, the emphasis of language variation lay more on the functional linguistic emphasis of language in different contexts than learning centred on topics such as accent and dialect, language and identity, language and culture, etc.

In 2003, the Qualifications and Curriculum Authority (QCA) published a resource called *Speaking, Listening, Learning: Working with Children in Key Stages 1 and 2*. The pack was designed to support the teaching of speaking and listening in primary schools and consisted of a set of materials reflecting National Curriculum requirements in English. There were several premises supported by research cited in this chapter upon which these materials were built, the first of which emphasised the fact that children need to be taught speaking and listening skills, and acknowledged that those skills develop over time and as children mature. It put forward an argument as to why speaking and listening is so important, linking it with children's personal and social development. The materials described the value of talk in helping children to organise their thoughts and ideas, pointing out that speaking and listening

should not be seen as part of English as a subject alone, but as extending to all curriculum areas, acknowledging that different types of talk will be appropriate in different subject areas. The interdependency of speaking and listening, reading and writing was discussed and finally, approaches to assessment. Assessment of talk is looked at in detail in Chapter 8.

Language in the early years

England's Early Years Foundation Stage (EYFS) put the development and use of communication and language at the heart of young children's learning. It targeted the importance of supporting children to become skilful communicators from an early age, arguing that learning to speak and listen begins from birth, emerging out of non-verbal language. The premise behind this approach is the recognition of the importance of the development of speaking and listening skills which, as they become more refined, provide children with key skills with which they can build the foundations for reading and writing. This is an ongoing process which moves through several stages, beginning with early reading skills and mark-making and ending with the ability to read and write conventionally. The ability to communicate verbally is therefore seen as a very important element in a child's overall progress.

Practitioners who understand the ongoing development of communication and language are better placed to create a language-rich environment in which talk has high status. In the early years setting, children do the following:

- Develop their knowledge and understanding about how language works.
- Develop an increasingly broader range and variety of vocabulary to use.
- Develop awareness of their audience – the people they are speaking to (there is some evidence to suggest that by the age of four, children have learned to adjust their speech according to different audiences).
- Think about the appropriate language to use according to the circumstances of the situation.
- Learn to speak coherently and with clarity to make themselves understood.
- Learn to speak with confidence.

As children develop their language, they build the foundations for literacy, for making sense of visual and verbal signs and ultimately for reading and writing. Children need varied opportunities to interact with others and to use a wide variety of resources for expressing their understanding, including mark-making, drawing, modelling, reading and writing.

Purposeful situations must be planned in order for children to practise their language skills and become aware of what is appropriate or suitable for a specific context. Children need to learn to take turns, negotiate, share resources, listen to and appreciate another person's point of view and function in a small group

situation. Opportunities for purposeful language situations are many: in role-play areas, for example, or round a talk table. Collaborative interaction can be encouraged round the water and sand trays. If there are two chairs by the computer, one child can discuss with another the applications they are using and children can also learn to wait for their turn (the use of an egg timer to make the waiting time fair can help). The practitioner can skilfully draw children into various activities and discussions in the setting, both indoors and outdoors.

Children need to know that the setting is a place where emotions can be expressed but that there may be undesirable consequences for expressing emotions in particular ways. Being able to manage some of these emotions through talk is the challenge both for the individual child and the practitioner. For example, young children experience an intense sense of injustice if they feel they have been wronged. Consider the scenario where one child hits another who immediately responds by hitting back. The practitioner should aim to support the child to use language as a tool for thinking by, for example, prompting the child who was hit to think about these kinds of questions: Why did they hit me? Did I do anything to provoke or upset them? Why am I upset? How should I respond to being hit? What should I do if this happens again? A strong early years setting will provide guidelines for children to follow or appropriate support systems if they find themselves in this kind of situation.

Non-verbal language such as facial expressions, effective eye contact, posture, gesture and interpersonal distance or space is usually interpreted by others as a reliable reflection of how we are feeling (Nowicki and Duke, 2000). Mehrabian (1971) devised a series of experiments dealing with the communication of feelings and attitudes, such as like–dislike. The experiments were designed to compare the influence of verbal and non-verbal cues in face-to-face interactions, leading Mehrabian to conclude that there are three elements in any face-to-face communication: visual clues, tone of voice and actual words. Through Mehrabian's experiments it was found that 55 per cent of the emotional meaning of a message is expressed through visual clues, 38 per cent through tone of voice and only 7 per cent from actual words. For communication to be effective and meaningful, these three parts of the message must support each other in meaning; ambiguity occurs when the words spoken are inconsistent with, say, the tone of voice or body language of the speaker.

Young children are naturally physically expressive, such as when they are tired, upset or happy, yet they do not always understand straightaway the full meaning another child is conveying. In a situation of conflict, for example, it can be useful when practitioners point out the expression on a 'wronged' child's face to highlight the consequences of someone else's actions. Conversely, if a child is kind to another child and that child stops crying or starts to smile, then this too can be highlighted.

Similarly, the practitioner needs to be aware of the messages they are sending out to a child via their use of non-verbal language. It is important to remember

that whenever we are around others, we are communicating non-verbally, intentionally or not, and children need to feel comfortable in the presence of the adults around them. According to Chaplain (2003: 69), 'children are able to interpret the meaningfulness of posture from an early age'. Even locations and positions when talking can be important. For example, it is beneficial when speaking with a young child to converse at their physical level, sitting, kneeling or dropping down on one's haunches alongside them. This creates a respectful and friendly demeanour and communicates genuine interest in the child and what they are doing.

Practice points

- Talk with children so that they feel that you respect them, are interested in them and value their ideas.
- Give children your full attention as you talk with them; use direct eye contact to show that you are really listening.
- Find ways of encouraging children to talk in a range of contexts.
- Using specific positive praise such as 'I really liked the way that you waited patiently for your turn on the computer'.
- Smile!

Glossary

Lexical – relates to the words or vocabulary of a language, i.e. the lexicon.
Phonological development – development of understanding of sounds (phonemes) and ability to use phonemes as part of speech or recognise them when reading.

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While this is not a book purely about speaking and listening, it contains wonderful examples of children's talk (often with teachers) and provides keen insight into the way in which this talk is related to reading and writing development.
L2 **

Mercer, N., and Hodgkinson, S. (2008) *Exploring talk in school*. London: Sage.
In addition to the valuable advice in this book, a website developed from Neil Mercer's research can be found at: http://thinkingtogether.educ.cam.ac.uk/. The website looks at research in the area of talk and provides some downloadable materials for teachers, with links to book, research projects and other websites.
L1 **

Norman, K. (ed.) (1992) *Thinking Voices: The Work of the National Oracy Project*. London: Hodder & Stoughton.
A collection of voices which includes children, teachers, project coordinators, LEA advisers, academics and researchers, combining to present a readable and comprehensive introduction to speaking and listening issues.
L2 **

Qualification and Curriculum Authority (QCA) (2003) *New Perspectives on Spoken English in the Classroom*. London: QCA Publications.
There is a series of excellent contributions to this publication which summarise various kinds of work on speaking and listening.
L3 **

CHAPTER

2

Digital Online Approaches to Language Teacher Education

This chapter is excerpted from

The Routledge Handbook of English Language Teacher Education

First edition

Edited by Steve Walsh & Steve Mann

Learn more

8

Digital and online approaches to language teacher education

Thom Kiddle and Tony Prince

Introduction

Digital technology has a long history in language learning and teaching, and in language teacher education. In this chapter we address the challenges and opportunities that digital technology presents to teacher educators, exploring options available through online and blended provision, outlining decisions taken by providers to meet these challenges. After providing a brief historical perspective, we will consider variables such as time and timing; interaction; design and structure; pathways, platforms and tools; and assessment in evaluating providers' approaches to language teacher training and development.

From distance to online: a brief historical overview

We can trace the roots of much current practice in online and blended educational models to such early innovators as the Programmed Logic for Automated Teaching Operations at the University of Illinois, launched in 1960, with its forums, instant messaging, chatrooms, remote screen-sharing and online assessment (Wooley, 1994). The line continues through the Open University's move away from correspondence courses towards online courses in the late 80s and early forays by other universities into online Masters programmes. This includes teacher training providers reaching larger international teaching communities and individuals with online teaching qualifications, such as the Distance Delta from International House London. Organisations such as The Consultants-E, with fully online teacher training programmes launched in the early 2000s, moved the concept forward, and the rise in the mid-2000s of online teacher training websites and platforms (see, for example, Teacher Training Videos, and LessonStream) brought individual providers into the mix. The introduction of Massive Open Online Courses through pioneers at the University of Manitoba, and the famous 'Introduction to Artificial Intelligence' from Sebastian Thrun and Peter Norvig at Stanford (Ng & Widdon, 2014), led to rapid interest and growth and new players such as the OU's own FutureLearn, EdX, and Coursera, and MOOCs for language teachers and learners developed by Cambridge English and British Council among others. The launch of the Association for Quality Education and Training Online (AQUEDUTO) in 2014, the first quality assurance organisation specifically focused on

the provision of online language teacher education further signalled the importance of online and blended delivery's presence, and its potential in the field with which this handbook concerns itself.

Alongside the omnipresence of digital technology in twenty-first-century life, there are specific pressures and opportunities which have led to online and blended approaches to language teacher education – in some cases to supplement, and in others to replace – traditional face-to-face classroom-based teacher training and teacher development activities.

One of these pressures has its roots in the wider educational context. Given that the international education community has pledged to achieve universal education by 2030 (which UNESCO estimates will involve recruiting 68.8 million teachers), it will be difficult to deliver the required number of teacher education programmes relying solely on traditional approaches.

Other relevant factors behind the drive for expanded provision include:

- The calls for reform prompted by international education comparisons such as the Programme for International Student Assessment (PISA) and the Trends in International Maths and Science Study (TIMMS);
- The changes in views of effective learning and teaching prompted by evidence based research (e.g. Yates & Hattie, 2013; Marzano et al., 2001);
- The development of educational tools (e.g. CAMTASIA, PowerPoint) or platforms (e.g. Blackboard, Moodle, Edmodo), and platforms co-opted for educational use (e.g. Facebook, SecondLife, Twitter).

Looking directly at language teacher education, we should add related factors such as:

- The rise in English as a Medium of Instruction in universities worldwide, bilingual schools curricula, and early-start English initiatives coupled with national bilingual and plurilingual policy drives;
- Frameworks in language teacher education such as those from Eaquals, the British Council and Cambridge University Press, which have heightened awareness of developmental pathways within a language teaching career;
- Interest in online and blended learning of languages (for example, Flipped Classroom models which move 'language input presentations' and controlled practice onto a pre-lesson, online, self-access platform).

Each of these exerts different forces on governments, education bodies, and institutions, such that they are not just concerned about training new teachers but retraining and developing existing ones. However, in many of these contexts, resources for teacher training are scarce. The capacity of these organisations to provide the specific focus, quality, breadth and depth of training needed is limited by cost, time, access to trainers and materials, among other factors.

Having outlined the demands driving alternative models of teacher education, we move on to look at a range of specific decisions facing teacher education providers, and how digital and online responses complement or contrast with face-to-face models.

Time and timing

The first factor is the staging of input and interaction within the training approach. From pre-service through to PGCEs and degrees programmes, input and interaction tend to be timetabled and fixed. It is a similar story with in-service face-to-face teacher development – from

INSETT sessions through to Diplomas and Masters-level qualifications. Online and blended delivery models upend this rigidity, making input available not only on demand, but also available to be revisited, reviewed and recycled. For a related discussion, see the options outlined by Dudeney et al. (2013: 317–327) on integrating digital activities into the curriculum. Likewise, interaction patterns between peers take on a new character in the online space, with synchronous and asynchronous collaboration a core principle in online teacher education course design.

Second, we must consider reflection and response time. Face-to-face models typically base response to input within a timetabled session. Online and blended models allow for consideration of input and contextualised reflection (often based on implementation or experimentation). Participants can carefully construct responses often with the benefit of further reading and research. See, for example, the reflections on E-portfolio based learning from Hughes (in Sharpe et al., 2010: 199–211). This latter point we consider particularly important for the lower-language-proficiency teacher, who, when studying in the online context, has the time to formulate and proof their contributions.

A third consideration is time management. This is perhaps a blessing and a curse for the online and blended context. In our experience, an online/blended can offer significant benefits in terms of making studies fit around other professional and personal demands. However, the teacher educator must be aware that for those who struggle with time-management or are less committed, the online mode can provide the opportunity to 'disappear', thus creating more work for the trainer to chase and chivvy through messaging or mailing. Another commonly-heard complaint from participants in online teacher education programmes is 'It took longer than you said it would!', and this reflects the fact that by their very nature, web-based activities can lead to deeper and deeper expeditions 'down the rabbit hole' (see the recommendations from Salmon (2004: 210)).

Interaction

Interaction among peers and the tutor(s) in a teacher education context is an area in which the affordances of digital technology have added numerous options. Other chapters in this handbook discuss interaction in a face-to-face setting, and so we would like to focus on the flexibility which the online space offers.

The primary area of flexibility lies in multi-modality; in the choice afforded by interacting through voice, video, text, and image, and the consequent opportunities for personalisation and contextualised appropriacy. Tools such as the Talkpoint activity (see below), allow participants to respond to content through webcam, microphone or text. In contexts such as the Middle East, this can be significant in terms of allowing culturally/contextually appropriate interaction with course colleagues and tutors.

The area of contextualisation is also crucial here. For online and blended programmes where participants are contributing from their own professional context (rather than travelling to attend an intensive training/development event), the sharing of one's own situational reality, whether through video of the setting, images of teaching spaces, or voices from colleagues at one's own institution, adds a dimension often unattainable in a face-to-face setting.

Examples below demonstrate the further possibilities of a mix between synchronous and asynchronous interaction, but suffice to say here that the balance of live interaction with colleagues and tutors combined with considered, cumulative contributions across time, what Hockly and Clandfield (2010: 27–30) call 'liveware', is a valuable addition to all online teacher education programmes we have seen.

Design and structure

It is our contention that the online space has (r)evolutionised the design principles inherent in a previously linear approach, and allowed for participant-led navigation across content. The challenge lies with the provider to ensure that the varied pathways which may result, cover learning objectives. This may mean that multiple contextual instances, e.g. teaching at primary and secondary, are simultaneously available, and that the engagement with each one of those is determined by the participant (though necessarily tracked by the provider).

Multimodality not only applies to content delivery and interaction models, but also to assessment options and affordances for differentiation. Being able to review and consider participant responses, a tutor can personalise interventions more easily and effectively than when all participants are present in a face-to-face model.

Of course, all of these above claims are dependent not only on course design, but also the competence and awareness of the tutor. As the routes through the content (and the amount of content available), increase, so there is an increased need for guidance and support. Also, for principled decisions on issues such as anonymity, and 'lurking' (alternately known as 'legitimate peripheral participation'): the question of whether processing of content without active participation can count as engagement within an assessed programme. These are reasons behind a potential conflict between 'untutored' online models such as Massive Open Online Courses, and the level of quality assurance implied by frameworks like AQUEDUTO's, which have tutor competence in providing support as a key theme.

A final consideration for course design is the thorny issue of observed teaching practice. This has provoked the most scepticism in acceptance of online teacher education initiatives, most notably in pre-service settings. Currently, for example, the Online CELTA offered by Cambridge English still insists on assessed teaching practice being observed by a live assessor in the classroom. Defenders of the face-to-face setting claim that what can effectively be captured by video in a teaching practice activity is minimal compared to what we can reasonably expect a present observer to evaluate. For us, the jury should take time to consider their verdict on this. As will be explained below, this aspect of online teacher education is in its infancy, and is at the sharp end of issues of validity, reliability and practicality. Pilots and projects are underway, and it may well be an area in which digital technology needs to catch up with expectations before anything close to fully embracing the potential is possible.

In order to elucidate the above points, it will be most effective to look at the affordances of the online and blended setting, and illustrate the options and the decisions implied in the approaches that online teacher education providers have taken.

Pathways: adaptive learning; choice of content; timing; specialisation; deeper reading

Face to face, one of the main concerns of teachers is how to structure the content and the lesson, to support students' understanding and scaffold their progression. Those developing and delivering online courses have similar concerns. But as we shall see in this section, the opportunities provided by the online environment create significant tensions. As research into choice (Schwartz, 2004) has shown, while we may believe that more choice represents more freedom and personalisation, it often results in more frustration and confusion. The distance of online learning can magnify these issues, as the tutor is not immediately available to recognise or resolve them. Thus one of the main tensions of developing and delivering online courses is the extent to which we take advantage of the opportunity that online has to increase choice: through adaptive

learning, choice of what and when to study, through the depth and breadth of resources provided. Many of the resources discussed here are numbered and presented for easy reference in a table at the end of the chapter.

For many teachers the simplest, and cheapest option for continuing online education is the free resources available online. These may come through the news and opinions offered by corporate sites (e.g. edsurge.com) or via individuals (e.g. learningspy.co.uk). They may come via the curation of images and information provided by others (e.g. pinterest.co.uk). They may come through resources created by others, as information for lessons (e.g. TEDed.com) or as lessons in themselves (e.g. Veritasium[1]). As can be seen from this list, the opportunities for learning are significant. But, this opportunity is part of the problem. Not only is it difficult to know what to choose, but it is also hard to identify where to go after you have made the initial choice. Linking these resources into a pathway that leads to a clear learning goal requires time and knowledge.

The main advantage of an online course for many teachers is the structure it offers. At its simplest, an online 'course' may be a series of hyperlinks, connecting resources that exist online, perhaps with some introductory or explanatory text. Bloggers (e.g. gregashmanwordpress.com) and institutional or corporate sites may provide such a service, linking to previous posts and resources. On YouTube, vloggers have taken this a step further, providing series of lessons as a course (e.g. crashcourse[2]). TEDed even provides activities to do while watching the videos, to increase engagement and learning. Yet very few of these sites offer what might be recognised as courses leading to continuing professional development. Part of the reason for this is the difficulty that comes when deciding on how to construct the pathway through the material.

From the perspective of the participant, at each branch – with each alternative – we run the risk of dividing the community, diluting the knowledge and experience to be shared, reducing the opportunity for interaction. A simple link to a series of articles that would deepen understanding, or allow individuals to explore specific interests, can lead to some participants feeling that they are struggling with the content (due to the unfamiliarity with the topics) or are lagging behind others (due to the difficulty they have in commenting on the texts). It is possible to reduce some of this tension by allowing the tutor more autonomy over what to link to and when, but this increases the need for tutor involvement and knowledge of the content. In general, when thinking about how we construct pathways through courses we have to consider if the gain to the individual from choice outweighs the gain to the community from cohesion. In general, as the former increases so the latter will reduce (Salmon, 2013).

One method of reducing this issue is to require the results of all choice to funnel into one product, in one place. For example a forum can be created on a core topic (e.g. Motivation). A variety of links to the topic may be provided, but all participants are required to post their findings into the forum, and perhaps to comment on the postings of others who have explored different topics. Similarly, a wiki might act as a repository for the findings of research conducted by participants into different areas (from different links), either as a collaborative exercise, or as information for those who may be interested in, but not intent on this topic. Embedding these tools into courses has been made relatively easy by paid-for services such as Blackboard, and opensource platforms such as Moodle and BuddyPress (a plugin for wordpress sites). Examples of CPD courses built using these tools abound: using Blackboard to link institutions in a global partnership (e.g. Laureate international Universities[3]), using Moodle to provide a range of courses to global participants (e.g. NILE Online[4]), and using BuddyPress to provide a course to participants from around the world (e.g. Learning Technologies in EAP[5]).

One problem encountered when creating an online course is that as we add options we also increase the complexity of navigation. It can be difficult for participants to keep track of where they are, even as they progress through a linear series of activities online. Designers must bear

in mind the need for tools to let the participant track their progress. Some online courses (e.g. at Futurelearn.com[6] or ELTjam.academy[7]) have eschewed both depth and breadth in favour of a flat single page hierarchy, with no link leading further than one task away from the main page. This allows participants to see very clearly where they last left the course. The more often participants enter and leave the course, or the longer between visits to the course – perhaps as a result of trying to fit it into other responsibilities – the more important consideration of such navigational concerns becomes.

Finally, as we increase depth of content, so we place more pressure on the participant to manage their time. The participant must be aware that the further they travel away from the main path, the faster they have to work in order to keep up with the other participants. Each resource takes time to consider, let alone consume or contemplate, and it should be remembered that a major attraction of online learning is fitting it in around other responsibilities (England, 2012).

Thus far we have talked of design decisions as they affect the participant, but each choice has an impact on the tutor and the team supporting the course. Breadth and depth of content provided requires equivalent knowledge and experience on the part of the tutor, especially with regard to weaving comments into each other and waving participants to comments that may be of interest or use to each other. In weaving and waving, the tutor is drawing connections between points participants have made. This may be to highlight similarities of topics being discussed, of priorities expressed, of difficulties and issues faced across a range of participant contexts. It may also be to contrast points of view, to distinguish between solutions provided or options chosen. This not only has the intended outcome of strengthening group cohesion but extending what they are learning from each other, and from the course through revising and revisiting the topics, reflecting with new perspectives.

That said, if participants struggle to manage their time and become frustrated with the wealth of choice, it frequently becomes the responsibility of the tutor to help them back on track and to monitor their progress. More time spent keeping track of students may result in less time available for interaction. Thus, it is critical for those designing the courses to consider carefully the structure they use and options they provide. A significant number of those involved in online courses believe that teaching online takes longer than face-to-face (Allen & Seaman, 2013). It is important that this perception does not put tutors off the online experience.

Face-to-face courses in which participants have access to reliable online connections are increasingly blending their provision to include online components in different ways. One such option involves participants interacting in person in small groups, while keeping track of the activities of others in the larger group through online tools (Stein & Graham, 2014). Blended courses may also make use of techniques which seek to 'flip the classroom', placing emphasis on the time in class as opportunities for tutor support (e.g. clarification, differentiation) and for peer collaboration, rather than for tutor transmission of content (Talbert, 2017). For instance, it may be effective for participants to study online for three or four weeks, before coming together face-to-face for more hands-on or tutor interactive activities. Conversely, course design can front-load the face-to-face elements (e.g. where participants may need much more tutor support than is realistic online).

Discussion: fora, talkpoint, webinars

As Hammadou and Bernhardt (1987) note, 'In foreign language teaching the content and the process of learning are the same. In other words, in foreign language teaching, the medium is the message.' In this regard, online education has a number of benefits which those developing and delivering courses should be aware of. When study is asynchronous, it can benefit those who struggle to understand or to communicate. With activities which culminate in text-based

forums, participants can make use of translation software and dictionaries (e.g. through curation sites such as Onelook[8]). They can consult more general sources of information on the topic (e.g. Wikipedia) or education related sites (e.g. The A-Z of ELT[9] or University English for Academic Purposes[10]). They can take their time to replay videos, to reread texts or comments in fora. When posting their responses, they have time to consider what to say and how to say it. These benefits accrue without participants needing to admit to language difficulties, or to feel that they are taking too long to respond (as may be the case face-to-face). In this way, those who may have struggled to join the community of discourse can more easily engage in discussion.

A second advantage of learning online is the variety of modes of communication afforded. An example of this can be seen in one of the main tools for enabling synchronous learning and teaching: the webinar. This allows students to be present in the same space – e.g. through Adobe Connect,[11] Zoom[12] or Skype – but in different ways. Participants can contribute by text only – giving them many of the advantages indicated in the previous paragraph. Similarly, limiting their contributions to audio can allow participants to ignore concerns about how they look, or interpreting the expressions of others, and focus on their words. At the same time, those who feel confident in their ability to understand and respond can use the video tools. Each of these choices can be made without anyone having to acknowledge the reasons for them.

It should be noted that such variety of tools available in webinars is not without its problems. As Hockly (2012) discusses, a great webinar requires the tutor to consider five ingredients: planning, engagement, interaction, variety and tech check. Each must be considered carefully if the tutor is to play to the advantages of the webinar. One example of this is in how students contribute to a discussion. By allowing participants to limit themselves to audio or text a tutor can give participants time to think and prepare. Thus, while some participants are interacting via video/audio, the more hesitant or linguistically concerned participant can participate via text. To make best use of these different modes, the teacher needs to structure opportunities for interaction differently, making it clear that those texting do not have to wait for their turn, and giving those on audio only (and therefore not so visible) the means of attracting or asking for attention (e.g. through text, by emoji). The tutor also needs to be conscious of waving and weaving between comments in a synchronous webinar, just as in an asynchronous discussion.

While the tools and techniques discussed above can be very effective in helping overcome some of the language issues in language teacher education, this is not their only, or even main role. In their review, tracking ten years of online courses in the USA, Allen and Seaman (2013) cite three main causes for high attrition rates: underestimating the amount of time needed, feelings of isolation, and lacking sufficient discipline to persist. Course designers can overcome many of these problems through the careful placement of activities requiring collaboration, or tools which facilitate communication between participants or with the tutor. One simple rule of thumb might be to offer more choice later in an activity or unit, rather than earlier, so that participants have more chance of staying on track and on time. Isolation may stem from feeling that you are the only one working on an activity, which may be more likely the more options are offered. Equally, regular 'funnel points' may be useful in an activity or unit, to bring participants together and allow them to discuss their reflections or reservations. Seeing or hearing what other people are doing, and having them comment on what you have done or thought can be a powerful incentive to continue. As such, a weekly webinar can be a powerful tool for group cohesion and individual motivation. Similarly, the placement of a forum at the end of a sequence of input or research can allow the participants to learn from each other, and to derive the benefit from having your ideas heard and acknowledged.

In this way then, online learning allows designers of courses to create a great deal of opportunity for interaction between participants. One crucial factor is the tutor's understanding of its

intent, and of their own role in the course. For example, while a forum can provide an opportunity for participants to interact, it can also leave tutors feeling that they have to comment on each post. This can result in much of the interaction being between tutor and individual participants. One solution to this can be to train tutors in the 'waving and weaving' approach outlined in the previous section. Another, equally useful type of tutor interaction with participants is what we have termed 'Feeding, Seeding and Harvesting' on the NILE courses. In 'Feeding' the tutor is trying to develop ideas and interactions rather than responding to posts. One key technique for this is to pose questions, rather than make comments. These questions might be offered with regard to the posts of other participants (incorporating 'weaving and waving'). Alternately, 'Feeding' might involve 'Seeding', through a response based around a quote which challenges or contrasts with what the participant has said. The idea of 'Seeding' is to offer something more for the participant to consider. One of the benefits is that this can take the form of links to other resources – either in the course or outside of it. One further benefit of online (for the tutor) is that a bank of such links or resources can be built up over iterations of courses, so that the tutor can deploy them relatively quickly and easily. For the participant the 'seed' is no less useful for it having been used with others, or having been quickly found by the tutor. In the final type of tutor interaction – 'Harvesting' – the tutor is trying a) to provide the participants with a record of the key topics they have covered in a unit; b) to remind them of the points that they or others may have made; and c) to get them to reflect on both of these, further deepening the learning. The specific points made by participants are a key aspect of the summary and must be gathered from the tutor as they work through the unit, but these can be worked into a template of the unit topics and a style which encourages reflection that the tutor has built up over time. We have found that the tutor summary can offer a very important perspective and can model good practice. Participants may not keep track of what they have done simply because they do not know what 'good' practice looks like, or why it is good for them.

Use of video

In the early days of the internet, bandwidth speeds were such that text was the only content that could realistically be shared. Compression techniques, distribution methods and bandwidth increases have made video a realistic content option in many contexts. But if, as Anderson and Dron (2011) suggest, 'technology sets the beat and creates the music, while the pedagogy defines the moves' then we need to take care not only that the music can be heard (i.e. that the infrastructure is suitable) but that the music doesn't drown out or dominate the intention of the teacher or course designer. In the following section we will look at a number of key features of video in online learning: its efficacy in filling gaps in knowledge of technology that participants may have; its facility in generating and supporting group cohesion; its utility for course developers in managing time needed for input and for designers in creating input from everyday trainer/trainee output; its ability to bring the classroom into the online course and thereby reduce the distance between theory and practice, between the trainer supporting learning in the course and the participants learning in their classrooms.

One of the early stumbling blocks for many wanting to start learning online is their familiarity with the technology. As the futurist William Gibson put it, 'The future is here, it's just not evenly distributed'. Thus, while many participants may have heard of a 'forum', 'wiki' or 'webinar', fewer are likely to feel confident using them. In this regard, videos can be very effective instructional methods, giving demonstrations of how these tools are used, in the course. Such videos may be provided as course resources to be viewed when needed or can be incorporated into the course content, such that participants can share their experiences or their

recommendations, posting their thoughts after viewing a video, or, as will be discussed later in this section, participant feedback may become part of the video itself.

Another early obstacle to participant engagement, and to longer-term learning, is the development of a group cohesiveness. Video allows the content designer to introduce the participants to the tutor and to each other, creating a sense of physical presence and familiarity online. It may be much easier to limit the tutor presence to text, but incorporating videos involving the tutor brings them closer and increases the sense of the tutor presence in the course – particularly important when a course may be delivered by a different tutor each iteration.

With the wealth of materials available online it can be tempting to link out to videos available elsewhere. These may be very effective, in terms of the authority of the person speaking (e.g. Hertzberg on Hygiene factors of motivation[13]), because of the production qualities of the video (e.g. Ken Robinson on TED[14]), or because of the specific methods being used to communicate information (e.g. RSA animate[15]). But, tools such as Camtasia[16] – which will be discussed later in this section in more detail – make it very quick and simple for the tutor to create content tailored to the course. Similarly, the ubiquity of video cameras on phones, tablets and laptops make it easier than ever before for the tutor to quickly record a response to a comment rather than typing it, making his or her response all the more immediate and potentially impactful. This also holds true for participants. While text responses may be quicker, video can be used to convey more information (e.g. about attitude) or to include more information (e.g. through visuals). Encouraging participants to post video responses rather than defaulting to text can be especially useful in the initial stages of a course, with those new to online study and with those widely separated by geographic distance.

Videos offer a number of tools to allow both the course developer and the participant to manage time effectively. For a course designer, video can allow input to be packaged into extremely short, dense and quite complex blocks, because images and animations can show or demonstrate more in a shorter amount of time than text. Videos can be quite short because those watching them can make them 'longer' by re-watching sections, or by slowing them down to examine parts in more detail, to ease cognitive load and increase processing time.

Many teacher educators will find that they have already created much of the material they need to construct a video. For example, a demonstration of how to give feedback on a text can be given much more effectively by videoing a tutor talk through that text, highlighting or annotating it as they go. This can be done on a computer, using a word-processing document and the annotation or review features, or on a tablet, using a PDF viewer and stylus. In each case the teacher would use screencast software such as Camtasia or Adobe Captivate on the computer, and Explain Everything[17] on the tablet, to capture a video of this. Tutorials of how to use such tools are available freely online (e.g. teachertrainingvideos.com[18]).

Similarly, with increasing availability of interactive whiteboards and data projectors in class more teachers are creating PowerPoints to deliver content more visually to the class. With screencast software such materials can easily be turned into videos. In this way, teachers can share classroom content with others in their online course, narrating what they would say with each slide or animated object. This allows the teacher to bring their class, and their classroom content, into the online course. Similarly, teachers may record their actual classes, using either video or audio, and then upload the results for the participants of their online course to view and comment on. Those doing so will need to be aware of laws regarding student privacy, obtaining the necessary permissions and being sensitive to how the video is to be used/shared. However, an increasing number of teacher training programmes are using videos of classroom instruction. A large-scale example of this is the work done by Doug Lemov with Uncommon schools, presented in his book Teach Like a Champion, and available online at teachlikeachampion.com.[19]

Footage of teachers in class forms the basis of most of the videos available on the website teachingchannel.org.[20] Both of these examples are making use of the 'thick slices' of classroom life that video offers. In their literature review of 'The Role of video in teacher professional development', Marsh and Mitchell (2014) cite one of the main advantages of video as its ability to provide dense, detailed representations of complex topics that are nevertheless accessible because of their concrete exemplification. Viewers can not only see what is being explained, but can review it, seeing more each time they watch. The developments in 360° video and audio capture will only extend this potential.

