

MEDIA RESOURCES AND LEXICAL RESOURCES IN LANGUAGE TEACHING: A REVIEW OF THE LITERATURE

A Review of Empirical and Theoretical Studies

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Abstract

This review synthesises research on the role of media resources and lexical resources in language teaching and learning. It examines how the two literatures, long developed in parallel, have increasingly converged as digital media reshape the ways in which vocabulary is encountered, processed and retained. After tracing the theoretical foundations of each field, the review surveys empirical findings on multimedia and vocabulary acquisition, corpus and data-driven learning, mobile and incidental learning, and the role of the teacher in mediating these resources. It concludes by identifying gaps in the literature and proposing directions for future research.

Key words: Media resources, lexical resources, vocabulary acquisition, multimedia learning