As the availability and use of video online has expanded, so have the number and variety of tools for interacting with that video increased. The aim of these tools generally is to increase the depth of engagement that participants have with the video. At the cheapest and simplest end of the spectrum of tools, Edpuzzle[21] allows tutors to add questions to a video, which can be shared with students for work outside class, or assigned to them as part of a course. Offering more tools, albeit for more money, Voicethread[22] allows participants to interact with a video, adding comments with text or video, annotating the images as you speak (with mouse or stylus). In this way participants can post questions, make suggestions, compare their reactions and reflections to those of others. This can make for a very rich input experience, with layers of responses as people coming later see the posts of those who have viewed earlier, responding and adding their own contribution. This has all the advantages of text-based forums for participants who are unsure of themselves (e.g. due to language level) – time for reflection and research – while offering a more immersive, media rich input. The NILE online courses make use of a purpose-built add-in for Moodle called VideoQuandA, which sits some way between EdPuzzle and Voicethread, allowing tutors to incorporate text questions into the videos they have uploaded, and participants to respond or post questions of their own. This tool is presented and discussed by Kiddle on the ViLTE website.[23]

As discussed by Gardner and Edge in 'Why be a learner online' (in England, 2012) the difficulty of such learning may lie in teachers transferring new ideas and techniques to their own context. Online learning allows teachers to extend the application of theory into their classroom and get immediate feedback. Video allows teachers to record this exploration and to discuss it with others, be that in the form of feedback on teaching techniques or in analysing classroom dynamics. In the latter area software/platforms such as Veo[24] are being developed to facilitate such conversations. Veo allows a teacher to tag a video of their classroom they have recorded, for example to highlight all the instances they can see of teacher talking time. They can then review this – adding a commentary – and either share this with a tutor/other participants, or compare their review to that done with the same video by others. As Sherin and Dyer (2017) explain, one of the key functions of such technology is helping teachers not just to understand the 'What' is happening in the classroom, but to understand the 'Why'.

Brainstorming: Padlet; community wall; chatrooms

Communication and critical thinking are often more effective and efficient when we can use tools to offload some of the cognitive strain, to reduce the number of things that we're trying to keep track of (Sweller, 1994). The more complex the goal we're trying to achieve, the more we need to make use of tools – e.g. notes, mind maps, charts – and the more tools we may need to make use of.

One advantage of using these tools online is that they allow for almost instantaneous consultation and collaboration. In class, participants may struggle to come up with ideas, and only start to progress towards their own ideas once they hear the results of others' thinking, at the

feedback stage. Online, they can view what others are posting, or have posted. The designer can link to previous iterations of such activities, to spark ideas or encourage comparison, analysis and evaluation. Using a central virtual space, such as Padlet[25] a course designer can link to multiple documents, which participants can work through sequentially, or skip between as their interest, level or purpose dictates. Incorporating a collaborative text tool, such as Google Docs,[26] within the Padlet then allows participants to see the reactions/reflections of others and to compare these to their own. Such tools also allow the tutor a central point from which to monitor all interaction and respond where necessary. This in turn allows for differentiation:

- of support and scaffolding provided
- of time allowed and sequence/recycling
- of level of challenge and extension activities
- of role within the group

In NILE Online courses, much of the differentiation is left up to the tutor, with the courses designed to provide opportunities for tutor interaction with participants in a variety of ways. This in turn reflects the ethos of NILE that 'we teach participants, not courses': focusing on tailoring the content to participant needs. When creating online courses, it is vital for organisations to consider what their overarching aims and principles are, ensuring that the tools they use and the ways in which they use them reflect these.

Assessment: collaboration; grading; multimodality

We now turn from issues of content and interaction to the measurement of teacher competence in online language teacher education. A review of such programmes by Murray (2013) including case studies of 18 institutions, found a wide range of formative and summative assessment procedures and instruments in use, depending on the aims of the program. These included: a thesis or research portfolio, written assignments, examinations, participation in online discussion forums, participation in synchronous videoconference classes, f2f practicums (i.e. observed or video-recorded f2f teaching practice), internships (in one case study only), observations of video-recorded classes taught by experienced teachers, reflective journals and blogs, case studies, action research projects and action plans, and online quizzes and tests. Clearly, this breadth of options in assessment in teacher education programmes online shows how the affordances are already being explored and exploited – in particular, in the areas of collaboration, multimodality, and observation of teaching practice.

Collaborative submissions, where two or more course participants work on an assessed product together – whilst common in face-to-face situations (and a regular feature of *unassessed* activities in online teacher development programmes) were not commonly incorporated into assessment practices in a survey of online language teacher education providers (Hockly et al., 2016). This was reported as largely due to specific limitations and issues: the difficulty of measuring the output of individual participants, ownership of the product and more. Assessed collaborations which did exist included group project work, collaborative responses to assessed forum tasks, joint literature reviews, materials development projects and joint presentations. Approaches to address this in NILE Online courses include clear guidelines – defining roles, research necessary and how output could be shared – and self-reflection tasks following the assessment to add a formative, learner-training element to support the idea of collaborative assessment.

Multimodality in assessment practices closely mirrors the affordances of content and interaction on language teacher education programmes. Allowing a wider choice over the form that

submission takes (e.g. using video instead of text) not only enables the teacher to bring more of their context and classroom into the assessment, but also embraces the diversity and the strengths of those being assessed. Online assessment submissions for the pilot of a new in-service teaching qualification, for example, included the options of video or audio recordings, peer observation forms, student feedback forms, and self-evaluation forms as data to support reflective teacher development.

Perhaps the elephant in the room in terms of assessment in online teacher education programmes, is the issue of observed and evaluated teaching practice. Tools exist, as mentioned above, to video-record and live stream or subsequently upload teachers' lessons, and many of these tools, e.g. Veo, can be used so as to allow different views of what unfolds in the classroom. However, in our experience, and in initial, informal reports of projects which are underway to explore these tools (e.g. at Cambridge English, and the work on Virtual Reality in teacher training (Driver, 2017)), there is still a gulf between what can be captured using these tools and from having a live observer in the classroom. This has significant implications for the validity and reliability of assessment, and while it may prove to be very effective in formative, developmental assessment in the near future, we feel that certificated, summative, high-stakes assessed teaching practice via online video still has hurdles to overcome.

Conclusion

The drivers behind increases in provision of online and blended options in language teacher education mirror those in education generally, and language education specifically, fuelled particularly by pressures on governments to help language teacher education meet the demands of global demographic changes. Platforms, tools and approaches have developed over more than 50 years to lead us to a current situation where possibilities can quickly outstrip principles. In this chapter, we have explored what we feel to be some of the key considerations, current practices, and possible future developments, in provision and evaluation of language teacher education online.

The advantages are multiple, in our opinion, but must be weighed against practical realities within individual contexts, as well as pedagogical principles of what makes effective input, interaction, reflection and output in a language teacher education programme. We have no doubt that these programmes are here to stay, and will grow in popularity as the above challenges are confronted and overcome, as both pre-service and in-service teacher education increasingly serve a teacher population which is itself familiar and comfortable with accessing and delivering education in multimodal, online spaces. We also believe this future is bright, and when online language teacher education is designed and facilitated in a principled and practical way, teachers will enjoy the benefits of programmes which meet their practical, economic, geographical and developmental needs and desires.

Recommended reading

Dirksen, J. (2015) *Design for How People Learn*. London: New Riders.

A very accessibly written book with practical examples of design considerations to optimise materials, courses and interfaces for how people learn. A book that you'll refer to again and again throughout the designing and developing of online courses.

Dudeney, G., Hockly, N. and Pegrum, M. (2013) *Digital Literacies: Research and Resources in Language Teaching*. London: Pearson.

This book offers an extensive introduction to the theory of digital literacies as well as practical advice and lesson plans for developing digital literacies with students.

Krug, S. (2013) *Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability.* London: New Riders.

As the title indicates this book is focused on making online content as easy to access as possible. A thin book with a very useful set of principles for making your courses and content as early accessible as possible.

Salmon, G. (2013) *E-tivities: The Key to Active Online Learning.* Abingdon: Routledge.

This book contains a five-step process to build an online community within your courses, developing active online learning through the construction of knowledge through collaboration.

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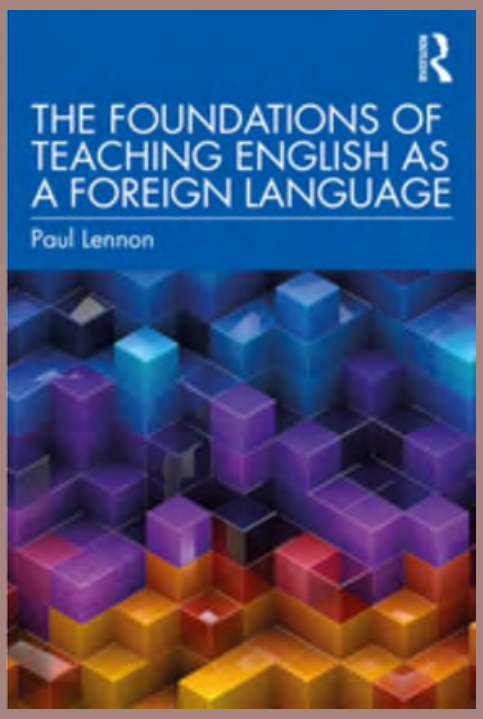
1 Veritasium: www.youtube.com
2 Crashcourse: www.youtube.com
3 Laureate International Universities: www.laureate.net
4 NILE Online: www.nile-elt.com/online-courses
5 Learning technologies in EAP: www.sheffield.ac.uk/eltc/tesol/learning-technologies-eap
6 Preparing for Uni: www.futurelearn.com/courses/preparing-for-uni
7 ELT in the Digital Age: https://eltjam.academy/courses
8 Onelook: www.onelook.com
9 A–Z of ELT: https://scottthornbury.wordpress.com
10 University English for Academic Purposes: UEfAP.com
11 Adobe Connect: www.adobe.com/products/adobeconnect.html
12 Zoom: https://zoom.us
13 Hertzberg on Motivation: www.youtube.com
14 Ken Robinson: www.ted.com/talks/ken_robinson_says_schools_kill_creativity
15 RSA animate: www.wearecognitive.com/the-rsa
16 Camtasia: http://discover.techsmith.com/camtasia-brand-desktop/?gclid=Cj0KCQjw
17 Explain everything: https://explaineverything.com
18 Teacher training videos: www.teachertrainingvideos.com
19 Teach like a champion: http://teachlikeachampion.com/resources
20 Teaching channel: www.teachingchannel.org
21 Edpuzzle: https://edpuzzle.com
22 Voicethread: https://voicethread.com
23 Video in Language Teacher Education: https://vilte.warwick.ac.uk
24 VEO: www.veo-group.com
25 Padlet: https://padlet.com/dashboard
26 Google Docs: www.google.co.uk/docs/about

CHAPTER

3

Language Acquisitions and Language Learning



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First edition

By Paul Lennon

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1 Language Acquisition and Language Learning

Settings

First Language Acquisition Settings

Long ago the Danish linguist Otto Jespersen (1922: 40) noted the stark contrast between the almost universal and rather uniform success of children acquiring English as their mother tongue compared to the 'defective and inexact command' of the language often achieved by foreign language learners, whose success is also subject to tremendous individual variation. Children produce their first word at about the age of 12 months. By the age of about 18 months most children have an active vocabulary of perhaps 50 words, that is, words they can use, not just understand (Crystal 1986: 93; Saxton 2017: 156). By 24 months children have a command of several hundred words and by the age of six they can at least understand perhaps 10,000 words (Bloom and Markson 1998: 68) or even 14,000 words (Clark 1993: 13).

However, the key to acquiring a language is the acquisition of its syntax; in other words knowing how to combine words to form utterances. Otherwise all one can do is to name things. Although there is variation in the rate (speed) of acquisition of syntax, all children seem to follow more or less the same path (route) (Brown 1973: 272–275). The route remains the same because it is the relative complexity of individual structures which determines the order in which they are acquired regardless of individual differences in children and the exposure they receive to language. Clark and Clark (1977: 295) gave examples of typical utterances by children aged between 12 months and two years eight months. These range from one-word utterances ('More' at age 15 months), to two-word utterances ('More read' at age 20 months), to what is sometimes called 'telegraphic speech' ('Where go car?' at age two years one month) and finally to the production of simple sentences ('What he can ride in?', or even 'I want to open it' at age two years eight months). Some children are much quicker than others at moving through these stages, but, broadly speaking, one-year-olds start with single words and before they

are two years old have progressed to two-word utterances. Telegraphic speech, marked by reduced syntax, is characteristic of two-year-olds and by the time they are three, children will be producing simple sentences, some of which may be fully acceptable in the adult language although others such as 'What he can ride in?' will still be grammatically deviant (Clark and Clark 1977; Crystal 1986; Saxton 2017).

Just being exposed to language, for example by overhearing the conversations of others, listening to the radio or watching TV, is not enough to acquire a language (Saxton 2017: 95–96). Children can pick up some vocabulary from overheard language or TV but they cannot acquire syntax in this way without interpersonal interaction (Saxton 2017: 96). Language acquisition is intimately linked to the child's own social interactive needs from the very start (Bloom and Tinker 2001). Even before babies utter their first words at about 12 months of age, people talk to them as if they understood what is being said, and babies do understand some words before they can say their first words. Between the ages of six months and one year children develop the ability to engage in 'joint attention', that is, 'the simultaneous engagement of two or more individuals in mental focus on a single external object of attention' (Pence Turnbull and Justice 2017: 137). An example would be a parent holding up a toy for a child to look at, or looking at pictures with a child. Joint attention seems to be important for early word learning (Adamson and Chance 1998: 28).

Once they start to speak, children are trying to produce meaningful utterances rather than just reeling off isolated words (Clark and Clark 1977: 314–316; Elliot 1984: 57; Pence Turnbull and Justice 2017: 180–181). Thus, 'more' may mean 'I want some more' and 'no' may mean 'I don't want to go to bed, thank you very much.' Toddlers try to communicate even though they cannot make all the sounds of the language, do not know the right word and cannot produce full sentences (Clark and Clark 1977: 295, 397–401, 492–496; Saxton 2017: 151–156; 240–244). Child language represents a systematically simplified linguistic system at the phonological, lexical and syntactic levels. At the phonological level, for example, because the voiced velar stop /g/ is more difficult to make than the voiced alveolar stop /d/, /d/ may be substituted for /g/ by two-year-olds, so that 'go' becomes 'doe' and 'garden' becomes 'darden' (see Pence Turnbull and Justice 2017: 166–167 on phonological simplification). At the lexical level, 'garden' may be used for gardens, parks and all open countryside as well (lexical overextension, see Pence Turnbull and Justice 2017: 179). At the syntactic level, 'grammatical words' such as articles and prepositions will be omitted so that 'telegraphic speech' will be produced (see Pence Turnbull and Justice 2017: 173). A combination of phonological, lexical and syntactic reduction might result in 'doe darden' for 'I want to go to the park.'

Since it is often not clear to adults what the child wants to say, children are constantly being asked to restate. Adults go to great efforts to try to understand what the child wants to express and frequently ask the child questions to find out what it means. Such questions are termed 'clarification questions' (Demetras et al. 1986). They are also found in conversations with foreign language learners (Lightbown and Spada 2013 140; Sheen and Ellis 2011). Brown and Hanlon (1970) found that adults are more interested in understanding what the child wants to say than in correcting its errors and tend to correct only factual errors explicitly. However, factual corrections from the adult's perspective may in some cases be language corrections from the child's point of view, as in, 'No, that's a purple sweater, not a blue one' (example from Saxton 2017: 104). Saxton (2017: 110–111) also suggests that clarification questions may sometimes be posed when a child makes a grammatical error.

Adults modify their speech style for children so that 'child-directed speech' forms a special variety or register of language (Saxton 2017: 88, 112–116; Pence Turnbull and Justice 2017: 48–49). One feature of this register is repetition of the child's preceding utterance before the adult moves on with new information. This constitutes approval of what the child has said both factually and linguistically and helps to keep the conversation on track. If the child's last utterance was deviant, the adult tends to repeat it in part but modify it or, in the case of telegraphic utterances, expand it so that it is an acceptable adult language utterance. These repetitions with variation are termed 'recasts'. In this way, adults keep the conversation going while expanding the syntax of the child's telegraphic utterances, improving morphology and making lexical improvements as they go along rather than always interrupting and explicitly correcting the child. 'Recasts', like clarification questions, function as implicit corrective feedback to the child (Demetras et al. 1986; Saxton 2017: 102–107).

Whether all this is sufficient to explain how children acquire the language is unclear. After all, *some* parents just say, 'Shut up and eat your chips.' Yet these children also acquire English. The nativist school of thought, associated with the American linguist Noam Chomsky, maintains that the progress in language acquisition which children make in the first few years of their lives is so rapid that they cannot be starting from scratch, cannot be a *tabula rasa*, but must have some sort of biological predisposition to acquire grammar; a sort of genetically established blueprint of the common or universal grammatical rules or principles which all languages obey. This is what is meant by universal grammar (Chomsky 1965: 6–9, 30–37 and see Saxton 2017, Chapters 8–10; Aitchison 2008, Chapters 3–7 for critical discussion). The blueprint would have to be for universal grammar rather than the grammar of any specific language because children will acquire whatever language (or

languages) they are exposed to in infancy, as countless examples of internationally adopted children show.

The fascinating thing about first language acquisition is that it proceeds incidentally and in step with cognitive development (Saville-Troike and Barto 2017: 19). This is why the term 'acquisition' is used rather than 'learning'. Children 'pick up' their first language in the first few years of life provided people talk to them and they talk back. They do not have to learn their mother tongue deliberately, nor do they get any instruction in it. They are not taught it by their mother, father, siblings and playmates in the way that a teacher teaches a foreign language (Lenneberg 1967: 125; Aitchison 2008: 71; Saxton 2017: 214–215). Even the most devoted parent does not say, 'I am going to sit down with three-year-old Mary for two hours this afternoon to teach her some new vocabulary, revise the present simple and continuous tenses and practise the "th" sounds with her.' Yet by the age of five or six children can carry on conversations with other children and even with adults, provided the adults make some concessions to them (Pence Turnbull and Justice 2017: 61, 211–213).

Whereas children acquire or pick up the skills of listening and speaking incidentally, they do have to be taught how to read and write. This usually starts in primary school, and the primary school years are marked by further massive vocabulary expansion, perhaps on average six new words per day between the ages of six and eight years(!) (Bloom and Markson 1998: 68; Saxton 2017: 160–161). However, in the early school years children also develop a better understanding of words they already know, for example 'ask' versus 'tell', and they start to use various clause-linking words such as 'anyway', 'otherwise' and 'actually' (Crystal 1986: 180–182). In writing, they progress from at first just stringing sentences together by 'and' to gradually producing complex sentences with a main clause and a subordinate clause linked by subordinating conjunctions (Hunt 1965, 1970). A further development is that they begin to command a variety of different speech styles and adapt their speech to situation, learning that you talk to teachers differently from the way you talk to other children and that you write differently from the way you talk (Crystal 1986: 188–189; Lightbown and Spada 2013: 14). Metalinguistic awareness (awareness of how language works) also starts to develop. Dawning metalinguistic awareness is manifested in the ability to play with language (Crystal 1986: 185–188, 1998). This is responsible for those corny language jokes, which children find so hilarious (Lightbown and Spada 2013: 13). When my nephew was about seven, he said, 'I'd tell you a joke about a broken pencil, only it has no point.'

The neurologist Eric Lenneberg (1967: 142–179) suggested there is a 'critical period' for acquisition of the native language (or languages) which closes off at puberty at the latest. Lenneberg noted that the mentally retarded can make slow but steady progress in language

acquisition until puberty, but then make no further progress. They seem to run out of time. He cited two further sources of evidence to support the critical period hypothesis. The first source is documented cases of various unfortunate children who were for whatever reason deprived of people to talk to them from infancy, with the result that they did not learn to speak. Such children find it difficult to acquire language in later childhood, even with specialist instruction (see Saxton 2017: 62–73; Lightbown and Spada 2013: 22–23; Saville-Troike and Barto 2017: 88–89). The second sort of evidence comes from clinical data on patients who have suffered language loss because of brain injury. Young children who suffer brain injury involving language loss can re-acquire language relatively quickly, presumably by using other areas of the brain. However, due to progressive loss of brain plasticity, this process becomes increasingly more difficult, slower and less complete the older the child is when injury occurs, and after puberty complete recovery may apparently often be virtually impossible.

Bilingual Settings

It is quite possible under appropriate conditions for children to grow up simultaneously acquiring two or even three languages from birth as if each were the native language (Romaine 1995; Baker and Wright 2017: 88–98; Brown 2014: 66; Paradis 2009: 123). This is simultaneous bilingualism. The two languages develop synchronously from infancy in keeping with cognitive development. For this to work, the children need to have adequate exposure to each language and appropriate people to speak to in each language. As in monolingual settings, personal interaction is necessary. Patterson (2002) found that the vocabulary of bilingual toddlers aged 21–27 months was significantly related to being read to in each language but not to watching TV. It is also important that the two languages are kept apart for the child and not mixed. This is ensured, for example, by one parent speaking only one language to the child and the other parent speaking only the other language ('the one parent, one language principle'), although there are other successful paths to bilingualism (see Romaine 1995: 183–185; Baker and Wright 2017: 91–93). In the early years the languages may be acquired rather more slowly than if only one language were involved (Brown 2014: 67). For further discussion of simultaneous bilingualism, see Serratrice (2013) and Montrul (2008: 94–97).

If acquisition of a second language begins after the age of three years, this is no longer referred to as simultaneous bilingualism but as 'consecutive (or sequential) bilingualism' (Lightbown and Spada 2013: 30; Baker and Wright 2017: 3, 88, 109, 432). The older the child is when the second language is first introduced, the more likely it is that the child will retain a foreign accent in the second language. Oyama (1976), for

example, conducted a study of 60 Italian immigrants to the USA. Native speakers were asked to rate the subjects' accents. It was found that number of years spent in the USA had no effect on accent, but the younger subjects were on arrival, the less marked their accent was. According to (Paradis 2009: 110), phonology (accent) may actually be affected from the age of five or six years onwards.

Presence or absence of a foreign accent may not be a good guide to completeness of language acquisition as a whole. There are indeed some famous examples of people who were introduced to English very late, retained a foreign accent but became consummate masters of the language. The English novelist Joseph Conrad (originally Józef Teodor Konrad Korzeniowski), for instance, a native speaker of Polish who acquired his English at sea after he joined the French(!) navy at the age of 16 and then the British merchant navy at the age of 19, retained a distinct Polish accent in his English until the end of his life. The German-born former American Secretary of State, Henry Kissinger, who emigrated to the USA when he was 15, also retains a recognisable German accent. It seems in fact that, for second language acquisition, there are a series of sensitive periods for various aspects of language or, to put it another way, different aspects of language are differentially age-sensitive (Seliger 1978). Phonology (accent) is more age-sensitive than grammar, and grammar more age-sensitive than vocabulary, which can continue to be acquired throughout life (Taylor 1978; Paradis 2009).

This is not to say that a nativelike accent cannot be acquired by hard work in later childhood and beyond, at least by some people. Bongaerts et al. (1995) found that a panel of four native speakers was unable to identify the pronunciation of a small group of specially chosen Dutch university teachers of English with excellent pronunciation as sounding non-native compared to a control group of native speakers. Yet the Dutch subjects had all started learning English at age 12 at school and none of them had visited an English-speaking country before the age of 15.

In a pioneering study by Patkowski (1980) native speakers were asked to judge transcriptions of conversations held with 67 highly educated immigrants to the USA, all of whom had been resident for at least five years. Thus, the phonological element was removed. It was found that those who were six years or younger on arrival in the USA were generally judged to be indistinguishable or barely distinguishable from Americans who had grown up in the USA speaking English from the start. For those subjects who immigrated between the ages of six and sixteen, the older the child was when it immigrated, the more likely it was that its English was not native-like even after a number of years living in the USA. Those who immigrated after the age of about 16 were generally recognisable as not being native speakers of English, even after many years of residence in the USA. Other studies of US immigrants of various language backgrounds broadly

support these findings (Johnson and Newport 1989; DeKeyser 2000; Chiswick and Miller 2008). DeKeyser (2012: 447–454) reviews various studies of the relationship between immigrants' age of arrival in their new country and their later proficiency in the second language.

However, whereas immigration at an early age virtually guarantees nativelike acquisition, late immigration does not exclude this as a possibility, particularly if accent is left out of account. The Patkowski (1980) study found a lot of individual variation in attainment, with a small minority of the late immigrants indeed achieving nativelike or near-nativelike mastery. Just what this means is debatable. One would expect a truly biological barrier to operate across the board with no exceptions, so it seems likely that the barriers to complete acquisition in later childhood and adulthood are social and affective as well as biological (Herschensohn 2007: 173–182; Montrul 2008). It is also possible that at least some age-related biological handicaps can be compensated for by using general cognitive abilities, at least by some people (Selinker 1972; Krashen 1982a; Paradis 2009).

Singleton and Muñoz (2011) argue that a wide range of cognitive, social and cultural variables interact, including to what extent immigrants continue to be exposed to the first language or not. It may be that it is actually the firm establishment of the native language which is the main obstacle to nativelike acquisition of a second language (Paradis 2009: 133–136; Montrul 2008: 22, 262–268). If exposure to the first language ceases when exposure to the second language begins, as in the case of international adoptees, for example, then attrition (loss) of the first language may be dramatic and the second language takes over as the new first language. This is referred to as 'sequential monolingualism' (see Higby and Obler 2015: 647).

Classroom Settings

Classroom settings are necessarily impoverished acquisition environments. To compensate for the limited quantitative and qualitative exposure to the language available in the classroom, and to take advantage of the developing cognitive abilities of the older child, language teaching often involves three components in various weightings:

- explaining how the language works (instruction)
- providing the learner with opportunities for using the language (practice)
- providing feedback on learner performance (especially error correction)

The higher level of ultimate achievement which younger starters are likely to attain relative to older starters in naturalistic environments does not necessarily apply to classroom learners. Younger children are

better at implicit acquisition than older children, but acquisition requires massive amounts of exposure not available in the classroom (Paradis 2009). Older children, on the other hand, are better (faster) than younger children at explicit learning of languages (and other school subjects) because of their greater cognitive maturity, but their ability to implicitly acquire is declining in the school years. In the long term the age at which the child started to learn the foreign language does not seem to be particularly significant for attainment in the educational system (see Singleton and Muñoz 2011; Pfenninger and Singleton 2017).

Vocabulary is the aspect of language which seems to be least age-sensitive. Nature seems to have recognised that our language equipment must include a facility for updating lexis throughout our lives (Libben and Goral 2015: 641; Jarema and Libben 2007: 3). This means that foreign language learners can over many years continue to acquire vocabulary and in some cases even catch up with or surpass monolingual native speakers, particularly in certain areas of specialist vocabulary.

Language-Learning Error

Contrastive versus Non-Contrastive Error

Errors which learners produce when speaking or writing in a foreign language have received much attention from language teaching theorists. Lado (1957: vii) argued that by analysing the points of difference between the native language and culture and the language and culture to be learned (contrastive analysis) one would be able to predict the difficulties learners would encounter. It seems reasonable to assume that error would be likely to occur at these points of difference. However, whereas contrastive analysis tends to predict phonological (pronunciation) error well, for grammar, vocabulary and pragmatics (utterance meaning) it is a less reliable predictor (Brown 2014: 257). Beyond the phonological level, it seems that the influence of the first language is by no means the only factor influencing error. There are certain errors in English which speakers of many different first languages tend to make, for example in the tense system or in preposition choice. Such errors are termed non-contrastive or developmental errors in contradistinction to contrastive errors, which are attributable to negative interference from the mother tongue (Richards 1974). Some errors, however, may be influenced by both developmental and contrastive factors (Selinker et al. 1975). There are other influences on error too, including the unfortunate effects of imperfect teaching (Selinker 1972; Brown 2014: 261). For a review of studies on contrastive and non-contrastive errors, see Falla Wood (2017).

Overt versus Covert Error

A quite different distinction is that between 'overt' error and 'covert' error (Corder 1971). Overt error involves formal incorrectness as in, *'She live in England.' (A preceding asterisk (*) marks a formally unacceptable word, phrase or sentence.) Covert error results when learners say something which is formally acceptable in English but does not mean what they meant to say, as in, 'If this is your first visit to our country, you are welcome to it' (notice reportedly seen in a hotel). Identifying covert error can be very difficult because you can never be sure about what someone really meant to say. However, even overt error is a very elusive phenomenon. This is partly because there are two broad approaches to the identification of error. One is based on codified rules as found in grammar books and dictionaries. The other is based on native-speaker judgements. This is sometimes called the difference between correctness criteria and acceptability criteria. There are problems with both approaches and there seems to be a borderline area of infelicitous utterances. These infelicities may be of two sorts: either not correct but acceptable ('not right, but you can say it') or, conversely, correct but not acceptable ('right but you don't say it') (Azevedo 1980).

Global versus Local Error

Burt and Kiparsky (1974) drew a helpful distinction for describing and understanding grammatical error. They identified 'local' and 'global' grammatical errors. Local grammatical errors include errors of verb and noun morphology, article use, preposition choice, concord (agreement), tense choice and many more. Such errors are relatively easy to pinpoint and easy to correct. They often violate a specific grammar rule and occur within a single clause. By contrast, global errors are difficult to pinpoint and more difficult to correct because they occur at the clause or sentence level. It is global errors which tend to seriously impede communication, involving, as they do, sentence connectors, tense continuity across clauses, word order, sentence structure, co-ordination and subordination. When global errors occur in writing, we teachers just tend to put those wavy lines under the whole sentence instead of correcting them, so that the learner is not helped at all. Sometimes we may write something cryptic in angry red ink, such as 'Expression!' or 'Syntax!' or 'Not clear!' or 'Meaning?' There is evidence that native speakers who are not teachers tend to regard global errors that disturb communication as the serious errors, whereas non-native-speaker teachers tend to focus on local formal accuracy criteria, with native-speaker teachers occupying a middle ground (Hughes and Lascararatou 1982; Davies 1983).

Language-Learner Language

In 1967, the Edinburgh applied linguist Pit Corder published perhaps *the* seminal article for our modern understanding of foreign language learning. It was tellingly entitled 'The significance of learners' errors' and suggested that there is system in a learner's errors. Corder (1967) viewed the foreign language learner as being engaged on a voyage of linguistic discovery involving testing out hypotheses about the way the language works. He suggested learners may be following a sort of 'inbuilt syllabus', the ordering of which may be quite distinct from that of the external syllabus they are ostensibly following. From this perspective, learners have to go through the process of making errors as part of their hypothesis testing. They have to proceed by trial and error. If learners do not make errors, they will not get any better. Learners learn from their errors. Corder (1967) suggested that learners' errors will define what he termed their 'transitional competence', a term which alludes to Chomsky's famous distinction between 'competence' and 'performance' (Chomsky 1965: 4). 'Competence' refers to the native speaker's internalised language system in contradistinction to 'performance', which is the language a speaker actually produces with all its surface imperfections.

In summary, according to Corder:

- Errors are a necessary part of linguistic development and represent the discrepancy between the learner's transitional competence and the target language (language to be learned).
- The learner's inbuilt syllabus may determine the order in which the grammar is acquired, and studying learners' errors may supply clues to this order.
- A distinction can be drawn between 'errors' (of competence) and 'mistakes' (that is, performance slips or lapses). The latter are unsystematic and therefore do not provide data on transitional competence.
- An analysis of learners errors can function as a window on the learner's transitional competence and help the teacher to plan future teaching (error analysis).

However, error does not tell the whole story about the learner's problems with the language since language deficit does not necessarily show up as error. The most obvious example is that learners may avoid structures which they are unsure of. Schachter (1974) found that learners who did not have relative clauses in their native language tended to avoid them in written work and use alternative structures in English, whereas learners who did have relative clauses in their mother tongue tended to use them more and hence made more mistakes.

The idea of transitional competence was taken up and developed by Selinker (1972), who coined the term 'interlanguage' for what is nowadays termed 'learner language'. He suggested that learners develop a simplified linguistic system in order to communicate. This system is permeable (open to outside influences), dynamic, (developing) and systematic (regular correspondences between forms and meanings) (Selinker 1972; Selinker et al. 1975; Tarone et al. 1976). Schumann (1978) compared learner language to pidgin forms of languages, which are also simplified systems for basic communicative purposes. Most learners seem, however, to stop developing in the direction of the target language at some point, at least in certain aspects of their language – pronunciation being the most obvious one. Selinker (1972) coined the term 'fossilisation' for such a state. Fossilised interlanguage has lost its permeability and dynamism but retains its systematicity (see Brown 2014: 264–266; Han and Odlin 2006; Han 2012).

No two learners will have identical learner languages, for each learner forges his or her own language development along a path unique to that learner. This route is influenced by external factors (the learner's individual language-learning experience) as well as internal factors (age, motivation and personality). Even within a single learner the learner language will vary according to linguistic and non-linguistic context, although context will not explain all the variation found, so that some variation would appear to be non-systematic. This non-systematic variation will include performance slips or mistakes (with reference to the learner's usual language use), but also free variability among some forms (Ellis 1985: 76). Thus, although learner language is 'systematic' and errors are not random, the system may be difficult to detect.

The idea of 'variable rules' was introduced by Elaine Tarone to account for contextual variation in language-learner speech. She argued that production in the foreign language will vary systematically according to task and proposed her 'continuum paradigm', in which a language learner's speech styles may be ordered along a continuum of how much attention is paid to speech, with what she called the 'vernacular style' (colloquial speech) showing the most regular patterns, while other styles show more variation (Tarone 1988). This implies that if researchers, teachers or testers want to get a true picture of the learner language, then they should observe natural conversation. However, if the learners know they are being observed, then the naturalness may be affected since the presence of the observer will result in attention being paid to speech and very likely the learner will focus on trying to be correct. This is the 'observer's paradox' (Labov 1972/1978: 209–210). Writing produced in highly formal situations, such as examinations, is also likely to be a very poor reflection of the learner's underlying competence, since the learner has time to reflect, correct and edit. Homework is even less reliable as a guide to the true state of the learner language since additional external sources such as dictionaries can be used and these will influence the language produced.

The Monitor Model of Classroom Language Learning

The idea of variation in language-learner language was taken up by Krashen (1981, 1982b), who distinguished between 'monitored' and 'unmonitored' production. This distinction formed the basis of his Monitor Model. Krashen (1981, 1982b) argues that language acquisition is an unconscious process which will only occur if learners are exposed to language input which is neither too easy nor too difficult. This ideal input should be at a level which, although just beyond what learners could produce themselves, is nevertheless understandable for them in context. Such input is termed 'comprehensible input' at the '*i+1* level'. Anything which is consciously learned about the language, especially language rules, does not contribute to the unconscious process of language acquisition. The Monitor Model maintains, in fact, that classroom learners are building up two separate knowledge systems: an unconscious or acquired system and a conscious or learned system. It hinges on the idea that there are no links between the two systems, conscious learning or knowledge about the language being available only as a monitor which can edit or make changes to what the 'acquired system' produces. This can be done either just before production, involving hesitation while the change in plan is made, or after production, involving self-correction (Krashen 1982b: 15).

For learners to be able to monitor their speech effectively, two conditions have to be satisfied: they have to be free from time pressure and their focus of attention has to be on formal correctness rather than on communication. The theory also holds that learners differ individually in terms of how much they use the monitor, there being 'over-users' and 'under-users' (Krashen 1978). The 'optimal monitor-user' would monitor appropriately according to the specific communicative situation and whether priority is to be given to accuracy or to fluency. Furthermore, older children and adults will be more likely to use the monitor than young children so as to compensate for their diminishing ability to acquire naturalistically with increasing age and to take advantage of their greater cognitive abilities.

However, Krashen (1982a) argues that the main barriers to language acquisition after puberty may be not so much biological as affective. The minority of adult learners who do successfully acquire a second language very effectively (Selinker 1972) may owe their success to having overcome the inhibitions which tend to block naturalistic acquisition after puberty. In this way they may somehow reactivate the original acquisition path. Krashen refers to this as 'lowering the affective filter'. The affective filter (or barrier) is assumed to be lowered in low-anxiety situations and raised in face-threatening, high-anxiety situations. Individuals themselves differ in their anxiety thresholds.

The teaching implications of monitor theory for classroom language teaching are that learners should be provided with appropriate exposure to the language (comprehensible input at the *i+1* level) in a low-anxiety situation rather than being supplied with knowledge about the language. Krashen and Terrell (1983/1998) suggested various classroom activities to promote such exposure. For adults and adolescents rather than children, however, monitor theory holds that such an approach might profitably be supplemented with formal teaching since older learners can more effectively use the monitor.

The Monitor Model has remained controversial, especially its contention that 'learning' cannot become 'acquisition'. It has also been objected that the distinction between 'conscious' and 'unconscious' as the defining distinction between 'learning' and 'acquisition' is not helpful since consciousness is in any case a continuum not a dichotomy (McLaughlin 1990a; Searle 1992). The distinction between 'learning' and 'acquisition' seems to correspond to the distinction between 'declarative knowledge' and 'procedural knowledge' in cognitive science, although Krashen himself does not use the terms. Declarative knowledge is factual knowledge ('knowing that … ') and procedural knowledge is skill ('knowing how to … '). The Monitor Model appears to adopt an extreme non-interface position on the relationship between the two sorts of knowledge. Scholars who hold an interface position would argue that explanations, for example of grammar, vocabulary or how to make the 'th' sounds, are generally helpful for foreign language learners and that what is learned consciously in the classroom can by dint of practice become part of the acquired language system and be available for spontaneous use. For critical appraisal of the Monitor Model and discussion of the interface versus the non-interface positions, see Ellis (1985: 215–247), McLaughlin et al. (1983), McLaughlin (1987: 133–153), Brown (2014: 288–293), Saville-Troike and Barto (2017: 47–48, 78–81), Lightbown and Spada (2013: 106–107) and Paradis (2009).

Automatisation

A distinction is drawn in cognitive science between two modes of cognitive processing: 'controlled' and 'automatic'. Controlled processing is involved in the early stages of mastering a skill but with practice processing becomes progressively automatised. Complex skills such as carrying on a conversation, driving a car or playing tennis involve a hierarchical series of sub-tasks. Human beings are limited-capacity information processors, so that in using language, as in driving a car or playing tennis, they are able to focus attention on only a limited number of things at a time, and this focussed attention may be at a greater or lesser level of consciousness. The process of language acquisition may thus be regarded as proceeding stepwise or cyclically, with focus

constantly switching to new aspects of the language over weeks or months, with some items being more in focus than others at any particular point in time. In the early stages of learning English, even pronouncing the sounds may be a painstaking process requiring much effort and concentration. Beginning learners who have problems with the 'th' sounds, for example, may need to concentrate on putting their tongue in the correct position on their upper teeth and expelling just enough air to make an acceptable sound.

At lower-intermediate levels of proficiency, although pronunciation may now have become partly automatised, learners may have to focus attention on making grammatical choices while speaking, and lexical choice may also involve much slow searching for words. These are controlled processes. As learners become more proficient, however, phonology, grammar and much lexical choice may become largely automatic and production can proceed in larger phrasal units rather than word by word (automatic processing). This is because, with increased practice, individual sub-components of the task are bundled together into modules and performance is speeded up because each sub-component does not have to be focussed on separately any more. The automatisation of lower-level processes means that learners have more attentional capacity available while speaking to concentrate on higher-order aspects of production, such as discourse planning, attention to using an appropriate style, use of idiomatic language and more varied and complex syntax. They can also focus attention on their interlocutor. Only if enough attentional capacity is available will they be able to notice the discrepancies between aspects of their learner-English and the English of their interlocutors and then modify their own language accordingly.

At the neurological level, it is assumed that learning to perform a sub-task such as pronouncing the 'th' sounds, changing gear or shifting grip on the tennis racquet for a backhand stroke involves activating a particular set of neural impulses in the brain to form a circuit across the synaptic nodes which join nerve cells. The more often the same neural pattern is activated (practice), the more established the pathways become, rather like the difference between treading a path through undergrowth for the first time and treading a well-trodden path. As performers become better with practice at a complex skill such as speaking a foreign language, driving a car or playing tennis, many lower-level skills, such as pronunciation, changing gear or shifting one's grip on the racquet for a backhand stroke, become progressively automatised.

Schneider and Shiffrin (1977: 51) defined controlled processing as:

> … a temporary activation of nodes in a sequence that is not yet learned. It is relatively easy to set up, modify and utilise in new situations. It requires attention, uses up short-term capacity, and is often serial in nature.
>
> (Schneider and Shiffrin 1977: 51)

Automatic processing, by contrast:

> … is triggered by appropriate inputs and then operates independently of the subject's control. Automatic sequences do not require attention, though they may attract it if training is appropriate, and they do not use up short-term capacity.
>
> (Ibid.)

Speech production necessarily involves an optimal blend of controlled and automatic processes, correctly adapted to situation. Whereas excessive reliance on controlled processes makes for hesitant, non-fluent, effortful production, too much automatisation, sometimes called 'false fluency', is not ideal either. It results in over-reliance on clichés, in lack of originality and flexibility and what is produced may be perceived by the listener as shallow and superficial patter.

Restructuring

Language acquisition involves not just automatisation but also restructuring of the learner language to bring it closer to the target language (McLaughlin 1990b; Gass and Selinker 2008: 230–238). Automatisation involves improving fluency and restructuring involves improving language correctness. There is a trade-off relationship between the two, for the more highly automatised deviant language sub-systems become – for example non-nativelike pronunciation of 'th', deviant past-tense forms or overextension of word meanings – the more difficult it is to restructure them. The initial stages of restructuring involve controlled processes, which are effortful and slow down production. As well as sounding less fluent, learners may also appear to be backsliding (Selinker 1972). That is to say, new errors may be introduced as the system is being reorganised and before restructuring is complete. This pattern is termed U-shaped behaviour (McLaughlin 1990b; Altarriba and Basnight-Brown 2013: 126).

Hakuta (1976) showed in a now famous case-study that in restructuring their internal grammars learners are driven by two conflicting tendencies. One is to make their grammar internally consistent and the other is to make it externally consistent, that is, to adapt it to the language they hear around them. The subject of the study was a five-year-old Japanese girl called Uguisu who was acquiring English naturalistically in the United States. The study started five months after she had arrived in the USA and lasted for 15 months. One of the structures the study focussed on was embedded 'how to' clauses. By the third month of the study Uguisu was producing embedded 'how to' clauses with near 100% accuracy. Then they declined to zero accuracy. However, from the 11th to the 13th month of the study 50% accuracy was achieved: a remarkable example of U-shaped behaviour.

It was possible to identify a number of stages in Uguisu's acquisition of the structure. In the first stage, 'I know how to' + infinitive was learned as a 'chunk' or memorised pattern for a small number of specific verbs, for example 'I know how to ride a bike', 'I know how to swim.' In the second stage, the pattern was extended to other verbs, such as 'show' and 'tell' ('I show you how to …', 'I tell you how to …'). In the third stage, the infinitive element in the pattern was erroneously replaced by an interrogative structure introduced by an interrogative adverb and with inversion of subject and verb as in, *'I know how do you write this.'

Hakuta suggests this backsliding at stage three occurred because Uguisu was (presumably unconsciously) motivated by the need to achieve internal consistency with her other interrogative embedded sentences, which at this stage consisted of sentence + interrogative structure as in, 'I know where do you live.' He predicted that in time she would have restructured her deviant 'how' embedded clauses appropriately, but unfortunately the study had to be concluded before this had happened. However, the other interrogative embeddings were progressing to the norms of English at the end of the study (that is, with no inversion in the embedding).

Connectionism

A related but distinct theoretical approach to language acquisition within cognitive theory is that of connectionism. Connectionism provides a theory of how words, phrases and whole utterances may be linked in the mind. It builds on the idea of neural pathways becoming progressively more firmly established by repeated use, but adds a sociolinguistic component to the psycholinguistic one by additionally stressing the importance of the specific contexts in which 'chunks' of language are experienced and used. In other words, words, phrases or even utterances are stored with a tag on their remembered contexts. This includes both the linguistic context and the extralinguistic or social context: the remembered social context may include who the speaker was, who the addressee was and in what setting the chunk was heard. This is why it is easier to remember language experienced in a memorable context. The same applies *quid pro quo* to language met in reading.

A connectionist approach to language acquisition thus sees multiple or branching neural interconnections becoming established in the mind. These link remembered 'chunks' of language not only intralinguistically (sound, meaning and grammatical links), but also extralinguistically (similar contexts of use). Intralinguistic links involve linguistic memory, while extralinguistic links tap into episodic memory, or memory of our own personal experience. Remembered context then forges links between words, phrases and utterances in memory so that one linguistic element activates others from shared

contexts in a chain-like fashion ('spreading activation'). Connectionism elegantly accounts for the fact that such links in the mind will be, on the one hand, idiosyncratic to each individual's linguistic and cultural experience but also shared by members of the speech community. It also accounts elegantly for the fact that language experienced in real-life contexts is more easily retained than language learned out of context. The clear implication is that languages are best acquired by using them.

Language-Learning Strategies

The Good Language Learner

Language-learning processes operate largely outside the learner's conscious control. Language-learning strategies, by contrast, are 'activities consciously chosen by learners for the purpose of regulating their own language learning' (Griffiths 2008: 87). Whereas language-acquisition processes are universal, biologically determined and inevitable, language-learning strategies are individual, part of cognitively directed problem-solving behaviour and optional. The learner also has to be suitably motivated in order to employ them. There seems to be a link between success in language learning and the employment of appropriate language-learning strategies (Rubin 1975; Stern 1975; Naiman et al. 1978; Griffiths 2008; Chen et al. 2020). Studies of successful language learners in mixed environments where both tuition and exposure to speakers of English are available indicate that these individuals tend to employ the following strategies:

- They focus on language both as a formal system and a means of communication.
- Both inside and outside the classroom they actively involve themselves in speaking so that they can learn the language by using it.
- They do not expect to understand everything but this does not prevent them from participating.
- They employ inferencing skills to follow the drift of what is being said.
- When they are speaking, they try to paraphrase their way through lexical gaps they may experience rather than letting communication fail.
- They are sensitive to feedback and try to learn from their mistakes but are not afraid of taking risks and losing face by making mistakes.
- According to the communicative situation, they place more or less emphasis on fluency versus formal correctness, at times experimenting with their language, at other times playing safe.

- They are not only responsive to corrective feedback but are also sensitive to how their interlocutors react emotionally to what they say, that is they pay attention to socio-affective feedback.
- They are flexible in choosing an appropriate strategy for the appropriate task and situation.

(Rubin and Thompson 1994; Griffiths 2008; Oxford 2011: 15)

Strategies of Young Children in Naturalistic Environments

In a now famous study of four Mexican children aged five to eight years who were acquiring English naturalistically in mainstream school classes in California, Wong Fillmore (1976) identified cognitive and social strategies which the children adopted. Cognitive strategies 'enable the learner to figure out how the new language is structured, to interpret meanings in it and to begin expressing themselves when using it' (Wong Fillmore 1976: 633). Social strategies 'have to do with finding ways to receive input on which to base the language learning and on making efficient use of the social setting in which language is used as an aid in that learning' (ibid.). Five cognitive and three social strategies were identified, which Wong Fillmore couched in the form of commands as follows:

Cognitive strategies

- Assume that what people are saying is directly relevant to the situation at hand or what you are experiencing (metastrategy: guess).
- Get some expressions you understand and start talking.
- Look for recurring parts in the formulae you know.
- Make the most of what you have (overextension of word meaning).
- Work on big things and save the details for later.

Social strategies

- Join a group and act as if you understand what is going on even if you do not.
- Give the impression – with a few well-chosen words – that you can speak the language (formulae).
- Count on your friends for help (interaction, negotiation of meaning).

(Wong Fillmore 1976: 633)

Strategies of Classroom Learners

Pioneering work by O'Malley and Chamot (1990) found that classroom foreign language learners also adopt a strategic approach. It was possible to identify metacognitive, cognitive and socio-affective strategies. Metacognitive strategies are global strategic approaches which help to organise

learning. They include advance planning, monitoring and reviewing, and can be applied to a variety of tasks to impart structure to task performance. Cognitive strategies, by contrast, are used for a particular learning task. Among them are some well-known study techniques such as note-taking or using a dictionary. Socio-affective strategies involve various forms of cooperative learning as well as consulting the teacher for help and indulging in self-talk to reduce task anxiety (O'Malley and Chamot 1990 119–120, 126). Oxford (2011: 241–262) discusses specific strategies for listening, reading and writing as well as for learning vocabulary and grammar.

Self-Regulation, Autonomy, Motivation and Identity

Learning strategies and especially socio-affective strategies have been linked to the self-regulation of learning, the development of learner autonomy and the maintenance of long-term self-motivation (Dörnyei 2005: 188–195; Ushioda 2003, 2008; Johnson 2018: 144–145; Oxford 2011: 7–42; Chen et al. 2020). The idea of self-regulation, not just of language learning but of all purposeful human activity, was developed within social psychology. According to one definition, 'Self-regulation refers to self-generated thoughts, feelings and actions that are planned and cyclically adapted to the attainment of personal goals' (Zimmermann 2000: 14). The cycle consists of three phases: forethought, performance and self-reflection (ibid.: 16).

By learner autonomy is meant 'the ability to take charge of one's own learning' (Holec 1980: 3). Initially, learners will require teacher support, which can gradually be withdrawn as they become increasingly self-directed (Holec 1980: 9, 29). Holec identified five areas in which learners should gradually take charge:

- learning goals
- learning content and progression
- learning methods and techniques
- monitoring of learning progress
- evaluation of learning achievement

(Holec 1980: 4)

Good learners differ from bad language learners less in the specific strategies they use and more in their ability to apply strategies appropriately to the task at hand in a flexible and eclectic manner (Reiss 1983; Norton and Toohey 2001; Griffiths 2008; Johnson 2018: 134–145; Chen et al. 2020). Strategy use is highly individual and one should be cautious about regarding some strategies as inherently better than others for all learners. In particular, learners from different cultures may have different strategy preferences (Press 1996; Johnson 2005). Good language learners

tend, in fact, to be not only good strategy users but also to be autonomous learners (Little 1999: 13).

Teachers can help learners develop autonomy, maintain motivation and 'self-regulate' their learning by giving them choices to make in their learning, varying classroom activities, setting them classroom tasks with clearly defined goals and discussing appropriate strategies (Dörnyei 2001: 71–86). Learners can benefit from some instruction in how to employ specific strategies for specific tasks, for example vocabulary learning, but they also need to be given space to develop their own personal strategic techniques (Moir and Nation 2008). To make this possible, it is important to create a low-anxiety learning environment conducive to the development of self-confidence (Dörnyei 2001: 86–116). In this way learners can find out what works best for them and ultimately develop a sense of their own learner identity, their 'L2 self' (Dörnyei and Ushioda 2009) and of the imagined English language community to which they wish to belong (Norton 2013: 8; Noels and Giles 2013; Norton and Toohey 2011).

Communication Strategies and Negotiation of Meaning

When learners encounter communication difficulties while speaking, they may employ communication strategies to express what they want to say in a makeshift way. Gass and Selinker (2008: 285) define communication strategy as 'a deliberate attempt to express meaning when faced with difficulty in the second language'. The following taxonomy is based on Faerch and Kasper (1983). For other classifications see, for example, Poulisse (1987) and Brown (2014: 129):

1. Using the native language or another language. This includes:
    - switching to the native language or another foreign language (code switching)
    - inserting a native language (or another foreign language) word
    - anglicising a native language (or another foreign language) word to make it sound English

2. Using one's available English language resources. This includes:
    - overgeneralising a grammatical pattern ('I suggested him to go' on the model of 'ask')
    - overextending a word's meaning ('house' for 'kennel')
    - paraphrasing ('false hair' for 'wig')
    - coining a word ('meat-man' for 'butcher')
    - giving examples ('tables, chairs and sofas' for 'furniture')
    - restructuring syntax (for example, abandoning a passive sentence and using an active sentence)

3. Cooperative strategies of appeal to the interlocutor. These include:
    - pausing and looking at the interlocutor in a mute appeal for help
    - pausing and asking the interlocutor to supply a missing word ('What's the word?')
    - pausing and explicitly discussing the problem with the interlocutor ('negotiation of meaning')

4. Paralinguistic strategies of gesture, mime and facial expression (for example, yawning to indicate the word 'tired')
5. Retrieval strategies for a word that is on the tip of one's tongue. These include:
    - pausing until the word comes
    - saying words which sound similar
    - saying words of related meaning
    - saying translations of the word from other languages

Some learners are better than others at choosing the best strategy for the particular communication problem at hand. They possess 'strategic competence', which may be distinct from formal proficiency (Canale and Swain 1980). Learners who regularly code switch in the classroom may find it difficult to use English-based strategies when they have to communicate with English speakers outside the classroom (Haastrup and Phillipson 1983). By contrast, learners who can employ communication strategies effectively, especially cooperative strategies, will not only communicate better but will also learn more effectively through communication, particularly at points where communication threatens to break down and 'negotiation of meaning' takes place. At these points a skilled interlocutor may provide the word, phrase or structure a learner is struggling to find, or may correct the learner. It is believed that learning is particularly likely to occur in such situations of joint focus on a problem (Lightbown and Spada 2013: 114–115; Mackey et al. 2012.). It is when learners experience problems in trying to communicate that they become aware of their own language deficits. In this way, even if they do not receive helpful input from their interlocutor, they will at least become aware of their problem and can learn from their own output. This is what is meant by the 'output hypothesis' (Swain 1985; Swain 1995, 2005; Swain and Lapkin 1995).

Socio-Cultural Theory and Interactive Language Learning

The idea of learning by means of cooperative communicative interaction is at the heart of the socio-cultural approach to language learning (see Lantolf 2000; Lantolf and Thorne 2006; Brown 2014: 12–15). The approach is based on the work of the Russian educationalist Lev

Vygotsky (1896–1934), whose work was not available in translation in the West until long after his death. Vygotsky was not concerned with language teaching but with general primary school education, which he saw as proceeding through cooperation between the novice (child) and the expert (teacher). Vygotsky (1978: 86) coined the term 'zone of proximal development' (ZPD) to refer to the child's potential for achievement under conditions of optimum support. He defined the ZPD as:

> the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.
>
> (Vygotsky 1978: 86)

It was found that children of the same proficiency level might well vary in the extent of their ZPD. Vygotsky argued that it was this variation in ZPD rather than variation in starting level of proficiency which determined potential development (Vygotsky 1986: 187). The progress the child makes educationally will be determined by the extent of its ZPD, its ability and readiness to engage in effective interaction and the quantity and quality of interactional support available to it (see Lantolf and Thorne 2006: 263–290; Lantolf and Poehner 2008: 14–17, 2013: 142–143).

The term 'scaffolding' (Wood et al. 1976: 96) is nowadays used to refer to such support, although Vygotsky himself did not use the term. With reference to language learning, one important form of verbal scaffolding consists of the way proficient speakers (experts) in conversation with learners (novices) may employ various rhetorical devices such as paraphrase, explanation, repetition and comprehension checks to support the learner (see Saville-Troike and Barto 2017: 115–116, 119–120). Scaffolding can also be provided by peers supporting one another in collaborative activities such as peer editing, peer correction and peer feedback on written work. This constitutes a form of mutual or reciprocal scaffolding. If learners pool their knowledge in the production of a piece of collaborative writing, for example, they are able to achieve more than they could individually. They may all be at a similar level of proficiency but they will have different strengths and weaknesses in the language and so can help one another. The idea of scaffolding may be extended still further to include, for example, visual aids (Gibbons 2015; Baker and Wright 2017: 287–290).The common factor is that the emphasis is never on reducing the goal to be achieved but on supporting the learner's efforts to achieve the goal.

Socio-cultural approaches to language learning also place emphasis on the importance of introspection, self-talk and self-regulation (Lantolf and Thorne 2006: 72–79; 179–207). This builds on Vygotsky's conviction

that language helps us to regulate our thought processes and grapple with the problems of the world (Lantolf and Poehner 2013: 138–142). Vygotsky noted that children indulge in private or egocentric speech as a means of self-regulation as they talk their way through tasks and he regarded this as the precursor to adult inner speech. At a certain stage of cognitive development, egocentric speech, according to Vygotsky (1986: 87), 'turns inward' and becomes inner speech (see also Saville-Troike and Barto 2017: 121–123).

Food for Thought

Q. 1. Is there anything you have learned in this chapter about (a) first language acquisition and (b) bilingual acquisition in naturalistic settings which you think language teachers should know? If so, say what and why.

Q. 2. What do think is the greatest advantage that young language learners (before puberty) have over older language learners (after puberty) and what assets do post-puberty language learners have that young language learners lack?

Q. 3. What are the advantages and disadvantages of classroom language learning compared to naturalistic acquisition?

Q. 4. Do you think foreign languages should be taught just like other school subjects, or should attempts be made to make classroom foreign language learning as much like naturalistic acquisition as possible?

Q. 5. Imagine you are a teacher of an intermediate class and your learners still produce *'he come', *'she play', etc. How would second language acquisition theory explain that?

Q. 6. (Group task for practising teachers) Can you think of some developmental errors and some contrastive errors your learners make? Do they make any errors that seem to combine elements of both types of influence? Which of the three types do you think are most common among your learners? Are there differences in the proportions according to whether the first language is close to or far removed from English? Are there differences between child and adult learners?

Q. 7. (Group task) The Monitor Model holds that in order for optimal acquisition to occur, the language that the learner is exposed to must be comprehensible and just beyond the learner's current productive language level (comprehensible input at the *i+1* level). Do you think anything else is necessary?

Q. 8. (Group task) What language-learning strategies have members of the group themselves used, perhaps for vocabulary learning, grammar learning, writing, listening, reading or speaking in a foreign language? Try to group these into metacognitive, cognitive and socio-affective categories.

Q. 9. Look back at the taxonomy of communication strategies (CS). Which of the strategies listed do you find most effective and which least effective, both for achieving communicative goals and promoting further language acquisition? Can you think of any classroom activities which could be done to encourage learners to use CS and how would you get them to use the effective ones rather than the ineffective ones?

Q. 10. (Group task) What are the similarities and differences between the *i+1* level of input in the input hypothesis of Steven Krashen and the zone of proximal development (ZPD) of Lev Vygotsky?

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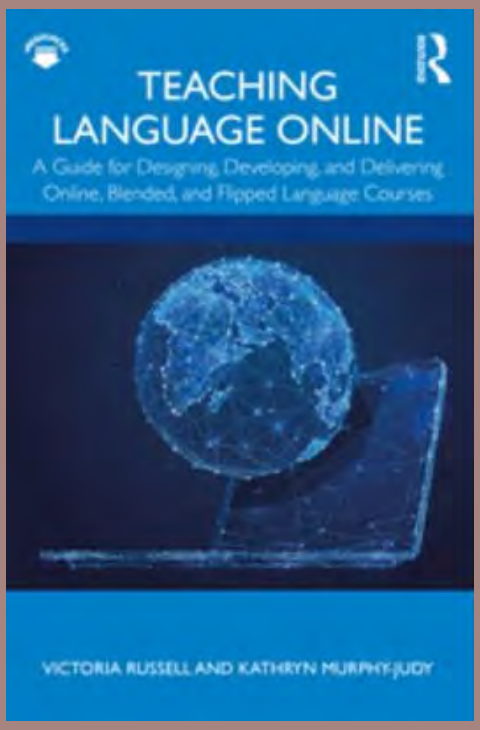
CHAPTER

4

What is Special About Teaching Language Online?



This chapter is excerpted from

Teaching Language Online

A Guide for Designing Developing and Delivering Online, Blended and Flipped Language Courses

First edition

By Victoria Russell, Kathryn Murphy-Judy

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Chapter 3

What Is Special about Teaching Language Online?

Introduction

Chapters 1 and 2 covered the basics of designing and developing online or blended language courses. This chapter explains how to deliver instruction by applying sound pedagogical practices to the online teaching and learning environment. The practices described in this chapter may be applied equally to the delivery of online, blended, and/or flipped language courses. Teaching language is different than teaching other disciplines online because students must engage in speaking, reading, writing, and listening practice while learning rich cultural content that enables them to develop intercultural communicative competence (ICC). ICC refers to the ability to understand cultures, including one's own culture, and to be able to use this understanding to communicate appropriately with people from other cultural backgrounds; speakers who possess ICC not only attempt to gain an inside view of another's culture, they also attempt to understand their own culture from an alternate cultural perspective (Byram, 1997). This may be achieved by investigating the world beyond the learners' immediate environment, identifying and evaluating perspectives, obtaining

and applying both disciplinary and interdisciplinary knowledge, expressing ideas, and taking action (ACTFL, 2014).

With many other disciplines, only reading and writing are necessary to learn the course content online. However, with language learning, listening and speaking are also critical components of the course that are necessary for students to build their proficiency in the target language; moreover, all four skills are also needed for students to develop their knowledge and understandings of cultural practices and products and the perspectives that underpin them. Therefore, special consideration must be given to the technology tools and applications that are used to facilitate the acquisition of language and culture online. Many effective tools and resources were presented in Chapter 2 and several others are highlighted in this chapter. However, language educators must keep in mind that technology tools and applications will change over time; therefore, online pedagogy is not tied to a particular piece of technology. It is more important to develop an understanding of the teaching practices that facilitate students' language acquisition as well as how to enact them in the online environment. In addition, language courses also require instructors to deliver instruction on culture through literary, historical, and geographical content while simultaneously teaching language within a meaningful or real-world context. Online language instructors must perform all of these functions in the online environment; therefore, highly specialized knowledge, skills, and expertise are required to deliver quality online language courses that are effective, efficient, and engaging for both students and instructors alike. The authors aim to help language educators develop the key knowledge and understandings that underpin successful online language instruction in this chapter.

Teaching in Online and Blended Environments

This chapter focuses on online language pedagogy, or how to teach language in the online or blended environment. In order to be proficient at online language teaching, instructors must acquire a broad base of knowledge across three domains: knowing how to teach language (language pedagogy), knowing how to teach online (online pedagogy), and knowing how to use educational technologies to deliver online teaching (pedagogy for educational technology). The intersection of these three domains are the competencies that are required of online language teachers; namely, knowledge of the pedagogy and technology for teaching language online or online language pedagogy. Figure 3.1 provides a visual representation of the competencies that are needed for effective online language instruction.

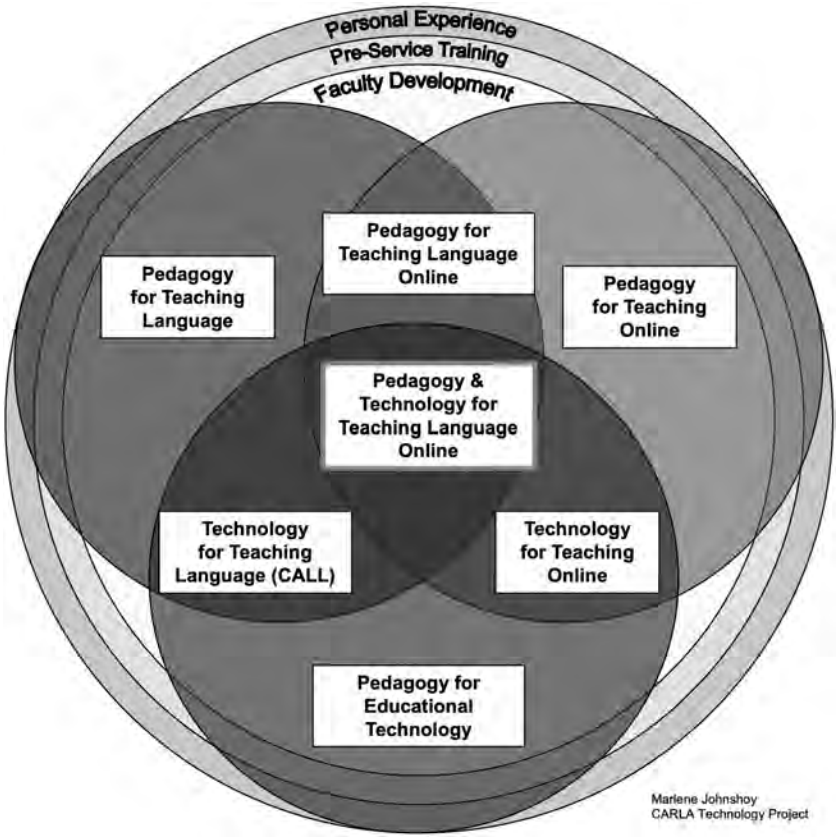

Figure 3.1 Competencies for effective online language teaching, graphic created by Marlene Johnshoy, Online Education Program Director, Center for Advanced Research on Language Acquisition (CARLA), University of Minnesota.

Used with permission.

All language educators take coursework to become experts in their discipline. In addition to their content knowledge, they also receive training on language pedagogy—or how to teach content in traditional, brick-and-mortar classrooms—in their teacher preparation programs. However, very few teacher education programs address the specific skills that are needed to teach language in online or blended learning environments. With the proliferation of virtual K-12 schools as well as the tremendous growth of online course delivery at the community college and university levels in recent years, online and hybrid courses are in great demand (Allen, J. Seaman, Poulin, & Straut, 2016). Moreover, enrollment rates for online courses continue to outpace enrollments in traditional, brick-and-mortar classes; since 2012, online enrollments have increased steadily, while enrollments in traditional courses have declined (J. E. Seaman, Allen, & J. Seaman, 2018).

As the demand for online courses grows, the need for qualified online language educators will also continue to expand. Often, instructors with no knowledge of online pedagogies are asked to teach online to fill the high demand for online courses. The authors do not recommend teaching in the online environment without sufficient support and training, as it will lead to much frustration for the instructor and for the students. Language educators who are called upon to enter into the online language teaching environment are in need of significant professional development on pedagogy and technology for teaching language online. Similarly, those who are already experienced online language instructors need to keep up with the latest technologies and pedagogies for online language teaching. Chapter 4 provides a wealth of resources for obtaining professional development in online language pedagogy. Those with little or no experience teaching online are strongly encouraged to utilize the resources that are available in Chapter 4.

This chapter provides the foundation for teaching language communicatively in online, blended, or flipped learning environments. It covers communicative competence (Canale, 1983; Canale & Swain, 1980; Hymes, 1972), pragmatics-focused instruction, the notional/functional syllabus, lesson design, professional standards and proficiency guidelines, and Glisan and Donato's (2017) core practices, with specific strategies for implementing them in the online environment. All of the key components of effective language teaching must be enacted in the online environment and this chapter will help instructors to do so.

Teaching Language in Flipped Learning Environments

In addition to those who teach in online and blended environments, language teachers who incorporate the flipped learning approach also need to develop competencies for designing, developing, and delivering language instruction outside of class time. In a traditional brick-and-mortar classroom, the teacher presents new material in a lecture format and students engage in practice activities outside of class. However, in a flipped classroom, students are introduced to the new material prior to class meetings using online delivery methods and class time is used to deepen students' understanding through group or pair work, discussion, and/or oral or written practice activities (Higher Education Academy, 2015). Therefore, the flipped learning approach reverses the traditional classroom because students learn the new material prior to class and class time is used for activities that would have been assigned for

homework in a traditional classroom. However, with the flipped model, the practice activities are typically more communicative and interactive than traditional homework activities because learners can easily interact with their peers to complete assignments during class time. With traditional homework, students generally work alone in the written modality. Therefore, the flipped model has the potential to provide students with more speaking and listening practice compared to the traditional delivery model.

According to King (1993), the teacher becomes the guide on the side, rather than the sage on the stage, with the flipped learning approach. The flipped classroom is possible due to the use of learning management platforms, video-based lectures, and other online tools that allow students to approach new content on their own outside of class and at their own pace. With respect to second language (L2) classrooms, flipped learning allows for more interactive, engaging, and meaningful instruction because classroom time is used to develop communicative goals while learners focus on grammar, vocabulary, syntax, and other linguistic features outside of class on their own (Cowie & Sakui, 2015; Egbert, Herman, & Chang, 2014). The main purpose of adopting the flipped learning approach is to enable class time to be used for the development of learners' communicative competence; therefore, flipped language instructors need a deep understanding of this concept. They also need to acquire knowledge of online methods, tools, and resources to provide language instruction for students outside of class time and to differentiate their instruction to meet their students' diverse learning needs.

The Components of Communicative Competence

The main goal of online language teaching should be for students to acquire communicative competence in the target language. Hymes (1972) defined communicative competence as learners' grammatical knowledge as well as their knowledge of the social context in which language is used, which includes knowing how to use language appropriately in social situations. Canale and Swain (1980) expanded upon Hymes' definition to include three components of communicative competence: grammatical competence, sociolinguistic competence, and strategic competence. Canale (1983) later added an additional component: discourse competence. Grammatical competence involves knowledge of grammatical forms (such as verb tenses and moods), sentence structure, vocabulary items, and pronunciation among other linguistic features. Given that the treatment of grammar is so thorough in many

secondary and postsecondary language textbooks, language educators may be tempted to focus heavily on the instruction of grammatical forms and structures. Many language textbooks devote a large portion of their content to presenting grammar rules and exceptions to grammar rules. However, an emphasis on the technical aspects of language does not lead to learners' development of communicative competence. Language courses, textbooks, and curricula are in need of content and activities that promote sociolinguistic and strategic competence.

Even if students could learn L2 grammar perfectly, this knowledge would be insufficient to develop communicative competence. Without knowledge of the social aspects of language, an individual's speech will always seem foreign to native speakers. Sociolinguistic competence refers to knowledge of pragmatics, or how to use the language in ways that are socially and culturally appropriate, and knowledge of the discourse structures of language, such as knowing how to form cohesive and coherent sentences or utterances in the target language. The majority of second and foreign language textbooks that are available today either do not teach pragmatics or their treatment of pragmatics is inadequate (Ishihara, 2010; Pinto, 2002). Therefore, it is up to language instructors to infuse their courses with instruction on the social aspects of language. While most textbooks do not include pragmatics-focused activities, there are a number of online resources available for teaching L2 pragmatics. Several links on how to teach L2 pragmatics as well as some web-based resources for teaching Japanese and Spanish pragmatics are available in the eResources for this book.

One way to teach pragmatics is to provide instruction on speech acts, which are specific language functions that are generally universal across languages, such as complimenting, complaining, greeting, inviting, refusing, requesting, and thanking to name a few. However, the way that speech acts are realized will vary greatly by language and culture. For example, requests in English typically are comprised of an ability statement such as *can I* or *could I* followed by the politeness marker *please.* Conversely, most requests in Spanish (between interlocutors who know each other) are comprised of a direct command such as *dame* [give me] or *ponme* [get me] without any politeness marker. Therefore, the Spanish language is more direct than English with respect to requests. Unless they are instructed otherwise, language students will transfer the pragmatic strategies from their first language (L1) to the L2. For example, Spanish language learners whose L1 is English tend to transfer English request strategies (inappropriately) into Spanish. Therefore, when making requests, they often say *puedo tener* [literally: can I have], which is both incorrect and

inappropriate in Spanish. This English request strategy seems very strange to native Spanish speakers and it is a good example of the importance of how sociolinguistic competence contributes to learners' development of communicative competence.

The third component of communicative competence, according to Canale and Swain (1980), is strategic competence. This includes skills such as circumlocution, back-channeling cues, and word coinage. It is important for students to learn these skills so that they can maintain conversations with native speakers. Circumlocution is the ability to use other words to talk around or describe the word that is missing from the student's vocabulary knowledge. When students are learning a new language, it is very common for them to have large holes or gaps in their vocabulary knowledge. By using circumlocution, language learners are able to get their point across using the words and phrases that they do know. Online language teachers can help foster this skill by posting pictures of unfamiliar objects in discussion boards and asking students to describe them. This may be done using either written discussion boards or voice boards.

Back-channeling cues can also be taught to language learners and they refer to communication that serves a purely social function and that keeps the conversation going between the speakers. This can include small talk, social pleasantries, and nonverbal communication such as facial expressions and gestures (e.g., head nodding). Back-channeling cues also include vocal sounds such as "hmm" and "uh-huh," which vary by language. These types of vocalized sounds indicate that one interlocutor is actively listening to the other.

Word coinage is another feature of strategic competence; it is the ability to invent words when specific vocabulary items that learners need to communicate their message are unknown. For example, a language learner may say "air ball" instead of balloon. It is important for online language instructors to let their students know that they are free to use whatever words are necessary to get their point across. Students must feel comfortable making mistakes, coining words, and talking around words when they have gaps in their vocabulary knowledge. When the online course has a focus on communication rather than on grammatical accuracy, students can begin to relax and enjoy using the target language to communicate their messages.

Pragmatics-Focused Instruction

One way to teach pragmatics to online students is to have them view authentic videos of native speakers engaging in conversations on everyday topics such as shopping for food, using public transportation, and eating out. LangMedia is

a repository of numerous authentic videos that show aspects of everyday life in over 25 different countries in both commonly and less commonly taught languages. Videos are organized by country and region, and transcripts for the videos are available in both the target language and in English.

To use LangMedia videos for promoting the development of strategic competence, students can listen for and list all of the back-channeling cues that they hear and/or see in the video. After listening for and recognizing back-channeling cues, students may then be asked to incorporate some of them into their own dialogue and/or role-play activities. Figure 3.2 presents a screenshot from LangMedia. In this figure, four authentic videos are available that show native speakers purchasing food items from open air markets as well as from supermarkets. Cultural information is provided about the shopping habits of native speakers who live in Mexico and examples are given for how people shop in the country and in larger cities.

An excerpt of a transcript from the video "Buying food at a small supermarket" is presented in Figure 3.3. There is one back-channeling cue, *Hmm*, as well as colloquial language, such as *'Ta bien* [It's OK], rather than the grammatically correct *Está bien* [It's OK]. Moreover, the term *bolillo* [bread roll] is used by one of the speakers. This term is frequently used in Mexico, but it is less common in other countries where Spanish is spoken. The more common term is *panecillo*

Figure 3.2 LangMedia, food shopping in Mexico.

Used with permission.

"Buying Food at a Small Supermarket"

Spanish transcript:

Jimena: ¡Flore! Hola. Me das un litro de leche y un kilo de huevo blanco. ¿Cuánto cuesta el kilo?

Flore: Doce.

Jimena: 'Tá bien.

Jimena: Hmm, pan...¿A cómo está el bolillo?

Flore: A ochenta.

Jimena: ¿Es de hoy?

Flore: Sí.

English translation:

Jimena: Flore! Hi. Can you give me a liter of milk and one kilo of white eggs? How much is a kilo?

Flore: Twelve.

Jimena: O.K.

Jimena: Hmm, bread...How much are the rolls?

Flore: Eighty.

Jimena: Is it fresh?

Flore: Yes.

Figure 3.3 Excerpt from transcript of "Buying food at a small supermarket" from LangMedia (shopping for food in Mexico) with the English translation.

Used with permission.

[bread roll]. Colloquial forms, back-channeling cues, and dialectical differences such as these do not typically make their way into language textbooks. However, in order to become proficient in the target language, it is important for students to be able to understand the language as it is spoken in its natural social and cultural context. Therefore, Internet-based resources such as LangMedia may be superior to language textbooks for fostering learners' sociolinguistic and strategic competence in the L2. Moreover, language educators–if they are not native speakers of the language(s) that they teach–are advanced language learners themselves. Therefore, English translations of the video transcripts may help them feel more comfortable using this resource with their students, especially if they are unaware of the colloquial expressions and dialectical differences that the speakers use in the videos.

If the main goal of an online language course is to help students develop communicative competence in the target language, then the main focus

of instruction should not be on teaching grammar. Rather, learners should be engaged in the communicative and social aspects of language, with an emphasis on how the language is spoken in its natural sociocultural context. It is also important to include instruction on how to maintain conversations with native speakers through the use of circumlocution, word coinage, and back-channeling cues. This focus will bring the language to life for online learners and it should motivate them to learn the target language and its cultures.

The Communicative Language Teaching Approach (CLT)

Many language teacher education programs promote the communicative language teaching (CLT) approach. This is a flexible approach to teaching that prioritizes instruction on the notions and functions of language over target language forms and structures. While linguistic forms and structures are taught within the CLT paradigm, their purpose is to support meaningful communication in the L2 for the development of learners' communicative competence. The American Council on the Teaching of Foreign Languages (ACTFL), the Council of Europe, and other professional language teaching organizations advocate the use of CLT.

The CLT approach emphasizes notions, which are real-world situations in which people communicate (e.g., shopping, eating out, going to the doctor), and functions, which refer to the language that is needed to communicate in a given real-world situation. For example, if the notion is shopping, then some possible functions are asking how much something costs, asking for another size, and negotiating a price. In other words, functions are the specific aims of communication, while notions are the situations or settings in which the communication takes place.

According to Richards (2006), CLT has the following guiding principles:

- Make real communication the focus of language learning.
- Provide opportunities for learners to experiment and try out what they know.
- Be tolerant of learners' errors as they indicate that the learner is building up his or her communicative competence.
- Provide opportunities for learners to develop both accuracy and fluency.
- Link the different skills such as speaking, reading, and listening together, since they usually occur so in the real world.
- Let students induce or discover grammar rules (p. 13).

It is important to keep in mind that CLT is a flexible teaching approach and not a prescriptive teaching method because there are no clear methodological procedures. In fact, many different methods and techniques, such as task-based teaching and content-based teaching, fit well under the CLT paradigm.

Core Practices for Language Instruction

Core practices may be defined as the essential knowledge, skills, and understandings that teachers must have to carry out their core instructional responsibilities in their specific disciplines (Ball & Forzani, 2009). Therefore, core practices are discipline specific. In other words, what works for teaching one subject will not necessarily carry over into another subject. According to Glisan and Donato (2017), core practices are complex instructional actions, behaviors, and techniques that are powerful in advancing student learning; these practices are not readily transparent and they are not learnable through observations alone. Glisan and Donato (2017) asserted that core practices must be deconstructed and taught explicitly in teacher education programs and they must be rehearsed and coached within specific contexts. Finally, teacher educators must be able to justify the instruction of these practices for the development of professional expertise (Glisan & Donato, 2017).

Six core practices for language instruction were identified by Glisan and Donato (2017) as follows: "(1) facilitating target language comprehensibility, (2) building a classroom discourse community, (3) guiding learners to interpret and discuss authentic texts, (4) focusing on form in a dialogic context through PACE [grammar is taught as a concept], (5) focusing on cultural products, practices, and perspectives in a dialogic context, and (6) providing oral corrective feedback to improve learner performance" (p. 11). These core practices are advocated by ACTFL.

Glisan and Donato (2017) asserted that the aforementioned practices are not an exhaustive list, as there are likely other core practices that could be identified and explicitly taught in teacher education programs. However, they suggested that these are the minimum that are necessary to begin instructing language effectively (Glisan & Donato, 2017). Furthermore, the core practices listed above would be considered large-grain core practices. In order to enact them, language teachers would need to engage in many other small-grain core practices. For example, under the Core Practice *facilitating target language comprehensibility*, some small-grain practices would include speaking slowly and clearly in the target language, using input that is just beyond the learners' current level, and using gestures, facial expression, and other visual cues

to facilitate students' comprehension to name a few. Consequently, there are numerous small-grain core practices that could be identified, deconstructed, and explicitly taught to L2 teacher candidates under each of the six large-grain core practices listed above.

Regarding Glisan and Donato's recommendation to use the PACE model to teach grammar, this is a novel technique that was proposed by Donato and Adair-Hauck (Adair-Hauck, 1993; Donato & Adair-Hauck, 1992, 1994, 2016), where grammar is taught dialogically. This means that teachers and students co-construct grammar rules. With traditional teacher-fronted instruction, grammar is taught deductively with the teacher explaining the grammar rules followed by the presentation of target language examples. With the inductive approach to grammar instruction, the teacher shows the students target language examples, and then the students try to figure out the rules by themselves. With the dialogic approach, scaffolding is provided by the language instructor in the form of guiding questions that prompt students to reflect upon, predict, and make generalizations about how the language works. In other words, students write grammar rules using their own words with the guidance of the teacher, who ensures that the students' explanations are appropriate.

PACE stands for Presentation, Attention, Co-Construction, and Extension. For the presentation aspect of this model, teachers do not present grammatical rules and structures. Rather, they focus on an authentic piece of text or on an oral dialogue that contains the targeted grammatical form or structure. The focus remains on meaning, but the text or dialogue is flooded with the targeted grammatical form. Students' attention is then drawn to the targeted forms or structures through input enhancement (highlighting, bolding, etc.) or through the use of visual cues. This is the attention piece of the model. The co-construction phase is when the teacher scaffolds the students in the development of their own grammar rules. Richards (2006) asserted that having students "discover" grammar rules is a guiding principle for the CLT approach. Finally, in the extension phase, the students complete a task that is related to the theme of the lesson. The task requires them to use the targeted form or structure, but the focus remains on meaning rather than on form. The PACE model allows grammar to be taught as a concept rather than as discrete points of knowledge. This technique is also known as story-based language teaching (Donato & Adair-Hauck, 2016) and it is a good fit for teaching and learning environments that adhere to the CLT approach.

While teacher candidates and novice teachers may struggle to effectively enact the core practices listed above, most experienced and effective language

teachers use them daily. However, additional knowledge, skills, and expertise are necessary to enact them effectively in online, blended, and/or flipped learning environments. Therefore, language educators who wish to teach in these environments may need additional professional development opportunities, training materials, and resources.

CLT in Online, Blended, and Flipped Learning Environments

Creating online, blended, or flipped courses that follow the principles of CLT (Richards, 2006) as well as the core practices for world language instruction (Glisan & Donato, 2017) is a complex task that requires a myriad of knowledge, skills, and competencies. While it may seem overwhelming to transition initially from traditional to online, blended, or flipped learning environments, following the ten guidelines listed in Table 3.1 will help language educators teach communicatively online. In this chapter, the authors provide guidance and examples regarding how to implement these guidelines online. This list is not meant to be exhaustive, but incorporating them will help language educators design, develop, and deliver online courses that facilitate the language acquisition process. Of note, the concept of backward design is instrumental to the online language course design process; this topic is covered extensively in Chapter 1 and readers are encouraged to review this concept as they consider the guidelines below.

Table 3.1 Ten guidelines for teaching communicatively in online, blended, and flipped language learning environments

1. Emphasize the notions and functions of language.
2. Focus on meaning over form.
3. Deliver 90% or more of the instruction in the target language.
4. Base lessons on professional standards and what students can actually do at the targeted proficiency level.
5. Avoid mechanical and pattern drill activities.
6. Facilitate student-teacher and student-student interaction to foster the negotiation of meaning.
7. Incorporate open-ended activities, such as role-plays and information gap tasks, where students engage in creative language use.
8. Integrate authentic materials, which are materials and resources that were created by and/or for native speakers of the target language.
9. Create a meaningful cultural context for language instruction.
10. Grade students holistically and provide appropriate corrective feedback.

While backward design is of paramount importance in the instructional design process for online courses across every discipline, the guidelines listed on the previous page are specific for instructing language courses in online, blended, and flipped learning environments.

The Notional/Functional Syllabus

Creating and following a notional/function syllabus rather than a structural syllabus (i.e., one that focuses on the instruction of grammatical forms, structures, and lexical items) will enable online language educators to incorporate Guidelines 1 and 2 from Table 3.1. When planning the course syllabus, Guideline 1 (emphasize the notions and functions of language) and Guideline 2 (focus on meaning over form) need to be taken into account. The course syllabus should revolve around language notions and functions and not around disconnected grammatical forms, structures, and vocabulary. With the CLT approach, language educators build course syllabi around various real-world situations, and then they teach the necessary language functions that are needed to communicate in those specific situations. Consequently, when teaching communicatively, language educators should be careful not to rely too heavily on course textbooks that take a structural approach. Most secondary and postsecondary textbooks that are available in the United States and elsewhere include both notions/functions and the structures of language. Therefore, language educators may opt to place greater emphasis on language notions and functions rather than on grammatical forms and structures in their courses. Even when instructors are required to use textbooks that focus heavily on grammar, it is still possible to teach communicatively because there are a wide range of materials and resources available online that could be used to build a notional/functional syllabus. For example, the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) website contains a repository of online materials and resources, many of which are completely open access, which means that they are free of charge for instructors to download, copy, and use, but some copyright and licensing restrictions may still apply. MERLOT offers a world languages collection with over 3,000 online materials available in many commonly and less commonly taught languages. Figure 3.4 presents an example of an online material for instructing French civilization from the MERLOT website.

This particular resource includes audio, video, digital images, dialogues, and online exercises. While this online resource provides rich cultural information and artifacts, instructors may need to modify the content for learners with varying levels of proficiency. This particular resource includes information on

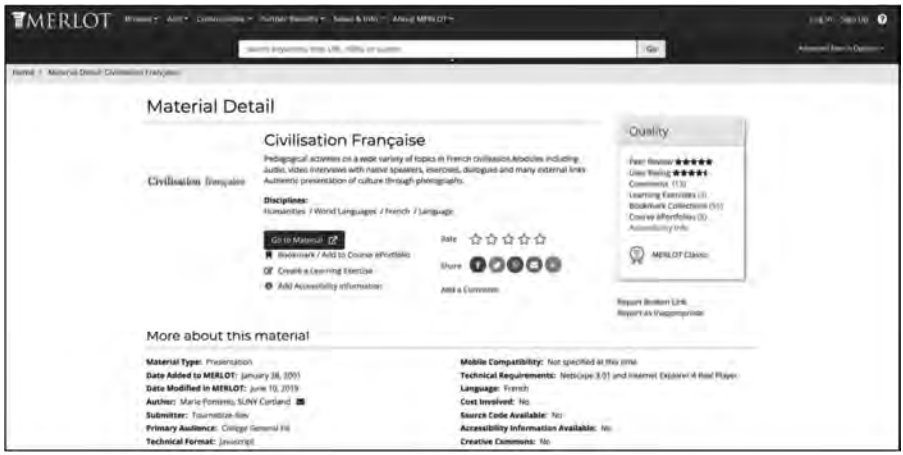

Figure 3.4 MERLOT resource for teaching French civilization.

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several topics. Therefore, specific notions that could be taught include the following: education, family life, government, national holidays, the environment, vacations, health care, and transportation. A variety of language functions could be taught within the real-world contexts listed above, but the grammatical forms and vocabulary items that are covered would depend on the learner's proficiency level in the target language. For example, specific language functions for the notion of schooling/education could be the following: talking about current class schedules (Novice), talking about prior class schedules and comparing them to current class schedules (Intermediate), or talking about ideal class schedules and what could be improved upon in their current class schedules (Advanced). In addition to the MERLOT website, several other websites such as the Center for Advanced Research on Language Acquisition (CARLA) and the Center for Open Educational Resources and Language Learning (COERLL) offer open-access online resources for language learning and teaching. These types of resources could be employed when designing a notional/functional syllabus.

eRESOURCES

Rich Comprehensible Online Input

To integrate Guideline 3 from Table 3.1 (deliver 90% or more of the instruction in the target language), it is necessary to provide ample amounts of rich, comprehensible online input for learners. According to Krashen's input hypothesis (1980, 1985), languages are acquired subconsciously by exposure to comprehensible input and input is the only necessary factor for language acquisition to take place; therefore, students should be exposed to large amounts of target

language input that is just beyond their current level of understanding ($i + 1$). Krashen (1980, 1985) asserted that there is no distinction between child L1 acquisition and adult L2 acquisition and that innate mechanisms within the human brain build an implicit linguistic system (also known as an internal grammar) when learners are exposed to sufficient amounts of comprehensible input. While some scholars may disagree with Krashen's hypotheses (Long, 1981, 1983a, 1983b; Swain, 1983, 1985, 1995, 1998), it is generally accepted that comprehensible input is a key component of the language acquisition process.

Language instructors have the responsibility of making the target language input comprehensible for learners. If exposure to the target language alone were sufficient, everyone could learn an L2 simply by watching television or listening to the radio; however, beginning-level students cannot learn an L2 this way because that would be $i + 1000$, or input that is far beyond their current level of understanding. ACTFL recommends that 90% or more of instructional time should take place in the target language (ACTFL, 2017). This does not mean that delivering instruction in the target language is sufficient for language acquisition to take place; rather, language educators must engage in strategy use to make the target language input comprehensible for learners. Some of these strategies are similar to how caretakers talk to babies and young children in their L1. Johnson (2018) reviewed the research on caretaker talk and found that caretakers do the following: (1) slow down their rate of speech, (2) repeat themselves, (3) simplify their speech, (4) use context (here and now) to support meaning, (5) use speech that is well-formed and grammatical, and (6) rough tune their speech. Rough tuning refers to using language that is approximately at learners' proficiency level, but that also includes forms, structures, and lexical items that are beyond learners' current level of proficiency. Caretakers do this naturally; however, language teachers usually fine tune their speech, which means that they tend to use only the forms, structures, and vocabulary that their students already know. Language teachers should try to avoid this pitfall so that they can optimize, rather than hinder, the language acquisition process. To make sure that their input is comprehensible to learners, language educators should incorporate the same techniques that caretakers do when speaking to babies and young children in their L1; this is especially important for beginning-level learners.

While the role of input is a major factor for language acquisition, instructors should keep in mind that producing output and interacting with others are also necessary ingredients for language learning. Several prominent scholars disagree with Krashen regarding his claim that input is the only necessary

condition for language acquisition to take place. Swain (1985, 1993, 1995, 1998) proposed the output hypothesis, which asserts that L2 students must be pushed to produce output in the target language in order to process language more deeply, attending to both meaning and linguistic form simultaneously. According to Swain, learners must produce output to develop fluency and accuracy in the target language. Furthermore, she claimed that output, in addition to input, is a key factor in the acquisition process.

Similarly, Long (1981, 1983a, 1983b) set forth the interaction hypothesis, which claims that learners acquire language by talking with others. In other words, during conversations between native and nonnative speakers, the interlocutors work together to achieve mutual understanding. When misunderstandings occur, the conversation must be repaired through the negotiation of meaning (Long, 1981, 1983a, 1983b). Long (1996) revised and updated the interaction hypothesis to include cognitive factors and he stated that selective attention and processing capacity are what mediate the input that learners receive during conversational interactions. In other words, learners must pay attention to their input and as human beings, they are limited capacity processors who can only take in, attend to, and process so much new information at one time.

ACTFL (2017) provides a number of recommendations for using the target language in the classroom, which include providing large amounts of comprehensible input, ample opportunities for learners to produce output, and opportunities for learners to negotiate meaning with their instructor and their peers. ACTFL (2017) also recommends that language instructors conduct frequent comprehension checks, use contextual cues to support comprehension, and elicit students' production that increases in complexity, accuracy, and fluency over time. It is noteworthy that ACTFL does not recommend prohibiting the use of students' native language in the L2 classroom; rather, if the L1 is used, it should be in a limited way. For example, defining a vocabulary word in the L1 when all other attempts at facilitating students' understanding of the meaning of the word have failed. However, ACTFL does not recommend using the native language as the default for checking students' comprehension (ACTFL, 2017).

Online instructors should strive to adhere to ACTFL's recommendations with respect to the delivery of instructional content in the target language. However, online instructors will often need to explain the course layout, requirements, and expectations in the students' native language to ensure that they comprehend them. For example, course orientations, course policies, course grading, information on exam dates and times, project instructions,

and homework deadlines may need to be delivered in L1, especially for beginning-level language students, so that they understand the course design and expectations. In other words, information on the structure and delivery of the course will be clearer for students if it is delivered in their L1. The instructional content, however, should always be delivered in the L2 in online learning environments, whether the students are Novice, Intermediate, or Advanced language learners.

There are a number of ways to provide rich comprehensible input for online and blended learners; for example, teachers can make instructional videos that tell a story using the targeted grammatical forms and structures. With video input, visual cues facilitate students' comprehension of target language meaning. It is also possible to caption videos so that students can read along in the target language while they simultaneously listen to the target language input. Of course, teachers must speak slowly and clearly when recording audio and video in the target language. Instructional videos that contain digital images are also a great way to teach new vocabulary items. According to Egbert et al. (2014), instructional videos are the central component of the pre-class materials in the L2 flipped learning approach. Similarly, instructional videos are instrumental in teaching in online and blended environments too. Figure 3.5 displays a screenshot of an instructional video that was created to teach airport vocabulary. It uses simplified language that is more comprehensible for

Figure 3.5 Screenshot of a captioned instructional video using the Blackboard Collaborate tool on D2L's Brightspace platform.

D2L product screenshot reprinted with permission from D2L Corporation.

language learners. The target language input, in this case Spanish, was captioned and it appears at the bottom of the screen. This not only makes the instructional video accessible for students who are deaf or hard of hearing, but it also facilitates all students' comprehension of the target language because they are able to listen to and read the input at the same time.

There are numerous online tools and applications for creating and editing videos, but many of them are proprietary and have costs associated with them. For instructors who teach at an institution with a learning management system (LMS) in place, many of those—but not all—have screen recording capabilities. In other words, instructors may create a PowerPoint presentation, caption it, record a narration, and save it for playback as an MP4 (video) file using features of the LMS. Other software applications can also be used to create a slide presentation, including Keynote and Google slides (see Chapter 2 for information on how to do so); however, not all slide presentation software is compatible with every LMS. With Blackboard Collaborate, for example, only PowerPoint files can be uploaded into the virtual classroom space where video recordings can be made.

For those who do not have an LMS in place or if their LMS does not have the recording feature, there are several free online tools that are useful for creating instructional videos, such as Screencast-O-Matic, which has both a free and a paid version. While Screencast-O-Matic is described in this chapter, other screen capturing tools such as Camtasia, Jing, Filmora, Snagit, and Zoom are also available for making instructional videos through screen casting. Screencast-O-Matic is described here to provide an example of how online tools may be used to create instructional videos that contain rich, comprehensible input. The eResources contain links for all of the tools mentioned above.

Screencast-O-Matic is a computer-based application that allows users to capture and record their screens, edit their recordings, and share them with others. It is an ideal tool for educators who wish to create tutorials, lectures, and/or demonstration videos. The free features allow users to record up to 15 minutes from either their computer screen or web cam. The recordings may be saved as either YouTube videos or as MP4 video files, which can be stored on the user's computer or LMS.

Institutions or individuals may purchase licenses, which provide users with extended features such as unlimited recording length, captioning capabilities, and additional editing and web publishing tools. With the paid version, the length of the video recordings is only limited by the user's available hard disk space. Screencast-O-Matic is a good fit for online, blended, and flipped

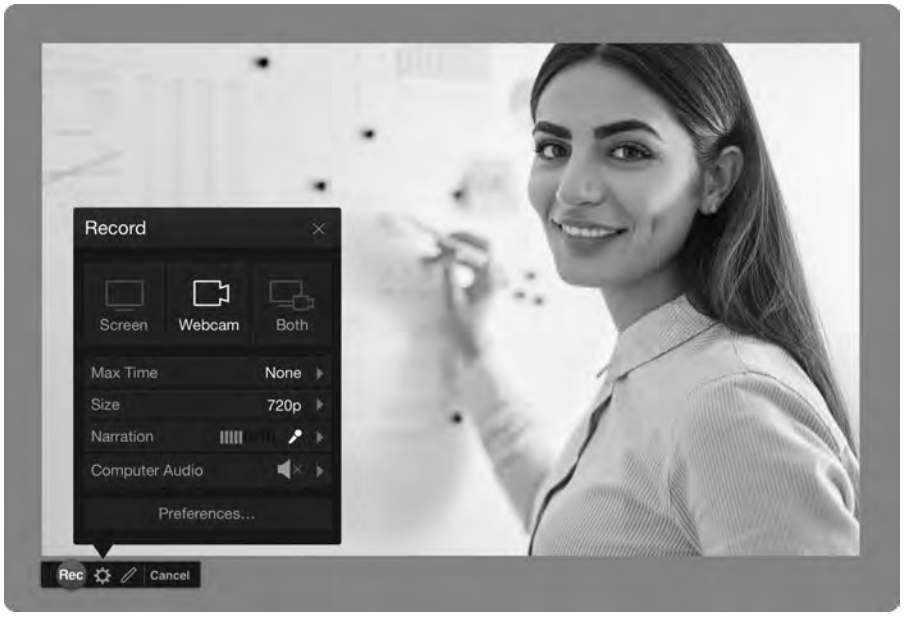

Figure 3.6 Recording features of Screencast-O-Matic.

Used with permission.

learning environments because it provides captioning tools to ensure that the instructional videos are accessible for students who are deaf or hard of hearing. Moreover, the web publishing tools that are built into the application are relatively easy to use. Figure 3.6 shows the recording features of Screencast-O-Matic.

Videos may be published either on the Screencast-O-Matic website or on users' own cloud services. In addition, the Screencast-O-Matic application may be integrated into several LMS platforms and screen recorders may be launched from within the LMS for ease of delivery. Figure 3.7 displays Screencast-O-Matic's video editing features.

Given that Screencast-O-Matic has a free version and that it is able to be integrated into some LMS platforms, it is a good option for creating instructional videos that provide rich comprehensible input for online language learners. Furthermore, the video captioning capabilities enable educators to create instructional materials that are fully accessible to students with diverse learning needs.

Lesson Design and Learner Proficiency Level

According to Guideline 4 from Table 3.1, online language instructors should base all online lessons on professional standards and what students can actually do at the targeted proficiency level. As was discussed

Figure 3.7 Video editing features of Screencast-O-Matic.

Used with permission.

in Chapter 1, online courses can be delivered asynchronously (anytime/anyplace learning) or synchronously (set online class meeting times). With asynchronous delivery models, lessons are typically broken down into weekly or bi-weekly modules (see Chapter 2 for a review of modules and pacing). With synchronous models, online lessons are delivered in real time during virtual class meetings.

Professional Standards

Irrespective of delivery mode, all online lessons or modules should be based on professional standards because they provide a guiding framework for the content that is covered and the skills that are developed; they also describe what learners should know and be able to do at specific levels of proficiency. Professional language learning standards create a roadmap that guides learners in their development of communicative and intercultural competence. Therefore, building lessons based on professional standards helps ensure that instruction is relevant, meaningful, and in keeping with what scholars and practitioners know about how languages are learned in instructional settings. Professional standards could also be used to create a measurable quality management system for language courses and programs, which is essential to advance foreign language teaching and learning (Bärenfänger & Tschirner, 2008). Language educators should think of professional standards as the bedrock of their instruction; a useful analogy is that teaching without the use of

professional standards would be like taking a cross-country road trip without using a map. Professional standards provide the foundation for each lesson or module in quality online, blended, or flipped language courses.

In the United States, the ACTFL World-Readiness Standards for Learning Languages (National Standards Collaborative Board, 2015) are available for world language teachers and the national World-Class Instructional Design and Assessment (WIDA) Amplification of the English Language Development (ELD) Standards Kindergarten–Grade 12 (WIDA, 2012) are available for teachers of English as a second language (ESL). Many states have versions of their own standards for foreign and second language learning; however, these are typically based on national standards from ACTFL or WIDA. Europe and other parts of the world use the Common European Framework of Reference (CEFR) Standards for Languages: Learning, Teaching, and Assessment (Council of Europe, 2011), which are published in 39 languages.

Proficiency Guidelines and Testing

Both ACTFL and CEFR also provide proficiency guidelines that are used to determine students' level based on the specific tasks that they are able to perform in the target language. Similarly, the WIDA (2012) ELD standards describe six levels of proficiency for English language learners as well as what students should know and be expected to do with the language at each stage of development by grade level.

ACTFL (2015) defines proficiency as "the ability to use language in real-world situations in a spontaneous interaction and non-rehearsed context in a manner acceptable and appropriate to native speakers of the language. Proficiency demonstrates what a language user is able to do regardless of where, when or how the language was acquired" (p. 4). Given this definition, proficiency is assessed irrespective of any course, program, or curriculum, and learners must be able to use the language in both familiar and unfamiliar contexts. ACTFL breaks proficiency into five levels (Novice, Intermediate, Advanced, Superior, and Distinguished); with the Novice through Advanced levels, there are three subcategories (Low, Mid, and High). Therefore, proficiency can range from Novice Low through Advanced High prior to reaching the Superior and Distinguished levels. The ACTFL Proficiency Guidelines (ACTFL, 2012) provide detailed descriptions regarding what learners can and cannot do with language at any of the given levels. Language Testing International (LTI) is a licensee of ACTFL and they provide proficiency testing based on the ACTFL, CEFR, and the Interagency Language Roundtable (ILR) scale. The ILR is the rating scale for the State Department's Foreign Service Institute. LTI offers

testing in over 100 languages and their tests include the Oral Proficiency Interview (OPI) and the computer-based Oral Proficiency Interview (OPIc) to assess speaking proficiency. The OPI is a phone interview with a certified tester, while the OPIc is a computer-based test that simulates a conversation using an avatar. OPIc tests are recorded and certified raters review the recordings to determine a proficiency rating. LTI also offers a Writing Proficiency Test (WPT), a Reading Proficiency Test (RPT), a Listening Proficiency Test (LPT), and a Listening and Reading Computer Adaptive Test (L&Rcat). All of LTIs proficiency tests use ACTFL certified raters who are subjected to rigorous training. In addition, LTI reports high levels of validity and reliability for all of the proficiency tests listed above and each test yields an official proficiency score from ACTFL.

At the K-12 level in the United States, each school district will set proficiency targets for their world language courses. Instructors can make use of the ACTFL Proficiency Guidelines (2012) to develop an understanding of where their students are currently and what they should be able to do with the language by the end of the course. They can also use these guidelines to create formative and summative assessments to measure students' progress toward meeting proficiency benchmarks. Setting common proficiency targets is also beneficial for standardizing language learning goals within departments and across institutions within a district.

Similarly, standards-based language programs at the university level set proficiency targets for all of the courses in their program, and courses are typically articulated and sequenced so that students can begin at the Novice Low level and move through the program until they reach the Intermediate High or Advanced Low level of proficiency by the end of the program, depending upon the target language studied. Proficiency benchmarks should take into account the fact that most language learners can listen and read on a higher level than they can speak and write. Proficiency targets are especially important for teacher candidates, or those who are training to become world language teachers. In order to teach a commonly taught language such as Spanish, French, or German, ACTFL recommends that instructors reach Advanced Low, which is the minimum proficiency needed to provide sufficient comprehensible input for learners, regardless of the level of language that is taught (ACTFL & Council for the Accreditation of Educator Preparation [CAEP], 2013). In other words, even if instructors are only teaching Novice students, they still need Advanced Low proficiency to teach the language well. With some of the less commonly taught languages—such as Arabic, Chinese, Japanese, and Korean—the minimum recommended

proficiency level is Intermediate High (ACTFL & CAEP, 2013). This is a key factor to take into consideration when designing online language programs because fewer than half of all undergraduate teacher candidates reach ACTFL's recommended minimum level of proficiency by graduation (Glisan, Swender, & Surface, 2013). Therefore, the creation of well-articulated, proficiency-based online language programs are of paramount importance for the future of world language education.

Similar scales are available for those who teach language in settings outside of the United States and for those who teach ESL within it. World language educators in Europe and elsewhere use the CEFR scale, which is broken down into three main levels (A or basic, B or independent, and C or proficient). These levels are further broken down into subcategories that are marked with either a 1 or a 2 (e.g., A1, A2, B1, B2, C1, and C2). Similar to the ACTFL Proficiency Guidelines, the CEFR scale is used to describe proficiency at each of these levels. The CEFR proficiency scale informs planning, instruction, and assessment in Europe and beyond. Of note, research by Mosher, Slagter, and Surface (2010) found no difference in raters' ability to classify proficiency accurately between the ACTFL and CEFR scales.

For those who teach ESL in the United States, English language learner (ELL) proficiency is divided into six levels (Entering, Emerging, Developing, Expanding, Bridging, and Reaching). Similar to the ACTFL and CEFR guidelines, the WIDA (2012) amplified ELD standards document provides a detailed description of what students can and cannot do at each level of proficiency. Furthermore, the WIDA Assessing Comprehension and Communication in English State-to-State (ACCESS) test is administered yearly to ELLs in public schools. WIDA ACCESS scores are used for a variety of purposes, including placement of ELLs, establishing program entry and exit requirements, monitoring student progress, and informing instruction and assessment. A key difference between LTI and ACCESS testing in the United States relates to cost. For world languages, state and federal funding is not provided for proficiency testing and learners must cover the costs of their own testing if they wish to obtain an official proficiency rating. For example, world language teacher candidates must pay for their own OPI in states or programs that require it for certification. Conversely, Title VI of the Civil Rights Act of 1964 and the Equal Educational Opportunities Act of 1974 require public schools to ensure that ELLs can participate equally and meaningfully in educational programs. Therefore, each ELL must be assessed when entering the K-12 school system and proficiency assessment continues yearly until it is determined that the student has reached a

sufficient level of proficiency to participate in mainstream classes without additional modifications or supports.

ESL instructors are provided with clear and detailed information regarding their students' proficiency levels, as the WIDA ACCESS test yields scores for listening, speaking, reading, writing, oral language (listening and speaking), literacy (reading and writing), and comprehension (reading and listening), as well as an overall score (reading, writing, listening, and speaking). This type of fine-grained analysis of student proficiency can help ESL teachers design individualized instruction to meet students' specific language learning needs. Moreover, WIDA ACCESS scores can be used to create purposeful groupings and/or pairings during lesson activities.

With respect to assessing world language students' proficiency, several open-access resources are highlighted in Chapter 4 for examining and assessing learner language. These resources can help world language educators pinpoint their students' proficiency levels with some degree of accuracy (see Chapter 4 for further details). If world language educators have a good understanding of their students' proficiency levels, then they can better meet their students' needs by differentiating their instruction (i.e., providing additional supports and/or additional challenge as needed).

Language Learning Goals

Goal setting is an important part of language learning in all instructional settings. Language educators use goals to inform their learning objectives, lesson plans, and assessments, while language students use them to identify their own learning goals and to chart their own progress. To help world language instructors and students with the goal-setting process, the National Council of State Supervisors for Languages (NCSSFL) and ACTFL created Can-Do Statements (NCSSFL-ACTFL, 2017a). The Can-Do Statements are aligned with the ACTFL Proficiency Guidelines (2012) and the ACTFL Performance Descriptors (2015) and they are broken down into proficiency benchmarks (overarching language learning goals), performance indicators (steps needed to reach goals), and examples (students' language performance for a given benchmark and indicator). These statements are not meant to be used as a checklist; rather, they are intended to describe what learners at each proficiency level are able to do over time in a wide variety of settings. They are a powerful tool to help language educators understand what proficiency really looks like in practice. The Can-Do Statements are highly specific; for example, a Can–Do performance indicator for presentational communication at the

Novice Low level is, "I can introduce myself using practiced or memorized words and phrases, with the help of gestures or visuals" (NCSSFL-ACTFL, 2017a, p. 12). A number of examples are provided under this proficiency indicator including, "I can write my name, age, and where I live on a simple form" (NCSSFL-ACTFL, 2017a, p. 12). While the benchmarks and performance indicators use some professional jargon, the examples use colloquial language that is easily understood by students and instructors alike. The authors of this book have trained and supervised numerous world language teacher candidates and it is very easy for novice teachers and teacher candidates to overestimate what students can actually do with the language, especially at the Novice through Intermediate levels. The Can-Do Statements are a highly valuable resource for ensuring that language educators assign appropriate tasks, activities, and assessments that are aligned with each level of proficiency as set forth by the ACTFL Proficiency Guidelines (2012). Students also find it meaningful when they are able to create their own learning goals and measure their own progress toward meeting them. Given that it takes many years to attain a high level of proficiency in instructional contexts, setting their own goals—and eventually meeting them—should help maintain students' focus and motivation for language learning.

In addition to language learning goals, the NCSSFL-ACTFL (2017b) Can-Do Statements also include goals for the development of intercultural communicative competence (ICC). ICC refers to students' ability to understand their own and other cultures and to use this understanding to engage in appropriate communication with those from diverse cultural backgrounds (Byram, 1997). Global competence and ICC are closely related constructs and the learning environments that foster global competence may provide the optimal conditions for students' development of ICC. According to ACTFL (2014), global competence includes the ability to speak two or more languages with cultural understanding and respect, and it is "developed and demonstrated by investigating the world, recognizing and weighing perspectives, acquiring and applying disciplinary and interdisciplinary knowledge, communicating ideas, and taking action" (p. 1). Moreover, global competence is essential for successful interactions between diverse groups of people in international, national, and local settings.

The ICC Can-Do Statements include benchmarks (overarching goals) and performance indicators (small steps needed to reach goals) that describe how well students are able to investigate cultural practices and products to gain an understanding of cultural perspectives. They also include benchmarks and performance indicators related to how well students interact with others in

and/or from other cultures in terms of students' language and behavior. An example of an ICC performance indicator at the Novice level is the following: "In my own and other cultures I can identify some typical products related to familiar everyday life" (NCSSFL-ACTFL, 2017b, p. 5). There is also an Intercultural Reflection Tool that was created by NCSSFL-ACTFL (2017c) that students can use to reflect on their own development of ICC over time. The ICC Can-Do Statements and Intercultural Reflection Tool are powerful resources that enable language educators and students to set and measure goals for the development of ICC. Given that students live in an increasingly globalized and interconnected world, the development of ICC should be a key component of any language course or program.

Similarly, the WIDA (2016) K-12 Can Do Descriptors, Key Uses Edition, describe what ELLs can do at each level of proficiency by grade level. These statements revolve around four key language uses, as follows, with respect to the development of academic language: (1) recount, (2) explain, (3) argue, and (4) discuss. After a careful review of the literature and a linguistic analysis of the language needed for college and career readiness, WIDA selected the four aforementioned key language uses, which are also academic language functions, to be the focus of their Can Do Descriptors. One major difference between teaching ESL and teaching a world language in the United States is the focus of instruction. While world language classrooms (at the Novice Low through Intermediate Mid levels) focus on the development of basic interpersonal communicative skills (BICS), ESL instruction emphasizes the development of cognitive academic language proficiency (CALP). While both BICS and CALP are necessary to master a second language, ELLs tend to learn BICS within two years during their everyday interactions while being immersed in an English speaking context; however, it takes five to seven years for them to acquire grade-level academic language (Cummins, 1984, 1991). Given this long lag time between the development of BICS and CALP, a major goal of ESL instruction is to teach academic language so that ELLs can perform at grade level in this area. Conversely, most world language students are already operating with CALP on their grade level in their L1, and they typically do not have access to immersion in the target language environment. Therefore, they are in greater need of BICS at the Novice through Intermediate levels of instruction. The WIDA (2016) Can Do Descriptors also provide examples of tasks and activities that foster each of the key language uses.

In summary, both the NCSSFL-ACTFL (2017a, 2017b) Can-Do Statements and the WIDA (2016) Can Do Descriptors are valuable resources to assist with goal setting and to inform planning, instruction, and assessment of student

learning. Moreover, both of these resources are perfectly aligned with their respective professional standards and proficiency guidelines and they both provide clear language regarding what students can actually do at their given level of proficiency. The NCSSFL-ACTFL (2017b, 2017c) Can-Do Statements also include resources for the development of ICC and global competence.

Lesson Design and the Three Modes of Communication

When designing lesson activities, Guideline 5 from Table 3.1 states that instructors should avoid mechanical and pattern drill activities. These types of activities are throwbacks from the audio-lingual method (ALM) of instruction, which is founded on the principles of behaviorism. In other words, this outdated teaching method is based on the belief that languages are learned through repetition, with learning taking place via conditioning and habit formation. Furthermore, according to behaviorism, errors should be avoided at all costs for fear that they may become ingrained. This often leads to overcorrection of students' errors. Today, it is widely understood by practitioners and scholars that ALM is not an effective instructional method. Languages cannot be learned by rote memorization and grammar drills, and it is impossible to learn a language without making mistakes. Moreover, the language acquisition process is a complex phenomenon that cannot be explained fully by the tenets of behaviorism. Unfortunately, ALM still exerts its influence today in terms of the types of activities that can be found in foreign language textbooks and resources, including those that are available online.

Pitfalls of Mechanical Drills

With ALM, lesson activities consist of mechanical or pattern drills—these are activities where students fill in a blank with a specific target language form or structure and the sentences in these activities are typically unrelated to each other. Therefore, the learner quickly understands that the purpose of the activity is simply to supply the correct grammatical form, not to make or understand meaning in the target language. With mechanical drills, the instructor has complete control over the response and there is only one possible correct answer. According to Paulston (1972), the goal of the mechanical drill is to provide practice on target language structures in order for students to move from repetition to self-expression without making grammatical errors. Paulston (1972) created a taxonomy of practice types for foreign language classrooms that includes three types of activities: mechanical, meaningful, and communicative. While learners do not need to attach meaning to the input

sentences to complete mechanical activities, with meaningful activities, the learner must attach meaning to the input sentence and to the response; however, there is only one correct answer that is already known by the teacher or classmate (e.g., What color is my shirt?) Communicative activities are similar to meaningful activities, but they include open-ended items with more than one possible correct response (e.g., What are you doing this weekend?). While Paulston created his taxonomy of practice types in 1972, many foreign language textbooks that are currently available on the market in the United States and elsewhere still place a heavy emphasis on mechanical drill activities, while providing fewer meaningful and communicative activities.

A major drawback of mechanical drills is that students do not have to understand the stimulus to produce a correct answer. For example, students may conjugate the verbs correctly in mechanical drill activities by identifying the subject pronoun of each sentence and supplying the correct verb forms; however, while students' answers may be correct, it is unclear whether they understand the meaning of their responses in the target language. Research by Wong and VanPatten (2003) indicates that mechanical and pattern drills are a waste of instructional time because they do not promote L2 acquisition; therefore, they recommend that language educators bypass drills altogether in favor of more communicative lesson activities.

The authors of this book estimate that up to 80% of the activities in publisher-created materials in print and online fall into the category of mechanical or pattern drills. Therefore, extreme care must be taken when creating and/or assigning lesson activities to ensure that students are not wasting their time engaging in ineffective grammar drills. While students may learn the targeted forms and structures in the short-term for course assessments, they will be quickly forgotten unless they have the opportunity to use them in a more meaningful way. Therefore, instructors should strive to incorporate meaningful and communicative activities into their lessons rather than relying on ineffectual and outdated mechanical drills. Language learning is promoted when students engage in open-ended communicative activities; these are activities where the teacher/peer does not know or cannot predict how the student will respond in the target language.

Moreover, language educators should keep in mind that grammar should not be the focus of instruction. Rather, grammar should be taught only to support communication, with the focus on meaning rather than on form. One way to do so is to teach grammar as a concept through story-based language learning, as was described in the section on Glisan and Donato's core practices above. Richards (2006) recommends teaching grammar inductively,

which can be achieved by providing students with target language examples (aurally and in writing) and asking the students to figure out the grammar rules from the examples. Yet another inductive technique is to flood the input with the targeted forms and structures while using input enhancement techniques to draw students' attention to the targeted forms in their written input materials. According to Sharwood Smith (1991), input enhancement is any technique that highlights specific features of the written input, which can be achieved through changes in font style/size, underlining, bolding, or through the use of color. Russell (2014) found that beginning-level Spanish language learners were able to acquire the future tense with this approach. Even though the students in her study did not have any formal instruction on the Spanish future tense, they were able to use it correctly after reading several passages that were flooded with textually enhanced future tense forms.

Another way to teach grammar communicatively is to use processing instruction (PI), which is a research-based technique that requires learners to process target language forms correctly in order to extract meaning. This technique is based on VanPatten's model of input processing (1993, 1996, 2002, 2004), which is a set of principles that describe how L2 learners initially process or parse their L2 input. However, this pedagogical intervention is only effective for grammatical forms that carry semantic meaning (e.g., *-ed* = past tense in English) and it is not effective for targeted forms that only carry grammatical information such as definite articles. Lee and VanPatten (2003) suggested that PI should be used whenever instructors anticipate that their learners will experience a processing problem. For example, Spanish language learners who are native English speakers typically have difficulty processing object pronouns in Spanish; they often confuse subject and object pronouns in the target language input that they read or hear because the subject pronoun is frequently dropped in Spanish. While PI is a highly effective, meaning-focused technique for teaching grammar, it is somewhat challenging to design and implement. Lee and VanPatten's 2003 book is recommended reading for those who are interested in this research-based instructional technique that enables students to make form-meaning connections when learning L2 grammar (see suggestions for further reading at the end of this chapter).

A number of effective techniques for teaching grammar—such as story-based language learning, input flooding, textual input enhancement, and PI—were described above. These pedagogical interventions keep the focus on target language meaning rather than focusing on form. They should be implemented in flipped, blended, and online language learning environments as good alternatives to the mechanical drill activities that are prevalent in many of the publisher-created materials that are currently widely available in print and online.

Communicative Online Activities

Creating and delivering communicative online activities enables language educators to incorporate Guidelines 6 and 7 from Table 3.1. Guideline 6 (facilitate student-student and student-teacher interaction in the target language to promote the negotiation of meaning) and Guideline 7 (engage students in open-ended communication where they can create with language) can be promoted with meaningful and open-ended activities in which learners are engaged in three modes of communication: interpretive, interpersonal, and presentational. The interpretive mode refers to students' comprehension of written, visual, or aural target language input, the interpersonal mode encompasses all person-to-person synchronous communication in the L2, and the presentational mode denotes all spoken and written target language output that students have had time to prepare, practice, and/or rehearse in advance. Students may engage in interpretive reading, viewing, or listening and presentational speaking or writing. The interpersonal mode typically occurs in the spoken modality, but in online environments, it could also occur through texting or chatting. The interpersonal mode of communication must occur synchronously (at the same time), while the presentational mode may occur either synchronously or asynchronously (at different times). An example of synchronous communication would be two people talking on the telephone or via Skype. Conversely, an example of asynchronous communication would be one person posting a message on a discussion board and another person answering it a few hours, or a few days, later.

Some online tools for engaging students in all three modes of communication are outlined below. Please note that these tools are not meant to be prescriptive. They are included only to show examples of how to use online tools to teach communicatively. Language educators are encouraged to explore new tools and to use applications that they know or have access to in order to promote open-ended communication, the negotiation of meaning, and creative language use among students.

To facilitate practice in the interpretive mode, instructors may provide online reading and listening passages for their students, but it is important to keep a few things in mind when facilitating students' reading and listening comprehension skills in the target language. For example, comprehension skills precede production skills. This means that students will be able to listen and read at a higher level than they can speak and write in the target language. Therefore, it is OK to challenge students with written and aural target language input that is beyond their current level. L2 learners often struggle with

comprehension skills because they typically engage in bottom-up processing. This means that they decode messages by paying attention to the details. In other words, L2 learners try to understand sentences and utterances by attempting to comprehend one word at a time. Conversely, native speakers usually engage in top-down processing first, which means that they decode messages by using their background knowledge to make predictions. After using top-down processing, native speakers engage in bottom-up processing to check the details of the passage against their predictions. Therefore, language teachers can promote top-down processing by helping students tap into their background knowledge in their L1. Background knowledge in the L1 can transfer over and help students comprehend input in the L2. It will be helpful to remind students to examine the type of text that they are reading in the target language (e.g., a poem, an advertisement, a diary entry, etc.) and then ask them to think about the kind of language that is used in that specific text type in their L1. There are likely to be similarities that will help facilitate their comprehension in the L2. Similarly, students' knowledge of the world can also be tapped to help them engage in top-down processing. If they are reading a passage about a young person who lives in a city in a target language country, the teacher could prompt them to think about what they know about city living (e.g., apartment buildings, public transportation, crowds, etc.). Asking students to make predictions about what they will read or hear and providing an advanced organizer (an oral, written, or visual outline of the new information that they are about to hear or read) also facilitates top-down processing. Providing visual images that coincide with reading and/or listening passages fosters students' comprehension of target language as well. It is also possible to caption videos in the target language and some video platforms such as Yabla and This Is Language (TIL), which are discussed below, even allow users to slow down the rate of speech in video input.

There are numerous online tools available that can be used to provide practice for students in the three modes of communication. For example, to stimulate the interpretive listening mode, Yabla is an application that makes authentic movies and television shows comprehensible for learners. It does this in three ways, (1) teachers may allow videos to show captions in the target language or in English, (2) students are able to slow down the videos and to rewind and replay segments of videos with Yabla's video player, and (3) written transcripts of videos are also available for students to assist their comprehension. The video content that is available on Yabla includes music videos, documentaries, interviews, travel and cooking shows, soap operas, and more.

Figure 3.8 presents a screenshot of Yabla's home page, which displays the various languages that are available on the Yabla platform.

Figure 3.8 Screenshot of Yabla's home page.

Used with permission.

All of the video content is authentic, meaning that is was made by and/or for native speakers. This exposes students to the target language culture(s), to authentic target language accents, and to other sociolinguistic information that is socially and culturally appropriate. At this time, Yabla videos are available in Chinese, Italian, Spanish, French, German, and English. Yabla also provides a free 90-day trial for language educators. Similarly, TIL provides over 5,000 videos on common topics that are covered in the secondary and postsecondary curricula, such as friends and family, free time and leisure, education and work, home and health, and holidays and travel. TIL offers videos in ESL, French, German, Italian, and Spanish; moreover, TIL creates their own authentic videos with native speakers who are young people (not actors) talking about their daily lives. Videos are never shot twice, which means that they are natural and authentic. Therefore, this is an outstanding resource to help students acquire pragmatic competence in the target language.

While applications such as Yabla and TIL facilitate interpretive listening skills (and pragmatics), two applications that are useful for stimulating presentational speaking are PhotoStory 3 and VoiceThread. PhotoStory 3 is an application that is used for digital storytelling, which is the practice of telling stories through the use of computer-based tools. Similar to traditional storytelling, digital stories enable individuals to present their point of view

Figure 3.9 Overview of the capabilities of Photo Story 3.

Used with permission from Microsoft.

on a specific topic. Digital stories typically contain a mixture of computer-based images, text, recorded audio narration, video clips, and music. This application allows students to practice their presentational speaking within a meaningful cultural context through the use of authentic images and music. Figure 3.9 provides an overview of the capabilities of the Photo Story 3 application.

To create a digital story using this application, students would narrate ten to fifteen digital images in the target language with the option of playing target culture music in the background. The application also provides space for students to type their script, which can be used to assist the narration process. The Photo Story 3 application automatically adds effects to still images, such as panning and zooming, to help capture viewers' attention. Students may alter the preset panning and zooming effects to create their own effects. Furthermore, Photo Story 3 enables users to add text, such as titles and captions, as well as other graphics to images. It also allows users to save their digital stories as project files, which can be edited at a later time, or they may be saved as Windows Media Video (WMV) files, which can be stored on the user's computer or uploaded to the LMS. Digital stories may also be sent to others via e-mail if the file size is small enough. Photo Story 3 is available as a

free download. Students should also be encouraged to use their own personal technologies, such as videos shot on their mobile phones, for creating digital stories.

VoiceThread is another effective tool to stimulate presentational speaking. It is a media player that contains a built-in online discussion space. Teachers are able to upload media such as PowerPoint presentations, images, documents, or videos to an online collection that has the appearance of a slide show. After the media is added, both instructors and students are able to post comments in which they engage in an on-going asynchronous discussion of the topic. The discussions are asynchronous because students do not have to be on the VoiceThread platform at the same time. Rather, they may post their comments and replies during the days and times that are convenient for them prior to the instructor's due date for the assignment. During these online discussions, students may ask and answer each other's questions and critique each other's comments. Moreover, comments may be made with video and audio (using a web cam), with audio (using an external microphone or telephone), or via text (using the computer's keyboard). If users opt to make their audio recordings using a telephone, they are provided with a phone number and pin. Figure 3.10 demonstrates how to use VoiceThread to engage beginning-level learners in presentational speaking.

Figure 3.10 Using VoiceThread to stimulate presentational speaking among beginning-level Spanish language learners.

In online, blended, or flipped L2 classrooms, VoiceThread provides students with a space to engage in presentational speaking in the target language. In addition to using VoiceThread for interactive voice boards, students may create individual presentations by uploading and narrating a single image or slide, an entire PowerPoint presentation, or a video that they shoot with their cell phone or digital camera.

To promote interpersonal speaking in online and blended environments, conversation platforms enable students to engage in synchronous conversations with native speakers. Some conversation platforms that are available include LinguaMeeting (Wiley's EnVivo application uses this platform), Speaky, TalkAbroad, and WeSpeke. These applications allow individual students or small groups of students to interact with native speakers for up to 30 minutes at a time. The course instructor may add assignments, guiding questions, and/or instructions for the students' conversation partners. Some of the applications allow the conversations to be recorded and stored on the vendor's website. All of the platforms listed above, except for WeSpeke, have costs associated with them and they have a limited number of available languages. WeSpeke is a free conversation exchange platform that has 130 available languages; however, students must find their own conversation partner and they must take turns speaking in the target language and in English with their partners. Because many individuals around the world are engaged in learning English, it is relatively easy for students to locate partners who are native speakers of the target language. More information on free conversation tools is available in Chapter 2.

Conversation platforms have revolutionized online language course delivery because it is extremely difficult for one instructor to have extended conversations in the target language with each student. The one-on-one to small group synchronous interactions in the target language that occur on these platforms facilitate the negotiation of meaning, which is critical for the language acquisition process. Conversation platforms bring the language to life for online, blended, and flipped learners, and they help students understand the real-world applications of being able to communicate with native speakers of the target language.

There are also several platforms that allow students to practice interpersonal writing via text chat such as Bilingua, HelloTalk, HiNative, and Tandem. Most of these applications are free, but students must locate a conversation partner and take turns texting in the target language and in English. While the authors do not endorse any particular conversation platform, they do encourage online, blended, and flipped language instructors to explore all of the available

options to determine which one(s) best meet the needs of their students and their own unique instructional contexts.

While several specific tools were mentioned above, it is important to note that any tool or application may be used provided that the following elements are present in the course: (1) learners receive ample comprehensible input in the target language, (2) learners have opportunities to produce output in the target language, and (3) learners have interactions with others in the target language. For online course delivery, it is often easier for instructors to use the technology tools and applications that are available at their institutions because then the institution, and not the instructor, is responsible for providing technical support to students in the event that they need it, which lifts some of the burden off of the instructor.

Authentic Materials

Guideline 8 from Table 3.1 is to integrate authentic materials, which are materials and resources that were created by and/or for native speakers of the target language. Infusing the course with authentic materials is of paramount importance in online, blended, or flipped language learning environments. Authentic materials allow students to read and/or listen to the language as it is used by native speakers in everyday situations. Galloway (1998) defined authentic texts as those that are "written by members of a language and culture group for members of the same language and culture group" (p. 133). Exposure to authentic texts and materials provides students with perspectives from the target language culture(s) on events, issues, themes, and concepts.

ACTFL advocates fostering students' understandings of cultural products, practices, and the perspectives that underpin them, and one way to do so is to expose students to authentic materials. The ACTFL World-Readiness Standards for Learning Languages (National Standards Collaborative Board, 2015) include two Cultures standards as follows: (1) "Learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied" and (2) "Learners use the language to investigate, explain, and reflect on the relationship between the products and perspectives of the cultures studied" (p. 1).

With respect to the ACTFL Cultures standards, authentic reading materials help students learn about the daily practices and products of the target language cultures and the perspectives that inform them. There are numerous authentic materials available on the Internet that may be curated to create cultural lessons. For example, the Newseum website provides the front pages of

more than 2,000 newspapers from around the world. While this website only offers the front page stories, it is possible for students to see different cultural perspectives on the same news story from different countries where the target language is spoken. Students may also compare perspectives on the same story between the target language country and their own country.

Front pages are available from various regions of the word including Africa, Asia, the Caribbean, Europe, the Middle East, North America, Oceania, and South America. Figure 3.11 depicts the landing page for Today's Front Pages. It is important for instructors to keep in mind that the newspapers are unedited and appear in their original "authentic" format. Therefore, L2 instructors, especially those who teach at the K-12 level, may wish to preview the materials to make sure that they are appropriate for younger learners before sharing the front page stories with students.

For Novice learners, simply pointing out the differences in the size and placement of the same headline that is covered in newspapers from different countries or regions is a good starting point. Some discussion in English on the cultural, political, and geographical similarities and differences between the two countries will promote the development ICC. Intermediate-level learners should be able to read the two articles with scaffolding from the instructor (e.g., providing background information and defining key vocabulary items), and Advanced-level learners should be able to discuss the similarities and differences between the perspectives of two different countries in the target language.

Figure 3.11 Today's front pages from the Newseum website.

Courtesy Newseum.

In addition to Today's Front Pages, there are numerous other websites that feature authentic materials that may be used for language learning, including several that were featured in this chapter (e.g., CARLA, COERLL, LangMedia, MERLOT, TIL, and Yabla). Authentic texts that are incorporated into lesson activities should be age appropriate, context appropriate, and at the appropriate level of difficulty for students' proficiency level with the assistance of scaffolding from the instructor. While it may take time for language instructors to search the Internet and to create activities that promote awareness of cultural products and practices and the perspectives that underpin them, exposure to authentic materials not only adds interest for language learners, but it also helps them recognize that there is a whole population of speakers of the target language in the world who have rich and diverse cultural perspectives (ACTFL, 2014).

Creating a Meaningful Cultural Context

Guideline 9 from Table 3.1 is to create a meaningful cultural context for language instruction. Perhaps the most straightforward way to do this is to incorporate ACTFL's two Communities standards: (1) "Learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world," and (2) "Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement" (National Standards Collaborative Board, 2015, p. 1). It should be noted that language instructors often find that these two standards are the most challenging to implement due to time constraints, a lack of resources, and other factors. However, there are a number of ways to implement them in the online environment that would facilitate Guideline 9 as described below.

One way to create a meaningful cultural context in online classes is to create a language partnership or exchange. This type of activity allows students to interact with their peers from the target language culture. Students will typically spend half of the time communicating in the target language and the other half of the time communicating in English (to help the conversation partner). Technology such as Skype or other video conferencing platforms may be used for these conversations. There are also several free websites such as Italki and The Mixxer that help students locate conversation exchange partners. However, it may be difficult to hold learners accountable and/or grade their work on free language exchange platforms such as these. Regardless of the platform used, instructors should provide guiding topics or questions to ensure

that students maximize their linguistic and cultural exposure during conversations with their partners. If the platform has the capability to record and store conversations, then students should be required to listen to the recordings and to reflect on how they could improve their fluency and accuracy in subsequent conversations. See Chapter 2 for more information on developing language partnerships and exchanges.

Creating a language exchange may be time consuming, but it is a powerful way to connect students to the target language community beyond the walls of the classroom, whether those walls are virtual or traditional. This type of activity would also meet the first Communities standard listed above. Furthermore, by interacting with native speaker peers, language students will develop a deeper understanding of cultural products and practices as well as the perspectives that underpin them.

Another way of creating a meaningful cultural context is to have students curate the cultural artifacts that they find on the Internet, which they will then order and display using websites or blogs. During the curation process, students sort through a large amount of Internet-based content. After selecting the cultural artifacts that interest them, the students will organize the artifacts in a meaningful way that can be shared with their instructor and peers. Students may work either individually or in groups. When instructors require that students only curate authentic materials—those that are created by and/or for native speakers of the language—learners are exposed to the target language as it is used in its natural social and cultural context. Furthermore, when students select materials that are of interest or relevance to themselves, the lesson content becomes more meaningful to them. For example, the instructor may ask students to find examples of dance in Spain. While some students may opt to research traditional *flamenco* dancing, others may choose to research more modern dance such as *salsa*, which originated in Latin America, but is currently popular among young people in Spain. The curation of cultural artifacts is an excellent way for students to learn about the target language and culture simultaneously. In addition, this type of activity meets the second Communities standard above with respect to students' use of the language for enrichment and enjoyment. If instructors do not have access to an LMS with built-in blog or wiki tools, open-access websites such as Cool Tools for School, WordPress, and Wakelet are useful for student curations.

While language exchanges and student curations may take some time to implement, online instructors can also create a meaningful cultural context simply by engaging students in real-world communication. Placing students in

pairs or small groups to discuss topics that are relevant to them–such as their daily lives, schedules, interests, and concerns–ensures that their communication is meaningful and authentic. As long as students are communicating real-world information, then instruction is occurring within a meaningful cultural context. Activities that promote real-world interactions should be employed in online, blended, and flipped learning environments.

Holistic Grading and Corrective Feedback

Guideline 10 from Table 3.1 (grade students holistically and provide appropriate corrective feedback) pertains to assessing student learning. All learners make mistakes during the language acquisition process and it is important to help students understand that it will be impossible for them to speak or write with perfect accuracy, even after studying the target language for many years. Language instructors also need to recognize that our goal is to foster students' development as "successful multicompetent speakers, not failed native speakers" (Cook, 1999, p. 204). Nonetheless, many students fear making mistakes, so it is necessary to create a learning environment that encourages all students to communicate in the target language, even when their language production is inaccurate. When instructors place emphasis on meaning rather than on form, students will likely feel less inhibited and less anxious about expressing themselves in the target language. To encourage students to speak in the target language despite their inaccuracies, instructors should not penalize them for each and every mistake that they make in their written and/or oral production. Rather than counting errors and tallying a score based on students' accuracy, rubrics may be used to evaluate specific criteria holistically, with grammatical accuracy being only one criterion among many. This type of grading focuses on the overall quality of students' work rather than on individual errors. When assessing students' production at the Novice through Intermediate levels, the most important thing to consider is whether they are able to get their meaning across so that a sympathetic native speaker could understand them. Therefore, certain types of errors—such as pronunciation—may be a more important factor than grammatical accuracy when students attempt to convey meaning in the target language. As students advance in their language learning, instructors could then begin to increase their expectations regarding students' fluency and accuracy. This increase in student expectations should accompany lesson tasks and activities that build in complexity over time.

The ACTFL Performance Descriptors for Language Learners (ACTFL, 2015) are useful for creating grading rubrics for online, blended, or flipped learning because they contain specific descriptions of the type of language that learners can produce as a result of explicit instruction at three main levels (Novice, Intermediate, and Advanced). The ACTFL Performance Descriptors were created to accompany the ACTFL Proficiency Guidelines (ACTFL, 2012), which are used to evaluate an individual's functional language ability irrespective of how a learner may have acquired the language (e.g., classroom-based learning, heritage language learning, immersion). See Chapter 5 for a detailed description of the ACTFL Performance Descriptors and the current research findings on using rubrics and performance-based assessments in the world language curriculum.

While proficiency and performance are related constructs, there is a key difference in how they are each assessed. In instructional settings, performance—rather than proficiency—is generally measured. For example, in educational contexts, instructors will set an instructional goal and write specific learning objectives for their lessons with the overall learning goal in mind. Students will then practice and rehearse the language functions and vocabulary items that pertain to the instructional goals and objectives (during class time and for homework). While students learn the new content, the instructor continually assesses student learning with formative assessments, which measure students' progress toward meeting the learning goals and objectives. Instructors may also determine whether certain content must be re-taught or if more or less time needs to be spent on specific topics based on the results of formative assessments. Finally, a summative assessment is administered that measures student mastery of the content that was taught in a learning segment or unit of instruction. An example of a summative performance-based assessment is a student giving an oral presentation on how to cook a specific dish from the target language culture after learning food/kitchen vocabulary, command forms, and cultural information surrounding cuisine in the target language culture.

Proficiency, on the other hand, is not tied to any specific course or curriculum. It measures a learner's ability to use the language in various contexts, with the linguistic content being very broad and touching on a wide range of real-world topics. An example of a proficiency assessment is the ACTFL OPI, which was described earlier in the chapter.

By using the ACTFL Performance Descriptors to create rubrics for both formative and summative assessments, language educators can help ensure that their instruction adheres to CLT. In online and blended courses, it is

particularly important that students understand how they will be assessed on each assignment, assessment, and/or interaction. Online instructors should post the grading rubrics for all items of consequence in the course prior to the due dates. It is also a good practice to provide students with examples of target-level performance. For example, if Novice High students are expected to write a paragraph in the target language, the instructor could post a sample paragraph that uses simple sentences and structures. Often students who are adults or adolescents attempt to speak or write on a level that is much higher than their current proficiency level in the target language. This often results in production that is riddled with so many errors that it is not comprehensible. Students may then examine the rubrics, assessment criteria, and examples so that they have a solid understanding of exactly what is expected of them.

The ACTFL Performance Descriptors are a good starting point for the creation of rubrics because they provide clear language that addresses the three modes of communication (interpretive, interpersonal, and presentational) across seven domains as follows: functions, contexts and content, text type, language control, vocabulary, communication strategies, and cultural awareness (ACTFL, 2015). The first three address the parameters for language learning and the final four address how well a student is able to make and understand meaning in the target language. Each of these parameters is discussed in greater detail in Chapter 5 along with the research on assessment.

For those who teach ESL, the WIDA Performance Definitions (2018a, 2018b) for both Listening/Reading and Speaking/Writing are valuable resources for creating rubrics that are tied to each of the six levels of English language development. These documents provide specific language that describes target-level performance across three criteria: linguistic complexity, language forms and conventions, and vocabulary usage. The definitions are also well aligned with the WIDA (2012) ELD standards and the WIDA (2016) Can Do Descriptors.

While the ACTFL Performance Descriptors may be used for a rubric's content (e.g., mode of communication, domain, and evaluation criteria), there are several open-access websites that provide technology tools for creating customizable online rubrics. These include the following: Annenberg Learner, RubiStar, Teachnology, and RubricMaker. It is also helpful to include space for instructor comments/feedback as well as space for students to reflect on their own learning. Students may also be encouraged to rate themselves on the rubric and to compare their ratings with those of the instructor.

While it is not necessary to correct each and every mistake, language educators must provide their students with negative evidence, or what is not possible in a language, to facilitate the language acquisition process (Ellis, 1994; Long, 1996). Corrective feedback may be either written or oral in an online, blended, or flipped language class. There are several free tools that are useful for providing oral feedback for students including Audacity, Online Voice Recorder, and Vocaroo. Audacity is an application that enables users to create and edit audio files. Vocaroo and Online Voice Recorder are more simple tools that allow for audio recording but not editing. Audio feedback allows instructors to correct students' pronunciation errors. This is of particular importance in online classes that are asynchronous because the students do not have regular class meetings in which their pronunciation may be corrected. Audio feedback may also help students improve their listening skills in the target language. When providing audio feedback, it is important for the instructor to speak clearly, to have a tone that is motivating and positive rather than critical, and to give positive as well as negative feedback so that the learner is not discouraged.

There are numerous ways to provide written feedback for students in online, blended, or flipped classes. For example, instructors may use the track changes feature in Microsoft Word to leave comments; they may send written feedback via e-mail, text, or chat; or they may use an application such as Lino or Padlet, where instructors can leave feedback and communicate with students regarding their errors and/or answer their questions about their feedback in a collaborative whiteboard space. Google docs also allows instructors to edit and/or comment on their students' written work.

Regardless of the tool or application that is used to provide written corrective feedback, it is helpful for language instructors to use a correction code. With correction codes, symbols are used to indicate specific mistakes (e.g., w/o = incorrect word order). When students are allowed to re-write their written work after viewing the instructor feedback using a correction code, they not only improve their written production, but they also gain metalinguistic awareness about how the language works because they must look up each error and understand exactly why their production was inaccurate.

In summary, language instructors should focus on meaning rather than on form with respect to grading students' work and correcting their errors. If their production could be comprehensible to a sympathetic native speaker, even if they have inaccuracies, then students should be rewarded for making meaning in the target language. A benefit of online language

learning is that students often submit recordings of their oral work and online instructors can correct students' production and pronunciation errors asynchronously using technology tools and applications. Therefore, online learners are likely to feel less embarrassment about their oral error corrections because these can be done in private—using the tools listed above—rather than in front of their peers. Finally, the ACTFL Performance Descriptors (2015), for those who teach a world language, or the WIDA (2018a, 2018b) Performance Definitions, for those who teach English as a second or foreign language, are useful resources for the development of rubrics that grade students holistically.

Conclusion

If language educators follow the ten guidelines listed above when delivering online, blended, or flipped language instruction, then they can rest assured that they are adhering to the major tenets of CLT and that the learning environments they create are communicative. It is possible to teach communicatively in online environments; however, it takes some forethought as well as the inclusion of instructional technologies that facilitate communication in the target language. As a final thought, technologies are always changing and evolving. Therefore, it is not the tool or application that makes online communicative language teaching happen; rather, it is the instructor's knowledge of online language pedagogy, which is knowledge of the pedagogy and technology for teaching language online—the focus of this chapter. Numerous resources for professional development in online language pedagogy are described in detail in Chapter 4. Readers who have little or no experience teaching in online, blended, or flipped learning environments are strongly encouraged to explore these resources and to plug into an online community of practice, several of which are listed in the next chapter.

Key Takeaways

- Language instructors need professional development, resources, and support to transition effectively from the traditional to the online, blended, or flipped learning environment.
- Students' development of communicative competence should be the overarching goal of every language course, irrespective of the delivery mode (traditional, online, blended, or flipped).

- Internet-based resources, such as authentic audio and video clips, show students how the target language is spoken among native speakers in natural sociocultural contexts. Therefore, these resources may be superior to language textbooks for facilitating learners' communicative competence.
- Following the guidelines listed in Table 3.1 will help ensure that online, blended, and flipped language courses are taught communicatively (using the CLT approach).

Discussion Questions

1. Many educators are tempted to teach the way that they were taught, even if those methods were ineffective or outdated. What methods did your language instructors use? Did they teach communicatively? Do you strive to teach communicatively? How will you enact CLT in online, blended, or flipped learning environments?
2. Do you facilitate your students' development of sociolinguistic and strategic competence? If so, how do you do this? How will you facilitate these competencies in online, blended, or flipped learning environments?
3. Do you agree with Glisan and Donato's (2017) core teaching practices? Why (not)? Are you able to enact all of these practices in the traditional brick-and-mortar environment? Do you think it will be more challenging to enact them in online, blended, or flipped learning environments? Why (not)?
4. Glisan and Donato (2017) advocate the PACE model. Do you agree that this is a good technique for teaching L2 grammar? Why (not)? Do you think it will be effective for instructing all grammatical forms (both simple and complex forms)? In your opinion, how difficult would it be to use the PACE/story-based approach for teaching grammar in traditional versus online environments?
5. Do you think it will be challenging to incorporate the ten guidelines for teaching communicatively in online, blended, and flipped learning environments? Why (not)? Which ones do you think will be easy to incorporate? Which ones will be difficult?
6. A number of online tools and resources were mentioned in this chapter. Which ones will you integrate into your online, blended, or flipped language classes? Can you think of any novel ways of using these resources that were not mentioned in the chapter?

Suggestions for Further Reading

Communicative Language Teaching:

Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics*, *1*(1), 1–47.

Lee, J. F., & VanPatten, B. (2003). *Making communicative language teaching happen* (2nd ed.). New York, NY: McGraw Hill.

Richards, J. C. (2006). *Communicative language teaching today*. New York, NY: Cambridge University Press.

Wong, W., & VanPatten, B. (2003). The evidence is IN: Drills are OUT. *Foreign Language Annals*, *36*(3), 403–423.

Core Practices for Language Instruction:

Glisan E. W., & Donato, R. (2017). *Enacting the work of language instruction: High leverage teaching practices*. Alexandria, VA: The American Council on the Teaching of Foreign Languages.

Learner Curation of Authentic Materials:

Mathieu, L., Murphy-Judy, K., Godwin-Jones, R., Middlebrooks, L., & Boykova, N. (2019). Learning in the open: Integrating language and culture through student curation, virtual exchange, and OER. In A. Comas-Quinn, A. Beaven, & B. Sawhill (Eds.), *New case studies of openness in and beyond the language classroom* (pp. 65–82). Research-publishing.net. https://doi.org/10.14705/rpnet.2019.37.967

PACE/Story-Based Approach:

Donato, R., & Adair-Hauck, B (2016). PACE: A story-based approach for dialogic inquiry about form and meaning. In J. Shrum & E. W. Glisan (Authors), *Teacher's handbook: Contextualized language instruction* 5th ed., (pp. 206–230). Boston, MA: Cengage Learning.

Project-Based Language Learning:

National Foreign Language Resource Center at the University of Hawaii at Manoa (2020). *Project-based language learning*. Retrieved from http://nflrc.hawaii.edu/projects/view/2014A/

Task-Based Teaching:

Ellis, R. (2003). *Task-based language learning and teaching*. Oxford, U.K.: Oxford University Press.

González-Lloret, M. (2016). *A practical guide to integrating technology into task-based language teaching*. Washington DC: Georgetown University Press.

Teaching Pragmatics:

Ishihara, N., & Cohen, A. D. (2010). *Teaching and learning pragmatics: Where language and culture meet*. New York, NY: Routledge.

Note

1 The LangMedia "Spanish in Mexico" videos were produced by the Five College Center for World Languages with funding from the National Security Education Program (NSEP) and the Fund for the Improvement of Post-Secondary Education (FIPSE) of the U.S. Department of Education. For more information and resources, visit https://langmedia.fivecolleges.edu/ or e-mail: fclang@fivecolleges.edu.

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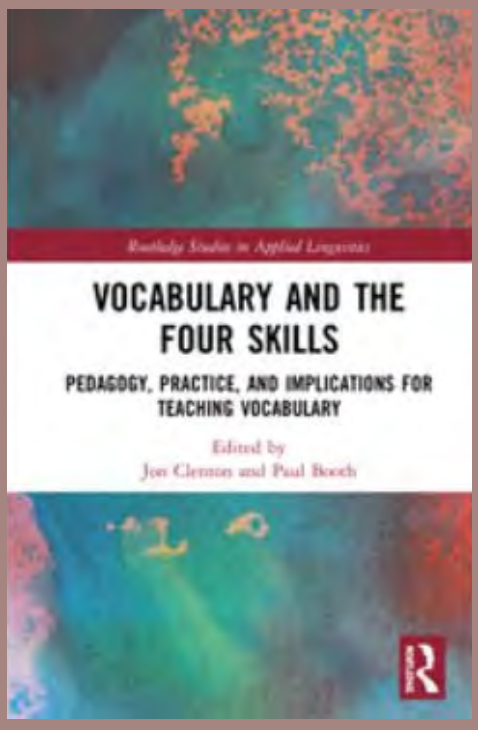
CHAPTER

5

Introduction: Vocabulary and the Four Skills - Current Issues and Future Concerns



This chapter is excerpted from

Vocabulary and the Four Skills

Pedagogy, Practice and Implications for Teaching Vocabulary

First edition

Edited By Jon Clenton & Paul Booth

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1 Introduction

Vocabulary and the four skills – current issues and future concerns

Jon Clenton and Paul Booth

This book is an edited volume of recent studies relating vocabulary knowledge and the four skills of reading, writing, listening, speaking. In addition to providing a compendium for vocabulary researchers, the appeal will extend to postgraduate students. Vocabulary as a course on graduate programs around the world is well supported by many theoretical and practical volumes. Such volumes present broad aspects of vocabulary in relation to, for instance, teaching (e.g., Schmitt, 2000), or specific studies to a research audience (e.g., Milton & Fitzpatrick, 2014; or Nation, 2001). The focus of the current volume, however, is different to these other books. The current volume will show that vocabulary knowledge depends on some extent on the skill area, because individuals with strengths in listening vocabulary knowledge may not demonstrate an equivalent knowledge of vocabulary in, for instance, their spoken vocabulary knowledge. As the nature of vocabulary research expands its reaches in many different arenas, the current volume represents an important central resource of recent developments to address these important concerns. On the basis that no current single volume exists that presents vocabulary knowledge and the four skills as an integrated whole, this book fulfils this need. Each chapter presents the very latest advances in the field of vocabulary research, with each chapter including recognized vocabulary experts in their respective field.

First, we begin with a brief and broad overview of vocabulary, highlighting earlier advances in considering vocabulary as a fundamental component of language. We highlight the increasing concern that what we once thought constitutes vocabulary knowledge might not be quite so straightforward. This early beginning sets the stage for the volume by serving to demonstrate that vocabulary should be treated differently depending on the skill under consideration.

That vocabulary knowledge should be considered in a more detailed manner is nothing new. A number of papers over the past twenty to thirty years (e.g., Fitzpatrick and Clenton, 2017; Meara, 1996; Nation, 2001, 2013;

Read, 2000; Webb, 2005, 2007) show that the construct includes numerous aspects not exclusive to grammar, collocations, and use, to name but a few. Given the very many different aspects of knowledge under consideration, vocabulary research then considered dimensions in order to incorporate such detail. One such example stems from Daller, Milton, and Treffers-Daller's (2007: 8) work, in their 'lexical space: dimension of word knowledge and ability' to incorporate aspects of breadth, depth, and fluency. Dimensions could also be extended to consider the extent to which vocabulary items might be known productively (written or spoken) or receptively (heard or read), with such items on a continuum. Dimensions, however, might not exclusively explain vocabulary knowledge. Meara's (2007) fascinating paper suggestive of a network of vocabulary items indicates that vocabulary knowledge might be far more multifaceted than once first considered.

Our specific focus in the current volume is to respond to recent advances in vocabulary research, and to suggest that vocabulary knowledge must be treated differently depending on the skill area. To make this point, consider Milton (2010) who compared the potential relationships between two versions of a receptive vocabulary knowledge task (in written, and aural form) with tasks from a generic language test (IELTS) that elicits knowledge of the four skills. Milton's study indicates that individual skill areas are sensitive to how they are elicited (on the basis that aural receptive measures were found to predict speaking task scores). Taken in isolation this specific study might not justify an entire volume, but our view is that a number of such studies (e.g., Adolphs & Schmitt, 2003; Elgort, 2017b; Kremmel and Schmitt, 2016; Milton, 2010; Milton, Wade, and Hopkins, 2010; Nation & Meara, 2010; Staehr, 2008; Uchihara and Clenton, 2018) support our view that vocabulary knowledge is inconsistent across the four skills.

Second, this introduction summarizes the chapters to follow, highlighting the practical threads that form the backbone of the book. We begin by first outlining the organization.

The structure of the book is organized according to receptive and productive skill sections. The first two sections explore the receptive skills, beginning with listening, and then reading. The second two sections explore the productive skills, beginning with speaking, and then writing. Each of the four 'skill' sections include four chapters devoted to each skill. The first chapter in each section discusses current research, discusses existing tools, and considers current practices. Two chapters then follow, with each relating the specific skill under enquiry to recent advances in vocabulary research. The final chapter in each section explores future research, considers potential tools, and practices. Each final chapter, we hope, provides a useful springboard for future research by listing a series of potential research questions.

Vocabulary and listening

In Chapter 2, Suzanne Graham and Pengchong Zhang begin the listening section by outlining current research tools and practices. Their chapter considers the extent to which vocabulary can be acquired through listening, covering types of listening activity, learner variables, various means (e.g., via television/video viewing), and the specific features of item-variables.

Chapter 3 by Pengchong Zhang and Suzanne Graham investigates the extent to which some words learned through listening might be more difficult or easier to learn. Their study explores the learning of a small set of words (43) from listening by Chinese second language high school learners. They explore a range of different factors that might influence how well the words are acquired.

These potentially influencing factors include five from Goldschneider & DeKeyser (2001) who suggest that the successful learning of L2 grammatical morphemes is largely determined by: perceptual salience, semantic complexity, morphophonological regularity, syntactic category, and frequency. Additionally, and adding a further five potentially influencing factors, Zhang and Graham examine the extent to which learning word forms might be strongly influenced by perceptual salience, morphophonological regularity, frequency, and whether semantic complexity and syntactic category determine the learnability of word meanings. Zhang and Graham add the extent to which the L1 influences L2 vocabulary learning, and whether classroom presentation might also influence learning.

The chapter reports on a study in which participants completed a listening task, which was then followed by a treatment in which half of their participants received either an L1 or L2 focus on the same vocabulary. Their analysis then explored the factors that influence how well their forty-three words were acquired. Zhang and Graham report a range of different findings. In brief, they report that nouns and adjectives were easier to acquire than verbs, that words with concrete meanings were easier to acquire than words with abstract meanings, that those words with equivalent L1 translations were generally easier to acquire than those words with direct L1 translations.

Zhang and Graham contend that vocabulary learning through listening is an under-researched area. Their findings are encouraging because they report potential implications for the order in which different types of vocabulary items are presented to learners and the amount and nature of teaching focus each type may require. They close by highlighting the importance for research to explore the factors that might influence the learning of vocabulary through such input, as reported in their chapter. Their findings are of relevance to both researchers and practitioners interested in the listening classroom for L2 vocabulary teaching and learning.

Chapter 4 by James Milton reports that the way the lexicon and listening skills interact is not so well investigated, and the results of such research are equivocal. Milton contrasts such relationships with those between the lexicon

along with reading and writing skills that he suggests are well researched, with the common view that there is quite a strong relationship between size and performance.

In considering research, Milton highlights the lack of agreement between different studies. For instance, Kelly (1991) suggests vocabulary knowledge is the main obstacle to successful listening comprehension, which contrasts with Bonk (2000) who suggests that it is not and that good comprehension can be obtained with a comparatively modest vocabulary. Milton points to Stæhr's (2008) paper, in situating listening and vocabulary compared to reading and writing and vocabulary, who demonstrates that the correlation of listening comprehension scores with vocab size is generally smaller than with reading and writing.

Milton suggests that such differences might result from methodological issues, referring to an earlier co-authored paper to highlight such potential issues. He suggests that Milton, Wade & Hopkins (2010) are able to get strong correlations with listening, comparable to those with reading and writing, where the vocabulary size test used matches the skill it is being compared with. The study also showed that receptive measures of vocabulary size, based on orthographic tests, correlated well with written skills. Furthermore, respective measures of vocab size, based on aural tests, correlated well with aural skills. Milton suggests that most studies do not make such a distinction. Milton highlights that in drawing on the dual route model of comprehension Milton et al. suggest the lexicon, in literate L2 learners, has two halves: a phonological and an orthographic half. Milton highlights that this study, Milton et al. (2010), and other studies, further suggest that a characteristic of most L2 language learners is to grow their L2 lexicons disproportionately and to develop their orthographic half faster than their phonological half. The chapter goes on to discuss how such a process might make sense if much of the lexicon is developed from extensive reading where good phonological models of new words that are encountered are never provided. Moreover, Milton shows that such a development might be an efficient way of developing the reading and writing skills that academic study and formal exams favour. Milton et al. also demonstrate that large-scale tests, such as the IELTS test, are heavily dependent on written vocab knowledge and are much less reliant on phonological knowledge.

The chapter discusses the notion that such an unbalanced lexical development, with a comparatively small phonological vocabulary size, ought to make the task of listening comprehension more difficult and less successful. Milton closes by highlighting that where such a skill is required then extensive listening exposure might be analogous to the extensive reading exposure shown to drive uptake in orthographic vocabulary size and speed of word processing (e.g., Masrai and Milton, 2018).

For Chapter 5, James Milton and Ahmed Masrai close the section on vocabulary and listening by considering future research, tools, and practices. Their chapter begins by highlighting the differences between vocabulary reading and

vocabulary listening, pointing to the fact that eye-tracking studies reveal how learners deal with individual words but that the spoken word is far more elusive for aural comprehension. They divide their chapter into four areas (the spoken word and storage; the spoken word and processing; tests and research methods for understanding the spoken word in the lexicon; and learning words from listening) for future research. They close by describing that the field of vocabulary and listening is 'a highly fertile direction for future work'.

Vocabulary and reading

In Chapter 6, Jeanine Treffers Daller surveys current vocabulary research, tools, and practices related to vocabulary and reading. The chapter emphasizes the central place vocabulary takes in relation to developing reading skills for learners, researchers, and practitioners. The chapter highlights the variety of tests that are available, pointing to the recent addition of bilingual and L2 learner tests. The chapter also refers readers to online sources where a number of these tests are available in the public domain.

Chapter 7 by Irina Elgort address the issue of building vocabulary knowledge from and for reading, with a particular focus on lexical quality. As a key goal of any language learning programme is to help students quickly build their target language lexicon (Nation, 2001), Elgot notes that vocabulary research suggests, in order to take advantage of the wealth of language input available electronically and in print, a high proportion of the running words in text (95–98%) needs to be known. In English, for example, readers need at least 8000–9000-word families (Nation, 2006), in order to read unsimplified texts with understanding and further develop their target language lexicon from reading. Elgort explains that the goal here is larger than increasing the number of words learners are familiar with (i.e., their vocabulary size); it is also about improving the quality of knowledge (including the development of robust lexical-semantic networks and fluency of access to word knowledge in real language use). Poor quality of L2 word knowledge is likely to be an impediment to continuous lexical development. This is because learners need to accurately, fluently, and effortlessly access contextually-relevant word meanings in reading and listening, in order to convert input into intake. Enter Lexical Paradox outlined in Cobb (2007) – in order to gain new lexical knowledge from reading, language learners need to bring sufficient lexical knowledge to reading. In particular for students whose target language lexicons are being formed, by and large, in the context of a foreign language classroom (Jiang, 2000), a research-led understanding of the kinds of learning and instructional activities that promote high quality of lexical knowledge is critical.

In her chapter, Elgort, considers L2 word knowledge from the perspective of the Lexical Quality Hypothesis framework (Perfetti, 2007; Perfetti & Hart, 2001, 2002), which interprets lexical quality in terms of formal (orthographic and phonological) and lexical semantic representations, and their

interrelationship. Elgort suggests how this framework can guide the selection of vocabulary learning treatments that contribute to the development of lexical quality and inform measures of lexical development. She refers to research on deliberate word learning as a means of delivering a qualitative boost in a relatively short time. Elgort also discusses research into supplementary learning activities that can be used to optimize vocabulary learning from reading.

Elgort looks back at the findings of the L2 vocabulary learning research she has conducted in collaboration with colleagues from applied linguistics, cognitive psychology, and language education, with a view to translating these findings into recommendations for teachers and learners. Specifically, she considers the role of deliberate learning (such as paired-associate learning using flashcards) in vocabulary development (Elgort, 2011; Elgort & Piasecki, 2014; Nakata, 2008; Nakata & Webb, 2016). She then considers contextual word learning during reading and discusses learner, text, and word variables that affect lexical quality development (Elgort & Warren, 2014; Elgort, Brysbaert, Stevens, and Van Assche, 2017). She also refers to the studies that investigate the effects of instructional and learning treatments on contextual learning from reading, and summarizes how these treatments affect lexical quality. A series of such studies (published and in-progress) investigating effects of different approaches to form-focused and meaning-focused elaboration inform the discussion in this section of the chapter (Boutorwick, 2017; Elgort, 2017a; Elgort, Candry, Eyckmans, Boutorwick, and Brysbaert, 2016; Elgort, Beliaeva, Boers, and Demecheleer in preparation; Toomer & Elgort, in revision). Elgort concludes her chapter with a summary of research-based recommendations for improving the lexical quality of contextual word learning.

In Chapter 8, Jeanine Treffers-Daller and Jingyi Huang report on an investigation into the validity of the Test for English Majors 4 (TEM4) as a measure of reading comprehension and vocabulary knowledge. They report on a study in which they analyse correlations between the TEM4 with widely used tests of vocabulary knowledge and reading comprehension among university-level students of English in China. Their study is based on the responses of sixty students, pursuing a second year English Major in north China, who completed the bilingual Mandarin-English version of the Vocabulary Size Test (Nation & Beglar, 2007) for vocabulary size, the Vocabulary Knowledge Scale (Brown, 2008), modified from Wesche and Paribakht (1996) for assessing depth of vocabulary knowledge, and the TEM-4. Thirty participants were randomly selected from the sixty students and tested using the *York assessment of reading for comprehension (secondary)* (YARC, Stothard, Hulme, Clarke, Barmby, and Snowling, (2010)). Treffers-Daller and Huang highlight that the YARC was originally developed for secondary school children aged 11–16 in the UK and is yet to be used with adult L2-learners of English.

Treffers-Daller and Huang's three key findings show that (i) the reading comprehension part of the TEM-4 did not really measure reading comprehension as it did not correlate with the different components of the YARC;

(ii) there were moderate correlations between the TEM4, the VST, and the VKS, indicating that the TEM-4 tapped into different dimensions of vocabulary knowledge; and (iii) there were modest correlations between the VST, the VKS, and different components of the YARC Secondary Test: the VKS correlated more strongly with comprehension measures of the YARC whilst the VST was correlated with students' decoding skill as measured with the Single Word Reading Test (a component of the YARC).

Treffers-Daller and Huang suggest their results provide empirical evidence supporting the importance of depth of vocabulary in reading comprehension. Their chapter concludes that the validity of the TEM-4 as a measure of reading comprehension is questionable given that the test appears to measure vocabulary knowledge instead of reading comprehension. They end their chapter with reflections on the suitability of the YARC secondary for use with adult L2 learners of English.

In Chapter 9, Irina Elgort considers vocabulary reading, future research, tools, and practices. Ending this section on reading, the chapter considers the construct of 'lexical quality' required for fluent reading. The chapter briefly discusses lexical quality and proposes three related L2 contextual vocabulary learning projects.

Vocabulary and speaking

In Chapter 10, the first chapter in the speaking section, Takumi Uchihara considers vocabulary and speaking in terms of current research, tools, and practices. The chapter shows that this emerging area of vocabulary research can be examined from different perspectives to include both human rating as well as objective tools. The chapter concludes by highlighting the need for detail on the specific aspects of L2 oral proficiency and their relation with vocabulary knowledge.

In Chapter 11 Jon Clenton, Nivja J. De Jong, Dion Clingwall, and Simon Fraser present a small-scale study in which they identify potential relationships between specific vocabulary tasks, previously employed speaking fluency tasks (De Jong, Steinel, Florijn, Schoonen, and Hulstijn, 2013; De Jong, Groenhout, Schoonen, and Hulstijn, 2015), and 'vocabulary skills'. They use tasks that have not been used together before based on the lower proficiency of their first language participant group. Their study is unique, as it represents a first approach to examining the relationship between vocabulary skills (e.g., automaticity retrieval), vocabulary knowledge, and aspects of fluency.

For Clenton et al., the primary aim of their chapter is to elucidate the specific vocabulary knowledge required by using speaking tasks at the specific proficiency level of their participants (pre-intermediate). They base their vocabulary investigation on recent papers that indicate that: (i) the specific vocabulary knowledge captured by different tasks varies according to proficiency; (ii) vocabulary knowledge is multifaceted, to the extent that different tasks appear to elicit quite different vocabulary knowledge; and (iii) vocabulary knowledge development depends on proficiency. Their chapter responds to developments

in fluency research that suggest that oral ability varies according to task (e.g., DeJong, 2016; Tavakoli, 2016). They therefore investigate this claim and present a multifaceted approach to their investigation. They partially replicate an earlier fluency study (De Jong et al., 2013), using different vocabulary tasks. Clenton et al. suggest that the choice of vocabulary task should reflect the lexical resource of the specific participant group investigated. They reflect on a recent 'vocabulary task capture model' (Fitzpatrick & Clenton, 2017), which they reconsider in light of earlier papers on fluency. Earlier papers on fluency (De Jong et al., 2013, 2015; Uchihara & Saito, 2018) have employed specific productive vocabulary tasks such as the Productive Levels Test (PVLT; Laufer & Nation, 1999), or Lex30 (Meara and Fitzpatrick, 2000) Clenton et al. present a 'revised vocabulary task capture map model' (Clenton et al., 2019), based on the earlier model (Fitzpatrick & Clenton, 2017), in order to explore the task differences between these two widely cited productive vocabulary knowledge tasks. Clenton et al., therefore, use this approach in their investigation, in order to account for their use of a specific productive vocabulary knowledge task (Lex30), but also to explore various findings related to the vocabulary resource in their discussion. One specific finding suggests that participants with a limited vocabulary resource might reproduce vocabulary in various tasks; they suggest that this occurs less often with increases in proficiency. Part of their study includes a comparison of the spoken output of their participant group with output from the Lex30 task. They report comparisons using the Academic Spoken Word List (ASWL; Dang, Coxhead, and Webb, 2017). They also explore the various 'vocabulary skills' of their participant group. They suggest that delays in speech, or delays in response, relate to the vocabulary knowledge available to their specific participant group. In discussing such findings, they encourage follow-up studies to explore the extent to which their findings can be replicated with different proficiency levels and with participants from different L1 backgrounds. Their 'vocabulary skills' findings, they suggest, provide a foundation from which to explore the extent to which speed and automaticity of retrieval is level dependent.

In Chapter 12, Uchihara et al consider the potential relationships between productive vocabulary and second language oral ability. They begin by highlighting the important role vocabulary knowledge plays in second language (L2) proficiency and development, pointing to research investigating the relationship between vocabulary and L2 proficiency supporting the long-standing view that vocabulary serves as a proxy for communicative language ability (Meara, 1996). They show that a growing body of research within lexical studies relates vocabulary knowledge to a range of proficiency indicators: overall proficiency benchmarks (e.g., Common European Framework of Reference for Languages (CEFR) levels; Milton, 2010), in-house placement tests (e.g., Harrington & Carey, 2009); standardized language proficiency examinations (e.g., International English Language Testing System (IELTS); Milton, Wade, & Hopkins, 2010, or Test of English as a Foreign Language (TOEFL); Qian, 2002). They highlight the lack of research

designed to investigate the relationship between speaking and vocabulary. For specific aspects of linguistic proficiency, they suggest, research has tended to investigate potential relationships between reading and vocabulary (e.g., Laufer & Levitzky-Aviad, 2017). Their chapter is designed to redress this imbalance by drawing on instruments, and a recent framework devised to assess multiple L2 oral ability dimensions (Crossley, Salsbury, and McNamara, 2017; Saito, Trofimovich, and Isaacs, 2017; Trofimovich & Isaacs, 2012); they explore the extent to which productive vocabulary knowledge correlates with aspects of L2 oral ability including global (comprehensibility), temporal (speed, breakdown fluency), and lexical (appropriateness, variation, sophistication) features.

They report on a study in which their participants, with varying degrees of L2 proficiency, completed a productive vocabulary task (Lex30; Meara & Fitzpatrick, 2000) and a speaking task (suitcase story; Derwing & Munro, 2009). Productive vocabulary test scores were calculated in two ways: raw scores and percentage scores (Fitzpatrick & Meara, 2004; Fitzpatrick & Clenton, 2010; Meara & Fitzpatrick, 2000), the former representing a construct related to fluency (i.e., speed of production) as well as knowledge of infrequent words, the latter being more closely related to lexical knowledge with fluency controlled (Clenton, 2010; Uchihara & Saito, 2016). Speaking task data were submitted for listener judgements and for a range of linguistic analyses. Thirteen L1 English raters were recruited to rate subject speech according to perceived comprehensibility (1 = easy to understand, 9 = hard to understand) (Derwing & Munro, 2015). To measure a variety of linguistic features of oral ability, the transcribed texts of the spoken data were analysed in terms of temporal (articulation rate, silent pause ratio, filled pause ratio) and lexical (appropriateness, diversity and sophistication) dimensions.

Uchihara et al.'s results show that Lex30 raw scores were associated with various aspects of oral proficiency including comprehensibility, fluency (articulation rate, silent pause ratio), and lexical richness (lexical diversity and sophistication). Lex30 percentage scores were only correlated with lexical diversity. They suggest their findings indicate that the two approaches to scoring productive vocabulary may show varying relationships between productive vocabulary knowledge and oral ability, with data suggesting that any definition of 'productive vocabulary knowledge' should not exclusively be limited to a frequency-based operationalization (i.e., Lex30 percentage scores), but a multifaceted construct to include speed of production (i.e., Lex30 raw scores).

Uchihara et al. suggest that their findings offer several implications for vocabulary L2 teaching and assessment. These include their view that L2 teachers should not only teach infrequent words, but also focus on fluency development in production (Nation, 2006). They contend that teachers should focus on increasing low-frequency word knowledge for L2 learners intent on gaining better control of different words in speech,. Uchihara et al.'s data suggest that an additional focus on lexical fluency might positively influence

broader aspects of oral ability. Learners could benefit from activities requiring oral production of known words under increasing time pressure (e.g., 4/3/2 task; Thai & Boers, 2016). Their findings also demonstrate the potential usefulness of the productive vocabulary test as an assessment tool by way of a broad estimate of learners' L2 oral ability. For diagnostic purposes, teachers can administer a vocabulary task (e.g., Lex30) at regular intervals and potentially use data to provide a broad indication of their oral ability progress. The validity of such an attempt remains to be confirmed, but its feasibility is pedagogically appealing given the time taken to administer Lex30 (compared to the relatively time-consuming collection of speech score ratings).

In Chapter 13, the final chapter in the speaking section, Jon Clenton considers vocabulary and speaking in terms of future research, tools, and practice. The chapter suggests the need for several specific research questions, based on recent trends. These include the need to consider multiple aspects of vocabulary knowledge and their relation to spoken output, as well as the potential formulation of an implicational scale of vocabulary knowledge and vocabulary skills.

Vocabulary and writing

In Chapter 14, the first chapter in the writing section, Paul Booth considers current research, tools, and practices. The chapter focuses on measures of lexical sophistication, and suggests a number of means to determine this measure. These include frequency profiles, P-Lex software, N-grams, intrinsic measures such as lexical diversity and TTR (Type Token Ratio), and external and internal measures of lexical sophistication,

In Chapter 15, Averil Coxhead explores the need for specialized vocabulary in writing, and the specific benefit for English Language Teaching (ELT) to investigate outside its own field. Coxhead begins by showing that the vocabulary used in writing in a second language can be a source of anxiety and difficulty for language learners (Coxhead, 2011), and she highlights that there is much to know about a word in order to use it in writing (Nation, 2013). Learners may resort to using high frequency words that they know well rather than taking a risk with lesser known vocabulary. Coxhead suggests that learners might find it difficult to gauge an audience or register for writing, or that they might simply lack the background knowledge of a topic and therefore the vocabulary required to write about it (Coxhead, 2011). She highlights that it is well known that learners know or can recognize more words than they use in English: see Malmström, Pecorari, and Gustafsson, 2016).

Coxhead's chapter shows that recent research has focused on specialized or technical vocabulary in an attempt to support learners and teachers in English for Academic Purposes (EAP) (see Coxhead, 2016; Gardner & Davies, 2014) or English for Specific Purposes (ESP) through developing word lists (Nation, Coxhead, Chung, and Quero, 2016), for example, as possible shortcuts to the vocabulary that these learners need in their studies or in their professional lives (see Coxhead, 2018). Typically, technical vocabulary might be expected

to occur mostly inside a field or be known by people who have studied or worked in that field (Chung & Nation, 2003). That said, she suggests, there are also everyday words that can have specialized meanings in a particular context such as *host* or *string* in Computer Science (see Coxhead, 2018). Furthermore, new research into the technical vocabulary of welding, for example, suggests that more than 30% of a written text in that trade could be technical (Coxhead, McLaughlin, and Reid, *under review*).

Having highlighted these various fields, the focus of Coxhead's chapter is to investigate writing in a field outside English Language Teaching (ELT) in order to suggest that ELT and ESP might be inspired to take on or adapt this technique. While the location of Coxhead's research is courses in carpentry at a polytechnic in Aotearoa/New Zealand, the research sits squarely in research and teaching in English for Specific Purposes, because some of the students in these courses are second or foreign language speakers of English. A mandated writing task for all learners in carpentry is a builder's diary. These diaries contain regular accounts of the classwork and building site work of the carpentry students in a course where they build a house over a year. The diaries are assessed as part of the course and are modeled on diaries that builders keep in their everyday professional work. The diaries include pictures and diagrams, as well as short passages of writing. See Parkinson, Mackay, and Demecheleer, 2017 for more on the diaries and Parkinson et al. (2017a) for more on the Language in Trades Education (LATTE) project overall.

Coxhead's chapter reports on interviews with students about their use of diaries for learning and keeping track of technical vocabulary in the course of their studies over a year. The chapter also draws on a word list of carpentry which was developed using learning materials and teacher talk in classrooms and building sites at the polytechnic (Coxhead, Demecheleer, and McLaughlin, 2016). Corpus linguistics techniques were used to analyse the vocabulary used in the student diaries. Coxhead's analysis shows that the students value their diaries a great deal and use them strategically for tackling the large amounts of technical vocabulary they encounter in their studies. From the corpus analysis, she observes that students tend to use more technical vocabulary in the later parts of their course and some learners used more technical vocabulary than others. Comparisons with a corpus of professional writing in carpentry show higher amounts of technical writing in this corpus compared to the student diary corpus, but not in every case. A particular point to note is the development of spelling knowledge of difficult technical terms such as scotia and joist. The idea of using these diaries has been taken on by other courses at the polytechnic because they foster writing skills, allow students to demonstrate their knowledge, and provide a powerful learning tool for tracking and learning vocabulary. Coxhead's chapter ends with practical suggestions on how the builder's diary might be adapted to ESP courses in a range of contexts and in secondary and university level education.

In Chapter 16, Paul Booth explores Lexical development paths in relation to academic writing, discussing how L2 lexical richness develops over time. Booth builds on lexical frequency profile studies as a quantitative measure

of the lexical frequency of words (Bell, 2009; Laufer 1994a 1994b, 1998; Laufer and Nation 1995). Such studies show that lexical development is not always linear and so researchers must consider individual differences to the development patterns of lexical richness. He suggests that one way to understand differences in lexical production in writing is to explore language aptitude, namely memory and analysis, earlier associated with language learning (Harley and Hart 1997). A framework for learning style, memory, and analysis, first introduced by Skehan (1998), is explored in this chapter as a means to investigate lexical richness of academic writing over time.

Booth reports on a lexical production study that is longitudinal at the beginning and the end of one university semester. Booth analyses university student discursive essays at time 1 and time 2 to analyse lexical richness, using Web Vocabprofile (v2.6) to analyse the student texts. The participants were tested for memory and analysis, and grouped according to high (IELTS 6.0 or equivalent) or low (below 6.0 IELTS) proficiency. Running a range of statistical analyses, Booth investigates whether there were lexical richness gains within the two proficiency groups. The chapter reports on gains that Booth suggests have implications for L2 vocabulary teaching, to the extent that specific grammar should be taught to second language learners when aiming to acquire new words. Booth explores the extent to which context plays a part in the learning of writing, and suggests that a data-driven approach might help when deducing the word meaning in context (Boulton, 2009).

Booth's chapter indicates how learners can apply different approaches to language learning, suggesting that for lexis to develop learners should focus on how words are used in context. Booth adds that a plateau effect might impact production, to the extent that writers could consider how to make their writing more complex.

In Chapter 17, the final chapter in the writing section, Averil Coxhead outlines vocabulary and writing – future research, tools, and practices. The chapter explores some of the key factors in exploring vocabulary use in writing to include corpus-based approaches, evaluating pedagogy, and to find out more about L2 writer intent, belief, and practice. The chapter also suggests tools to examine vocabulary use in writing, and includes five potential research questions for future investigations.

Chapter 18 concludes this volume, and collates the various threads presented throughout. We end with a section on how we began, by highlighting that individual skill areas (e.g., speaking, reading) very much influence the vocabulary knowledge and use. We hope this edited volume provides a springboard for future research, and for researchers and practitioners to further disentangle and unpack this essentially multifaceted area of concern.

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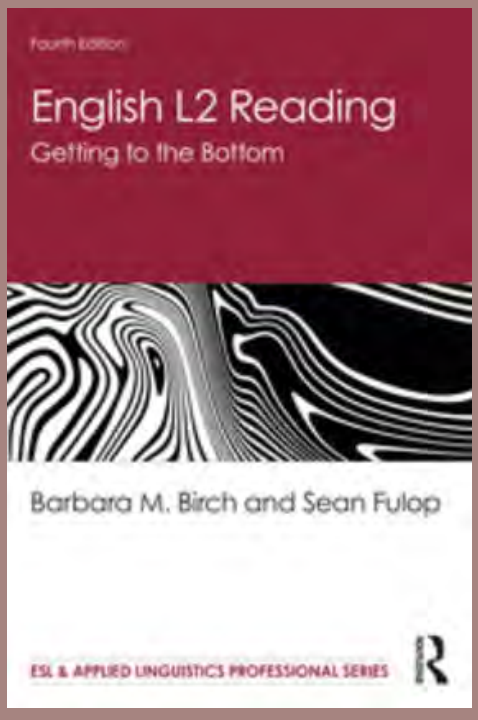
CHAPTER

6

The Beginning Reader



This chapter is excerpted from

English L2 Reading

Getting to the Bottom

Fourth edition

By Barbara M. Birch & Sean Fulop

Learn more

1

THE BEGINNING READER

Prereading Questions. Before you read, think about and discuss the following:

1. How do people read? What are you aware of while you are reading?
2. Do you remember learning to read as a child? Was it a positive or negative experience?
3. Do you enjoy reading now? Why or why not?
4. What do you have to read? What do you like to read? How are these reading experiences different for you?
5. If you are a non-native speaker of English, do you like to read English as well as your native language? Why or why not?
6. What problem(s) do you have with reading? What is the cause of the problem(s)?

Study Guide Questions: Answer these questions while or after reading the chapter. Try to put your answers into your own words.

1. How is learning to speak and understand oral language different from learning to read and write?
2. What is implicit language awareness? What is explicit language awareness? What is the relationship between these types of language awareness and learning to read?
3. What types of memory offer the foundation for reading? How do they differ from each other?
4. What is the difference between cognitive strategies and linguistic strategies? Why are the terms "top" and "bottom" used?

5. What is priming?
6. What is whole language instruction? What is the phonics approach? Why does this text advocate a balanced approach?
7. How do the three models of the reading system relate to each other? How are they different from each other? Why are the terms *strategic system*, *networked system*, and *convergent system* used?
8. In specific terms, what is Linguistic Infrastructure? What are the strategies needed in working memory? What unanswered questions does this model leave?
9. In more specific terms, what are neural networks? How does usage and exposure to written language create cognitive architecture? What are the layers in a neural network? What are the unanswered questions?
10. In more specific terms, what are codes? Why are they at the convergence of Linguistic Infrastructure and neural networks? What is the difference between the pre-literate code and the (post-literate) basic code? What are other types of codes?
11. What is metalinguistic awareness, and how does it relate to implicit or explicit language awareness?
12. Describe each of Chall's reading stages.
13. What is the psycholinguistic grain-size hypothesis? What does it imply about learning codes?
14. Review the issues that are important in English L2 reading development.

Most children learn to speak and understand language without direct instruction because those skills emerge naturally in a social environment where children interact with others verbally. Because they want to communicate and socialize, children learn pronunciation, vocabulary, and grammar in fairly predictable stages merely through usage and exposure to language as it occurs around them, because they have a cognitive capacity for learning. Along with early verbal and auditory abilities, children add an abstract language awareness system to their cognitive system. That abstract language awareness system supports further learning of sounds, words, phrases, and sentences so that children can understand and communicate better and better as time goes on. That is why speaking and listening with comprehension are **emergent** language abilities: the skills for oral language and the abstract language awareness that supports them **emerge** no matter what, as children go about their business being children.

Emergent language awareness is the theory that the knowledge of language and the ability to use language both form slowly from repeated

exposure and usage along with general learning capacities such as the ability to generalize from similar experiences (Behrens, 2009, p. 384). There is no need to assume a specialized language acquisition device in this approach. In contrast, reading and writing are plainly not emergent abilities because most children require some deliberate instruction and practice in order to learn to communicate and socialize through written language. Once children are literate, their eyes move across and down the page, easily understanding the message that the text contains without apparent effort. At that point, they don't always remember the classroom teaching and the practice they needed to acquire reading and writing. Thus, literacy is not natural in the same way that speaking and listening are. However, speaking and listening provide the crucial framework for the language awareness system, and this system scaffolds reading and writing also.

Word Family: emerge (v), emergence (n), emergent (a)

Emerge (v) From *emerge* 'to come into being' from Latin *emergere* from *e-* (or *ex-*), 'out, forth' + *mergere*, 'to dip'

Emerge + ence (n)
+*ence* (abstract noun-forming suffix)

Emerge + ent (a)
+*ent* (adjective-forming suffix)

This chapter deals with several introductory topics necessary to understand the reading process and its relationship to language awareness in beginning readers. First, it is necessary to explore a general idea of what the organization of the brain is because it is the foundation for reading. Second, given this foundation, researchers propose different **models** for reading because complex mental processes seem simpler if they can be compared to systems that are easier to understand. Models provide coherent frameworks on which to arrange the linguistic information that teachers need to know and that beginning readers need to learn. Each model explains something about the language awareness system that supports reading. However, models must always be used with caution because they oversimplify the cognitive structure and brain activity that underlie reading. Third, this chapter explores the stages that English-speaking children go through as their ability to read develops. These stages are a starting point for examining English L2 (English as a second or foreign language) reading. English L2 readers have speaking and listening and possibly reading abilities

as well as language awareness from their first language. They face some special circumstances when they learn to read English, such as interference from their first language, incomplete knowledge of English, and missing processing strategies for English. These topics are taken up in further detail in later chapters.

Brain Organization

As speaking and understanding emerge in infancy and early childhood, a system of language awareness forms in the brain, with organizing principles, components, structures, and functions. Children develop cognitively as well, and their cognitive development influences their language awareness system, and equally, their language awareness system influences their cognitive development. Generally, the more language awareness children have, the better their potential for success in school because it supports reading and writing.

Language Awareness

Researchers distinguish two types of early language awareness, implicit and explicit. **Implicit language awareness** is what children know about language as they learn to use it. They can manipulate and make some judgments about language without knowing or being able to articulate what they know in exact terms. For instance, they might say *That sentence sounds funny* or *That man sounds different*. Their language awareness is unconscious and acquired through usage and exposure, not from schooling necessarily. Implicit language awareness is largely emergent. However, as children are exposed to comments about speech, a different kind of language awareness is detected.

Word Family: imply (v), implication (n), implicit (a)

Imply (v) from French *emplier* from Latin *implicare*, 'involve, enfold' from assimilated form of *in-*, 'into, in' + *plicare*, 'to fold' from the Proto-Indo-European root **plek-*, 'to plait'

Implication (n) from Latin *implicationem*, noun formed from *implicare*, 'involve, associate'

Implicit (a) from Latin *implicitus*, a form of *implico*, 'I infold'

Word Family: explicate (v), explicit (a)

explicate (v) from Latin *explicates*, a form of *explicare*, 'unfold, explain' from *ex* 'out' + *plicare* 'to fold' from the Proto-Indo-European root **plek-*, 'to plait'

Explicit (a) from Latin *explicitus*, a form *explicare* from *ex-* 'out' + *plico*, 'to fold'

Explicit language awareness means that children are better at putting into words what is wrong or strange when people mispronounce words, use the wrong word, or say sentences that don't make any sense. They make comments about things they observe about language, saying, *Sabid is not a word* or *Smile and pile rhyme*. Explicit language awareness is emergent only if the linguistic environment around the child promotes it, because emergent abilities only come from usage and exposure, not from direct learning. Explicit language awareness develops when children start preschool because they start learning new vocabulary and linguistic concepts intentionally presented to them. Preschool or an enriched linguistic environment at home is a good background for learning to read because explicit language awareness is an excellent foundation for learning to read and write.

Types of Memory

Memory structures emerge in infancy from experience, exposure, mistakes, and feedback; they offer a cognitive foundation for later learning, including reading and writing. Once the cognitive organization acquires expertise, it operates noiselessly with automaticity and efficiency. Memory is divided into two main types (Baddeley, 2003), as shown in Figure 1.0. **Long-term memory (LTM)** is a dense network of both general world and cultural knowledge and implicit and explicit language awareness. **Working memory (WM)** refers to the cognitive and linguistic processing strategies that interact between LTM and what is happening in the world in the moment. Baddeley (2003) proposes that WM contains four components: a phonological component, a visual sketchpad, a control system that manages attention, and a buffer that briefly combines visual and phonological inputs in order to access LTM. In WM, **cognitive strategies** function at a high level (e.g. the top) to build the LTM network for world knowledge. That is, they create an interconnected web of information packaged as memories of people, episodes, images, places, things, events, activities, and so on.

Linguistic strategies function at the level of sound, spelling, word, and grammar (e.g. the bottom) to build the **LTM language awareness system**. They process raw linguistic data from utterances and print sentences, repackage the data as codes, and then connect the codes in a network so they are retrievable on demand. **Codes** are packages of linguistic information (pronunciation, spelling, vocabulary, meaning, grammar) in LTM. Codes organize linguistic knowledge into usable and retrievable chunks. (Birch (2013) uses the term **construction** for linguistic packages. Here, following Seidenberg (2017), the term **code** is used.)

In successful reading, the brain takes the text as a source of information and, while accessing LTM world knowledge and language awareness, makes sense of what is on the printed page. The WM processing strategies operate automatically beneath the level of awareness, but they can come on line selectively because of conscious attention to something perceived. Readers draw on their stored packaged memories in LTM, but memory structures are not sufficient for reading by themselves, because they cannot interact directly with the text. Processing strategies in WM include a variety of strategies like noticing the features of letter shapes, identifying words, and so on.

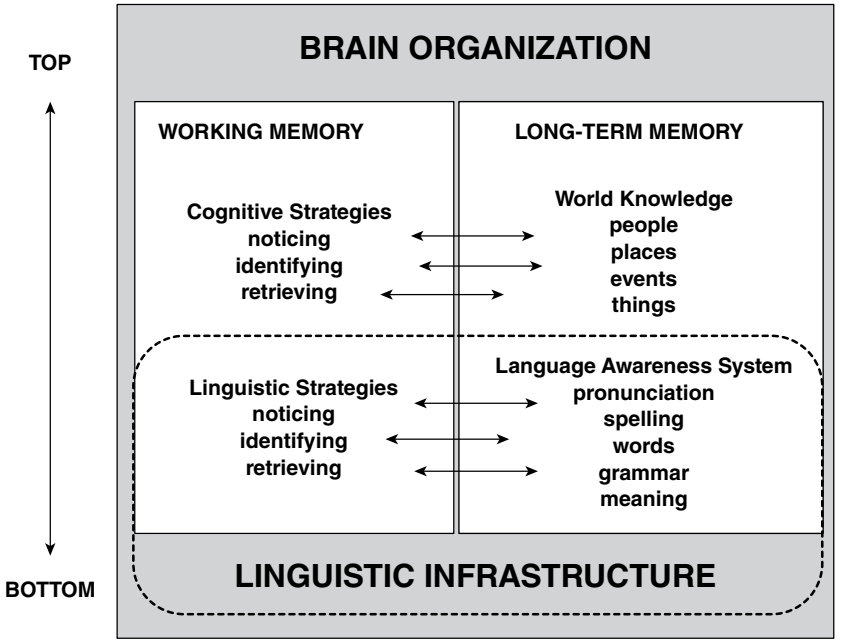


Figure 1.0 Brain organization is divided into LTM and WM. World Knowledge contains memories for people, places, events, facts, and so on. The Language Awareness System is composed of a network of codes (or packages) that associate sounds, spellings, and meanings.

The Top and the Bottom of the Reading System

Figure 1.0 is a model that shows cultural and world knowledge in LTM and generalized WM cognitive processing strategies at the top. The higher-level constructs a meaning for texts (sentences, paragraphs, stories). Using these higher-level processing strategies, the reader makes predictions about what the text is going to be like, inferences about the motivations of the characters, decisions about how certain events are related in the reading, and so on. At the bottom of the model, the LTM language awareness system and the WM linguistic strategies identify squiggles on the page as meaningful letters and combinations of squiggles as words with meanings. The WM processing strategies at the top and bottom work together in parallel, that is, at the same time.

When people read, they need both information flowing upward from the bottom to the top and information flowing downward to the bottom in order to understand meanings. For example, perception of letters leads to recognition of words, from which people construct meanings. In the other direction, contextual information, inferences, and world knowledge influence WM processing at lower levels. Information also flows from sentence to sentence sequentially in WM. The use of one word (called a **prime**) in one sentence results in faster reading of a related word (called the **target**) used subsequently. For instance, it is easier to read the target word *hospital* after exposure to the prime word *doctor* because their interconnected meanings in LTM facilitate recognition of the target word in WM. **Priming** is "the phenomenon in which prior exposure to specific language forms or meanings either facilitates or interferes with a speaker's subsequent language processing" (McDonough & Trofimovich, 2009, p. xvi).

A Balanced Approach

Although researchers know that information flows from top to bottom and vice versa in parallel and sequentially while people are reading, there is still debate among teachers about which is the most important for successful reading. Some emphasize the top-down flow of information, a point of view that is generally associated with a pedagogical approach called **whole language instruction**. Others place more importance on bottom-up flow of information, a point of view associated with the **phonics approach**. In this book, a balanced approach is adopted because successful readers must be adept at both bottom-up and top-down processing. Beginning readers need maximum support for higher-level processing to supplement deficiencies at the

lower level with language but they also need to improve their abilities with language details and low-level strategies for automatic reading. This is the purpose for describing the next three models of reading.

Three Models in the Reading System

Word Parts: macro-, micro-, mini-, meta-

macro- from Ancient Greek *makrós*, 'long'

micro- from Ancient Greek *mikrós*, 'small'

mini- shortened from the word *miniature*

meta- from Greek *meta* 'after, beyond'

With the brain organization described in Figure 1.0 as a context, three models are useful for thinking about language and reading: a macro-model that represents an expert Linguistic Infrastructure to support reading; a micro-model that represents a learning system that builds and maintains the infrastructure for reading; and finally, a mini-model that represents the structure of codes, the packages of implicit and/or explicit linguistic information that are the building blocks of the language awareness system in LTM. These models work together to create a coordinated picture of the reading system.

The Linguistic Infrastructure Macro-Model

The macro-model in Figure 1.1 zooms in on the bottom of the brain organization model in Figure 1.0. It represents a **Linguistic Infrastructure** combining both WM linguistic processing components and the LTM language awareness system. The WM strategies coordinate, build, organize, package, store, and retrieve different language units so that linguistic activities can be carried out successfully, effortlessly, and efficiently. The LTM language awareness system includes what has typically been called the **mental lexicon** (word storage), **semantic memory** (meaning), and **grammar** (syntax). WM linguistic strategies develop at the same time as the system of language awareness is built up as a network of codes. The Linguistic Infrastructure is not separate from the top-level cognitive and world knowledge areas in the brain organization; rather, Figure 1.1 represents an expansion of the bottom of Figure 1.0.

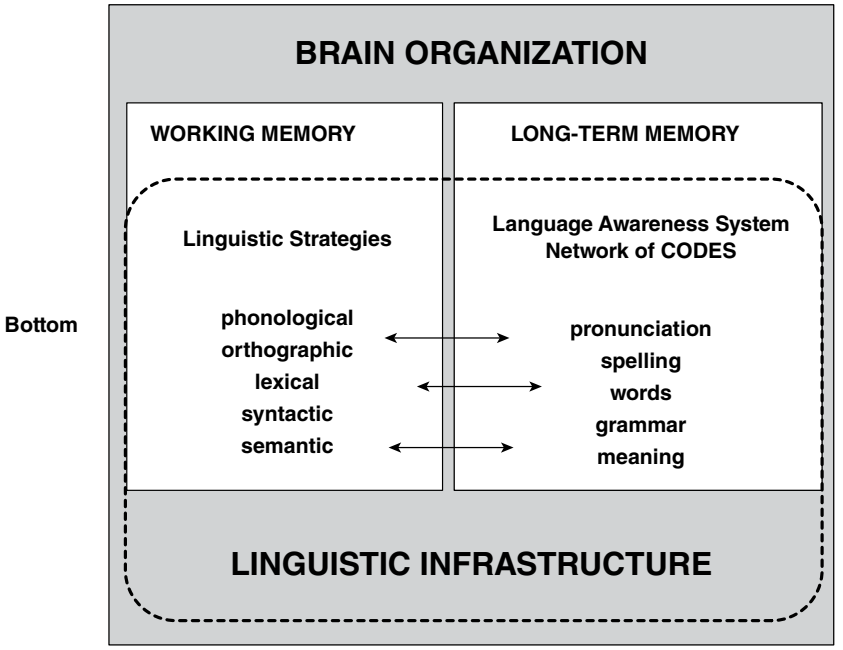


Figure 1.1 The macro-model of the Linguistic Infrastructure combining WM linguistic strategies and an LTM language awareness system that develops through reading instruction and practice.

A Strategic Reading System. Reading requires a system of specific linguistic strategies that mediate between the LTM language awareness system and spoken or written language in the world. The different strategies do their own specialized work in coordination with the others simultaneously, so that people can read successfully.

Phonological strategies allow people to recognize the sounds of their language as they hear speech. They are also accessed while processing words during reading. **Orthographic strategies** permit readers to recognize letter shapes of a writing system (called **decoding**) and match them with the sounds of a

Linguistic Strategies	
Phonology	(sound)
Orthography	(spelling)
Lexicon	(vocabulary)
Syntax	(grammar)
Semantics	(meaning)

language, forming a visual/auditory image of a word (called **recoding**) in the mind (Apel et al., 2019). These mental orthographic images are part of a system of **codes** (Seidenberg, 2017, p. 119). **Lexical strategies** recognize words and combinations of words and connect them to their meanings. **Syntactic strategies** allow readers to unconsciously arrange the words and meanings into phrases and sentences, so that the overall meaning can be constructed at the top of the reading process. (**Syntactic strategies,** and **Semantic strategies**, strategies to compose meanings, are beyond the scope of this book, but see Birch (2013) for a complementary view of grammatical categories, collocations, syntax, pragmatic, and discourse features in English writing.)

Unanswered Questions. The Linguistic Infrastructure macro-model represents a reading system that allows fluent readers to make split-second decisions about what they are reading in such an effortless and unconscious way that they don't realize they are doing anything special. Nevertheless, this model leaves some questions unanswered. First, world knowledge and language awareness are not stored as if each memory or code were put away in a closet, divided up into rigid divided data structures. Instead, the human brain recreates a lot of information from diverse parts rather than storing it as whole units. Codes and other memories are reconstructed each time they are triggered and reassembled from constituent parts in slightly different fashion each time something is remembered. Human brains seem to have collections of memory ingredients and recipes that indicate how a memory is to be reconstructed (Jeffery, 2017). This is why memories change over time. Memories and codes are not fixed entities in our minds; they are associations that ebb and flow with activation.

Second, the Linguistic Infrastructure macro-model might give the impression that much of the brain is inactive while a few strategies are triggered by a sight or sound. Instead, research shows that the brain is dynamic; the whole brain is lit up with activation at all times. There is no time when the brain is dormant. The conclusion is that processing, remembering, thinking, understanding, and reading are active and not simply reactive (Barrett, 2017). The brain expects certain outcomes and makes predictions as it processes.

Third, the Linguistic Infrastructure macro-model is a structural model, and it gives the mistaken impression that the brain already has this structure pre-wired into it and that learning a language simply fills in the spaces in this pre-existing structure.

In fact, the brain's organization emerges and develops throughout the lifespan as the capacities for language and literacy are acquired and as connections are forged among patterns of activation to create memories. Memory structures are structured and restructured over time as they grow. However, the macro-model doesn't say anything about how this system comes into being. The big question researchers want to answer is: How does the Linguistic Infrastructure for language form?

The Neural Network Micro-Model

If the Linguistic Infrastructure is a wide-angle lens on reading, the zoom-in lens is the Neural Network micro-model, which describes how the reading system develops from repeated learning and practice experiences within the context of normal language and direct instruction. Supported by general learning processes, neural networks model the way a normal brain learns by building pathways, connections, and architecture among tiny linguistic microprocessors. The result of connecting millions of tiny microprocessors in a network is the brain organization and Linguistic Infrastructure systems described earlier (Figure 1.2).

Neurons. The brain is composed of a dense network of tiny nerve cells called **neurons**. Neurons send and receive electrical or chemical stimulation to and from different sources like skin and muscles. If the stimulation exceeds a certain amount, it triggers the neuron to emit a signal called an **action potential** across a connection called a **synapse** to another neuron, which may then activate in turn. The brain contains billions of neurons and trillions of connections between them that are in constant activation. The connections between neurons can be excitatory or inhibitory, so that sometimes an action potential coming from one neuron will inhibit the activity of the recipient neuron. Each neuron can send its signal to many others, each may receive a multitude of signals from others, and they all get weighted differently. Seidenberg (2017, pp. 139–142) summarizes how the brain learns by increasing and decreasing the bonds between neurons and adding or deleting the connections among them. In learning a language, **codes** form implicitly through repeated firings of associated neurons, building pathways between sound stimulation (spoken words), visual images (written words), and meanings. LTM stores the codes as recipes to recreate linguistic knowledge as needed while using language or reading. Thus, learning involves the construction of neural pathways that over time become codes, and when these are added up and connected, they form the cognitive architecture that supports reading.

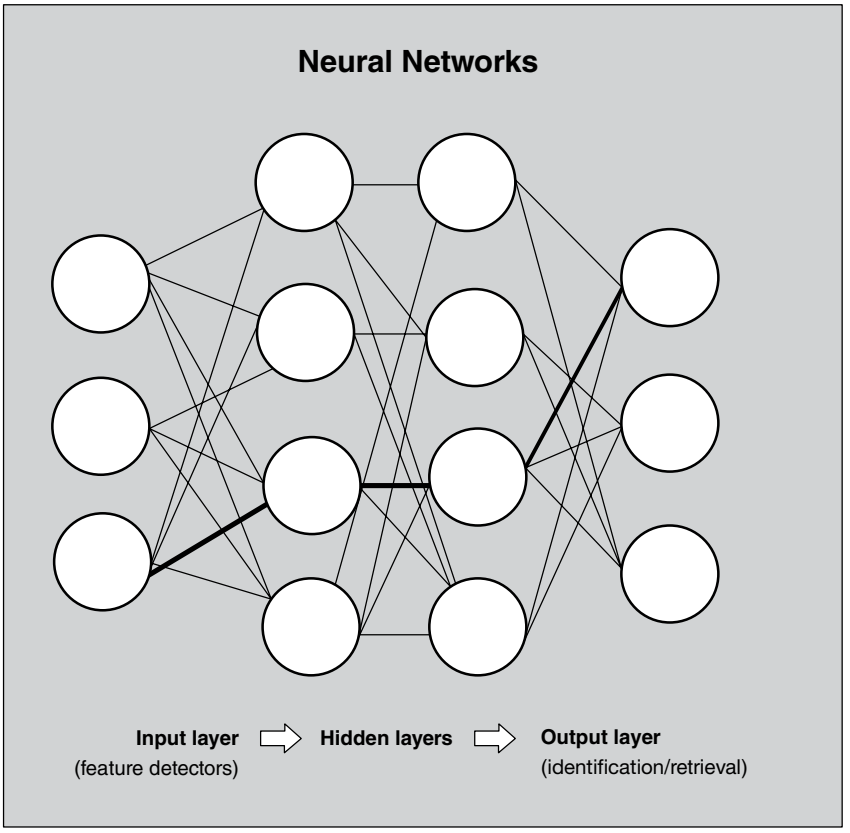


Figure 1.2 A Neural Network micro-model with input layer of feature detector neurons, hidden layers of neurons in pathways, and output layer of neurons that identify and retrieve linguistic codes.

Children implicitly learn to perceive and recognize some written words in the environment without supervision as their neural networks self-organize, but they also learn explicitly if they get feedback and guidance in supervised learning through training and practice. Learning to read takes place through the cognitive architecture created by neural networks in the human brain, and it can be studied with artificial neural networks.

A Networked Reading System. In computers, artificial neural networks are designed to mimic natural brain architecture. They are constructed using a large number of basic information processing units (also called neurons). Action

potentials are modeled by electrical activation that is weighted by experience in that the strength of the bonds between neurons become greater, the more often they activate each other and can also be adjusted by different learning criteria under supervision. Artificial neural networks are good at learning implicitly, and the performance of the network improves if it practices with large data sets because they implicitly track and organize the data statistically. Like the neural networks in the human brain, artificial neural networks learn in an unsupervised fashion or, more recently, under supervision. In the first case, the network is presented with large volumes of data, and it finds the most probable outcomes. In supervised learning, along with an input, the network receives feedback on whether the outcome is correct. Artificial networks are good at handling uncertainty, imprecision, and tuning out extraneous information because they are flexible.

Artificial neural networks are organized with the neurons in layers. Neurons in the first layer are activated upon detecting tiny physical features of sights and sounds in the world and mimic the first line of processing strategies in the human brain. The last layer is the output layer, where final processing (e.g. identification, recognition, decision-making, and selection) occurs. Between the input layer and the output layer are numerous hidden layers with neurons activating each other, and neural pathways form, strengthen, and weaken. The hidden layers allow the tiny features of sound and shape detected by the first layer of neurons to be combined into larger units of linguistic knowledge as partial information, and these, in turn, combine into larger units up to the level of identifiable codes. Over time, a cognitive architecture emerges in computers, just like in the human brain, as the patterns of words and texts create neural pathways. Learning to read is the process of developing and fine-tuning the feature detectors, the partial codes, the codes, the neural pathways, and the cognitive architecture to achieve optimal accuracy and automaticity. Later chapters explore this in greater detail.

Unanswered Questions. Artificial neural networks are good at detecting and identifying information and growing pathways and architecture, but their main computational skill is crunching large amounts of data by probabilistic or statistical means. While this may be perfect for some feats of the human brain like reading, networks don't seem sufficient for others, like complex thinking, abstract reasoning, or creative invention. Neural networks seem to reduce the complex language awareness system to patterns of brain activation and language learning to acquiring neural pathways. It is unclear if there is anything remarkable about language learning as opposed to learning a card game or learning to ride a bike. In addition, the idea

of training doesn't exactly capture the way that language use, in speaking and writing especially, can be intuitive, innovative, and creative.

Can the language awareness system be learned merely through exposure to many examples of language, that is, from implicit learning? Plante and Gomez (2018, p. 710) contrast implicit learning with explicit teaching:

> Implicit learning is a process in which learners extract regularities from the world around them without conscious intent or knowledge of these patterns. Such learning contrasts with explicit teaching on the part of adults (e.g., "Wheat is a plant because it grows in the ground"; "When there are two, we say /s/") or attempts by the learner to think explicitly about what constitutes correct language use (e.g., Should I use "he" vs. "him" this time?). Instead, implicit learning capitalizes on the learner's own cognitive biases for tracking structure in the input.

It is not clear how explicit and direct instruction in a classroom affects the neurons and neural pathways in a network, but it must have some effect because direct instruction seems necessary for children to learn to read and write. Direct instruction in the codes of language affect children's implicit language awareness to develop into explicit language awareness. Can explicit feedback on a meaning or structure help the brain create shortcuts to the strategies it needs to acquire? Of course, research is ongoing in these areas.

The Mini-Model: Codes

The mini-model, or **code**, is a way of representing how linguistic information is packaged in WM into chunks with connections between sound, spelling, and meaning in an LTM network so that they are retrievable on demand by the brain as it processes language. Codes are acquired from interaction with the world and they represent the data structures that form the basis for human language awareness. The Linguistic Infrastructure macro-model (the endpoint) and the Neural Network micro-model (the learning system) converge in a network of overlapping and interconnected stable data structures (codes) in the language awareness system.

Pre-literate and Post-literate Codes. A code starts in WM as neural activity detecting a feature, a characteristic of a sound. This neural activity combines a detected sound feature with other features in order to identify the sound. Over time, with a number of exposures to this combination of features, the detecting neurons begin to activate each other

automatically, and a code begins to form. Pathways are created among codes, and neural architecture is built in the LTM language awareness system. Implicit pre-literate codes form a network acquired from infancy on for speaking and listening. Pre-literate codes connect information about the sounds and meanings of words, but they do not contain information about spelling.

Learning to read requires more information, so existing pre-literate codes add an image of the appearance of the word and its spelling, as shown in the post-literate code in Figure 1.3. Seidenberg (loc. cit.) suggests that post-literate neural network systems form orthographic, phonological, syntactic and semantic representations (codes) based on patterns of activation over the neural units that are triggered or not triggered in the layers of the neural network (Figure 1.4). The more elaborate the codes are, the better the reader's explicit language awareness.

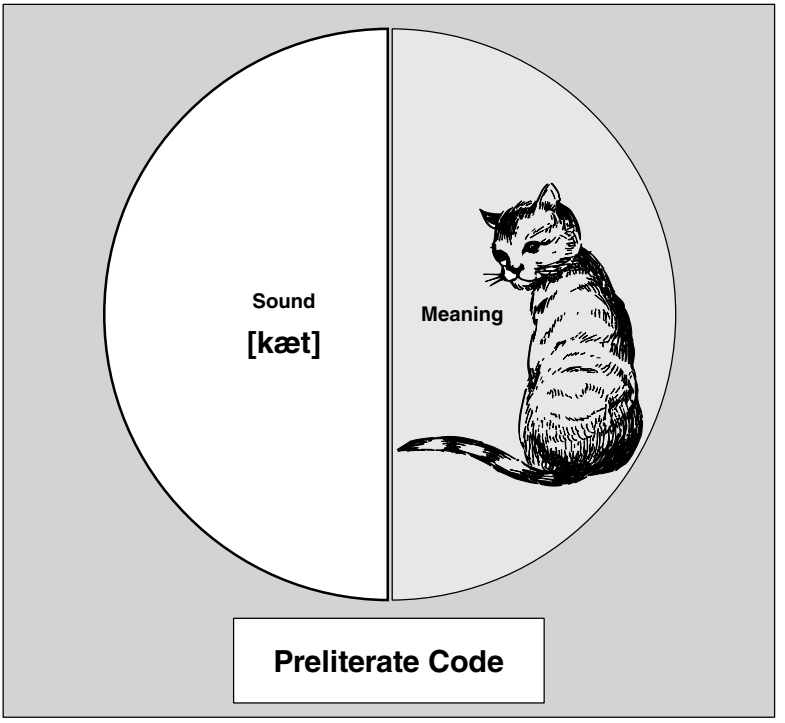


Figure 1.3 Pre-literate (two-way) code in the Language Awareness System for speaking and listening.

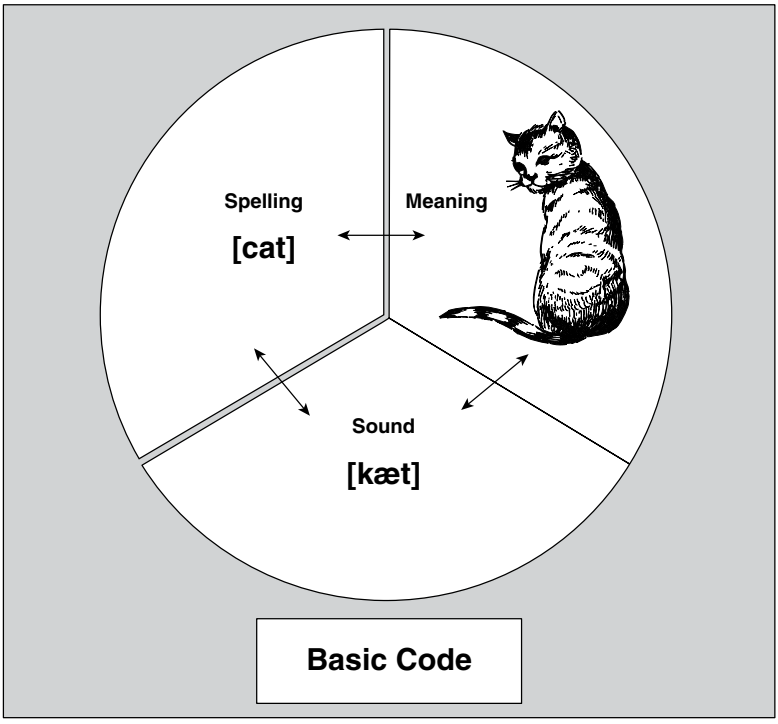


Figure 1.4 Post-literate (three-way) or basic code in the Language Awareness System for all language activities.

Types of Codes. Codes incorporate both LTM language awareness and WM linguistic strategies, as in the meaning of *cracking a code*: Humans use codes along with decoding procedures to unravel the mysteries of written language. Phonological strategies and awareness emerge from listening and speaking. Orthographic awareness and strategies are learned from perceiving letters and writing them. Syntactic awareness and strategies emerge from usage of and exposure to spoken, and later written, language. Semantic strategies and awareness come from trying to understand words, meanings, inferences, causes, and consequences connected to world knowledge. The neural pathways that form from orthography to phonology, semantics, and syntax are strengthened through experience with reading. Since the connections acquire weights as they are activated, the associations between a spelling (a word/code) and its phonology, meaning, and grammar change on the basis

of experience or training (as in computer models) and feedback about performance in instructional settings.

Seidenberg (2017, p. 140) hypothesizes that the **basic code** for a word has a complex three-way pattern of activation present after literacy is acquired. Its spelling is represented by a unique pattern of active or inactive units, its sound is a unique pattern associated with its spelling, and so on for meaning (leaving aside syntactic information). Basic codes become quite elaborate with multiple meanings and associations in LTM. **Elaborate codes** are basic codes with many additional meaning and other associations gleaned from many encounters with words in rich language environments, such as might exist in a well-read person's Linguistic Infrastructure.

Partial codes are smaller patterns of activation representing partial information like common spelling patterns, prefixes, or suffixes. Figure 1.5 shows the partial code for the spelling pattern —*ust* in the words *must, dust,* and *rust*. Partial

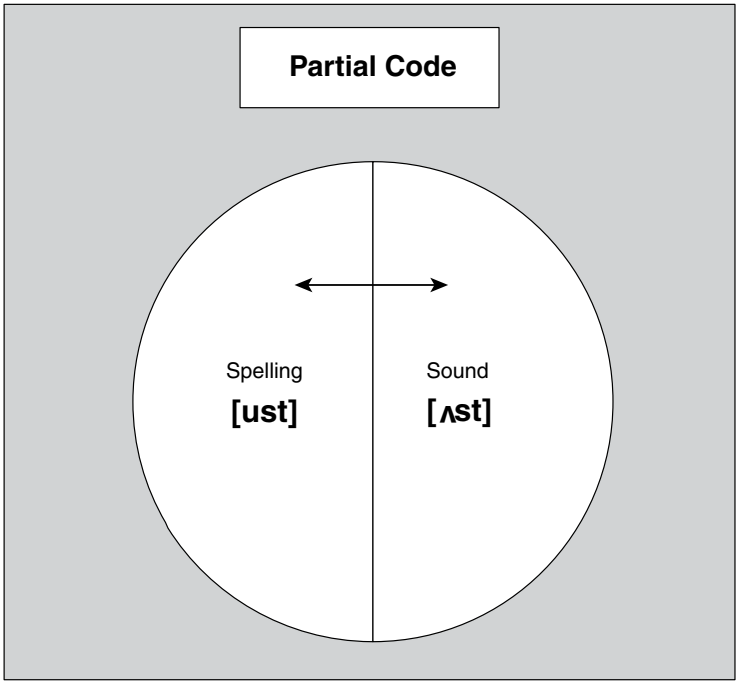


Figure 1.5 A partial code for a single spelling pattern.

codes are acquired for efficient reading in English because they are overlapping patterns that reoccur in a number of words. However, since is it a piece of a word (a rhyme), it is not associated with a meaning. There is no hard and fast division between partial codes and basic codes; it depends on what people know about words and pieces of words like prefixes and suffixes. Prefixes and suffixes can be used to make up new words, and they may have meanings attached to them.

Complex codes are linguistic constructions of any larger size than the word, such as common phrases or **idioms** like *raining cats and dogs* or *kick the bucket*. In construction grammar, basic codes and complex codes are called constructions, and they include grammatical tags for parts of speech, like proper name or verb (Birch, 2013).

A Convergent Reading System. Basic brain organization, Linguistic Infrastructure, neural networks, and codes form a reading system. The successful reading system forms the best connections between an input, a perceived spelling pattern in a text, and its output, recognition of a probable meaning. This means that the learning task for reading is to create a set of weighted connections and pathways, a reading architecture, so that the reading tasks can be performed quickly, effortlessly, and automatically. The reading system converges on the connections and pathways that allow for reading a large number of patterns accurately. It does this because the more common patterns are statistically more probable in the data, and therefore the pathways among them are heavily weighted. As Seidenberg (2017, p. 142) puts it, "After the model is trained on many words, the values of the weights represent a compromise based on the statistical probabilities in English words." In a neural network, a system of regularities or rules in language emerge as a by-product of reducing errors and building up speed. Learning to read is dynamic; linguistic knowledge is structured and then restructured, and processing strategies change as the reader acquires connections between neurons and builds a stable cognitive architecture.

The Development of Low-Level Reading

Implicit language awareness emerges normally as children learn their native language. It can become explicit through home and neighborhood learning, preschool instruction, or educational TV shows. Within the context of this process, children learn to read and write. Literacy increases explicit knowledge of sounds, spellings, and vocabulary. As children gain mastery over their vocabulary, their language awareness system can become quite detailed with many elaborate codes. Some activities increase the associations to specific part

of speech or other grammatical information: studying grammar or linguistics, learning another language, or becoming bilingual. Such detailed language awareness is called **metalinguistic awareness**.

Metalinguistic Awareness

phonology (sounds)

orthography (letters)

morphology (word parts)

lexical (words)

syntactical (phrases/sentences)

semantic (meanings)

In high school, metalinguistic awareness can become very sophisticated with the addition of Greek and Latin word parts, academic vocabulary, grammatical patterns, and linguistic terminology. Metalinguistic awareness is the conscious ability to think and speak about language as an object in its own right, to manipulate it consciously in speech and writing, and to appreciate language as a cultural creation. What does this development look like in more practical terms? Chall (1983) is a classic outline of five developmental steps in learning to read English, but a more descriptive discussion can be found in Wolf (2007).

Stage 0

Chall's first stage of reading captures the idea of pre-reading stage when explicit language awareness and reading behaviors are just beginning to develop. It describes pre-readers who can name and recognize the letters of the alphabet and write their own names. They can hold a book right side up and pretend to read it by remembering the words, looking at the pictures, and using clues in the pictures to guess the story. If pre-readers pretend to read this way, they are relying on top-level abilities such as memory, guessing from context, and knowledge of the world because they can't really read. Wolf makes the point that Stage 0 doesn't come from a vacuum; rather, the cognitive architecture for reading arises "out of years of perceptions, increasing conceptual and social development, and cumulative exposures to oral and written language" (Wolf, 2007, p. 115).

Stage 1

Stage 1 novice readers are just starting to learn to decode and recode the written marks on the page and associate them with sounds, syllables, and words. They are building up the network of codes needed for

reading. Stage 1 readers learn the **alphabetic principle**: that the letters on the page stand for the sounds of the language. In practicing the lower-level skills of orthographic and phonological processing, they often prefer to read out loud (sometimes laboriously) to link the written symbols (letters) with the spoken symbols (sounds). This linkage becomes automatic as new neural pathways become firm and strong. Wolf (2007, p. 126) says, "From the very start, the brain's capacity for making new connections shows itself here, as regions originally designed for other functions—particularly vision, motor, and multiple aspects of language—learn to interact with increasing speed." As the linguistic strategies become automatic, they do not become less important, but they do become less perceptible. As the cognitive architecture for reading is established in the brain, the strategies become so inaccessible to perception that fluent readers rarely realize what they are doing while they are reading.

Stage 2

In this stage, readers' abilities to decode and recode the written medium have improved substantially. Gone are the sometimes painful letter-to-sound pronunciations from Stage 1, and automatic and mainly unconscious linguistic processing has developed, giving these readers the needed time and attention to comprehend better. The cognitive architecture for reading is largely complete, but it is important for decoding readers to expand their vocabulary and their knowledge of word parts and syntax, that is, their metalinguistic awareness.

Unfortunately, in the transition to Stage 2, some readers lose momentum, and they must be motivated to read extensively with texts at their independent reading level. If this does not take place (because they are forced to read texts that are too difficult or unmotivating or because there are other social obstacles), readers sometimes cease to improve their reading skill because they stop practicing. The development of the neural pathways for reading stalls. At this stage and the next, higher-level comprehension processes can supplement deficient decoding and recoding processes, but readers who cannot process English text automatically face a handicap if they need to read quickly. A vicious cycle can develop. Poor readers avoid reading, and lack of reading practice means they do not improve.

Stages 3, 4, and 5

These stages describe growing expertise and increasing metalinguistic awareness. During Stage 3, readers use reading as a tool to acquire knowledge. Stage 3 readers are occupied with learning new vocabulary, so reading material at this stage must begin with the knowledge that learners have already acquired to establish a supportive framework for further learning. Vocabulary enrichment strategies are important for the reader at this stage. Readers must learn to look for facts, concepts, and points of view and use critical analysis while reading. Critical analysis becomes even more crucial in stages 4 and 5, when reading is the primary method of learning in school. Stage 4 reading takes place in high school, and Stage 5 reading develops in those readers who go to college. These very advanced readers must read academic texts and comprehend subtle nuances of meaning. Throughout their lives, people continue to improve their reading and metalinguistic awareness as long as they are exposed to challenging and thought-provoking materials.

Zooming in on Stages 0 and 1: The Psycholinguistic Grain-Size Hypothesis

Recent research permits a more detailed view of what goes on in Chall's Stages 0 and 1, as children's language awareness transitions to a reading system. Crucially, during these stages, children develop the brain connections and neural pathways that support phonological awareness, a cornerstone for alphabetic writing. **Phonological awareness** is the term used to refer to awareness of features and sounds in a language and abilities to process them, and it emerges from children's spoken (pre-literate) vocabularies. Phonological awareness advances from larger units like words and phrases, to smaller units like syllables, and finally to the individual sounds of words, which are acquired through learning the alphabetic principle. The best current description of this process is called the **psycholinguistic grain-size hypothesis** (Goswami, 2002), on analogy with grains of different sizes: corn, wheat, rice, and so on. In this hypothesis, children develop awareness of different grain-sized units of language: words, syllables, and sounds, as they learn to read in their native language. The units in the language awareness system are dependent on the writing system the reader is learning. Orthographic strategies differ in how they incorporate phonology at different grain sizes.

For example, the largest relevant grain size is the whole word, which some languages use as a unit in their writing system, so the orthographic strategies are at this level. Words have syllables, which some languages use in their writing system,

so orthographic processing may take place at this sub-lexical level. Syllables have an **onset-rhyme** structure, that is, syllables can be divided into beginning consonants (the onset) followed by a vowel and a consonant or consonants (the rhyme), as in *m-ust*, *j-ust*, *cr-ust*. Orthographic strategies at the level of onsets and rhymes are basic to the spelling system of English. Onsets and rhymes are made of even smaller units, speech sounds or phonemes, which are the basis for the alphabetic principle. Finally, sounds have phonetic features, the smallest grain size; these may be involved in feature detection in the first layer of a neural network. Early English literacy acquisition is built on pre-literate linguistic awareness of words, and then, experiences with reading and direct instruction lead to vocabulary development and further awareness of patterns within words, like syllables, onsets, rhymes, and sounds. Ultimately, the stage is set for children to develop phonological awareness, or awareness of the sounds of spoken language.

English L2 Reading Development

While brain organization is universal in humans, there is variation in the Linguistic Infrastructure that second language learners bring when they start to learn to read in English. For one thing, English L2 learners may or may not be literate in their first language. Illiterate learners have general world knowledge and knowledge of spoken language, but their Linguistic Infrastructure is pre-literate. English L2 learners have knowledge of speech and listening in their first language, but their English L2 speech and listening skills may vary in completeness and fluency. They may not recognize all of the sounds they hear, and they may not be able to produce them accurately in speech. They may not have sufficient vocabulary to understand English, and they may not be familiar with English grammatical structures. Also, the world knowledge necessary for comprehension of texts from another culture may be lacking.

Literacy Issues for English L2 Readers

Illiteracy

Incomplete knowledge of English

Different grain sizes in writing

Missing English processing strategies

Transfer and interference

Literate English L2 learners have a Linguistic Infrastructure for reading their first language, which includes a cognitive architecture and neural pathways designed for their writing system, not English. Their orthographic strategies may operate at different grain sizes and involve phonology in a different way at the word, syllable, or alphabetic level. Their L1 language awareness

and linguistic strategies may **transfer** as they attempt to read English, and transfer may **facilitate** reading, or it might interfere. **Interference** means that what readers already know may make learning to read in English more difficult.

In addition, because of the different grain sizes used in different writing systems, L2 readers may not have developed the orthographic strategies that native English speakers develop. In order for students to advance in reading abilities, some may need direct instruction in English orthography and plenty of experience with reading to build neural pathways. For English teachers to provide instructional support, they must know about how expert readers read in English, what language awareness they have, and what linguistic strategies work best. They must know something about what language awareness systems English L2 learners have developed for their L1. The next chapter is a look at the different L1 writing systems of the world.

Language Awareness Activity: Segmentation, Identification, and Manipulation

In early childhood education, teachers begin the process of expanding children's explicit language awareness by talking about sounds and words. Speech is an acoustic flow of information without any real divisions between most words and phrases, but writing systems chunk this acoustic flow into different grain sizes. To learn to use an alphabet, pre-readers benefit from being able to package the flow of speech into recognizable chunks of linguistic information that will correspond to letters when they begin to learn to read. These chunks of information are called **phonemes**. Segmentation, identification, and manipulation activities are designed to increase the pre-reader's **phonemic awareness**.

Segmentation

English L1 children learn segmentation through preschool word play, rhyming games, nursery rhymes, and books like those of Dr. Seuss. Stage 0 activities prepare them to learn the alphabetic principle. For English L2 learners, there is evidence that Hebrew speakers have difficulty segmenting the beginning consonant of English word from the rest of the word because of their consonantal writing system (Ben-Dror et al., 1995). Arabic readers may have similar difficulties, as

well as Chinese readers. English learners can learn to segment words into component sounds by identifying how many sounds they hear in a word, by trying to pronounce the sounds in a word separately, by playing oral rhyming games, and by learning rhymes and songs.

1. The teacher asks learners to clap their hands for each sound they hear in a word: hill (3), taps (4), an (2), very (4), and so on.
2. The teacher asks learners to say the words with a short pause between each sound. If learners can read and write, they should be cautioned not to spell the word. *Hill* should be something like [h ɪ l]. *Taps* should be [t æ p s]

Identification

Teachers help learners identify whether a particular phoneme has occurred or not in a context. She might say, "Hold up your YES sign if you hear the sound of /p/ in this word/sentence. Hold up your NO sign if you don't hear the sound. *Sit down please*."

1. The teacher asks students to put up one finger if the word begins with [ʧ]. Then she gives a list of words such as *at, chat, apple, chapel, chin,* and *in*. (This can be short.) The teacher can also draw students' attention to the fact that these word pairs rhyme.
2. The teacher asks students to raise their hands whenever they hear the sound [ʧ] for the *ch*.

The teacher then reads the following sentence and similar ones slowly: *Chucky likes to share his chocolate candy bars with Charlotte and Charles*. (If some students are waiting to see what other people do before putting up their hands, the teacher should give the students two cards, one with an x and one that is blank. They must put up the card with an x on it whenever they hear the sound.) This can be fun because even if the sentence is read slowly, students will need to listen carefully and respond quickly. It can also be a competitive activity with two or more teams.

Manipulation

English L2 learners can practice manipulating the sounds of words by taking off sounds at the beginnings, in the middle, or at the ends of words.

This is an oral task, not a reading task. For instance, students can learn to answer *ick* to the question: *What happens if I take the /t/ off of the beginning of the word 'tick'?* They can answer *his* to the question, "What happens if I take the /l/ out of the middle of the word 'hills'? And they can answer *sing* to the question *What is left if I take the /s/ off of the end of 'sings'?*

1. Teachers ask learners to find words within words. This is sound manipulation, not spelling manipulation. *What word is left if I take the [br] off of the beginning of these words or names?* break (ache); bride (I'd); Brill (ill); broke (oak).
2. Teachers ask learners to manipulate sounds and see if what is left is a word or not a word. *What sounds are left if I take the [br] off of the beginning of these words or names? Is what is left a word or not a word in English?* Brenda (-enda); brim (-im); brew (-ew).

Discussion Questions

1. Review these terms from the chapter: emergent language awareness, implicit language awareness is, explicit language awareness. long-term memory, working memory, codes, prime, target, priming, Linguistic Infrastructure, phonological strategies, orthographic strategies (decoding, recoding), lexical strategies, syntactic strategies, neural network, neurons, synapse, partial code, basic code, complex code, alphabetic principle, onset, rhyme, transfer, interference, facilitation, phoneme, segmentation, identification, and manipulation.
2. Go over the model of brain organization in Figure 1.0. Given that the basic organization is the same for all humans, how might the content differ for individuals? How might it differ for people from different cultures and languages? In your opinion, what specific problems might different types of English language learning readers face in each area (cognitive processing, world knowledge, language

Word Family: aware (a), awareness (n)

aware (a) from Old English *gewær*, 'watchful, vigilant' from the Proto-Indo-European root **wer-*, 'perceive, watch out for'

awareness (n) aware + -ness
-ness (Old English suffix denoting an action, quality, or state which attaches to an adjective to form an abstract noun)

processing, and language awareness) when they are dealing with English texts? For instance, how might inferencing be a problem? What aspects of letter recognition might be problematic?

3. The distinction between implicit and explicit language awareness and metalinguistic awareness is not precise. Can you think of examples of each? What kind of language awareness do you have?

4. What does the word *etymology* mean? What is the etymology of *etymology*? What do the etymologies in this chapter tell you about the origin of many English academic words like *emerge*, *implicit* or *explicit*? How is the word *awareness* different from the other academic terms in its origin? What does this tell you about the origin of English words? What is Proto-Indo-European (PIE)? Why do the PIE roots have an asterisk? What other modern words descend from this root?

5. The **Word Family** and **Word Parts** boxes are intended to help improve lexical awareness. The boxes are paraphrases of etymologies found at Online Etymology Dictionary at www.etymonline.com. (Bookmark this site so you can access it quickly.) Answer these questions about the etymologies in this chapter.
   a. Regarding the word family *emerge*:
      i. Is *emergency* related to *emerge*?
   b. Regarding the word families *implicit* and *explicit*:
      i. How does the Latin root word *plicare* relate to the English word *plywood*?
      ii. *Implicate* comes from *in-* 'into, in' + *plicare*, 'to fold'. Why is there an **m** in *implicate* instead of the original n?
      iii. Why are the **c** in *implicate/explicate* and *implicit/explicit* pronounced differently?
      v. What other words come from the PIE root **plek-*, 'to plait'
   c. Regarding the word parts *macro, micro*, *mini*, and *meta*:
      i. What other words do you know with the word parts: *macro-, micro-, mini-*, and *meta-*?
      ii. What does *meta-* contribute to the meaning of *metalinguistic*?
      iii. *Mini-* comes from the word *miniature*. Where does *miniature* come from?
6. Choose a sound in English and develop a set of activities to practice phonological awareness. Your choice will differ if your activities are for beginning English-speaking readers or beginning readers from another language.

Make sure you have a segmentation, an identification, and a manipulation activity.

7. Moats (1995) argued that many reading teachers lack enough metalinguistic awareness to teach English grammar, word structure, and writing explicitly. Take this quiz now and also when you finish reading the book to see if your answers have changed. Do you know what these words mean?

Logogram	Grapheme	Onset
Transparent orthography	Morphology	Rhyme
Phoneme	Derivation	Tense vowel
Phone	Inflection	Morphophonemic writing

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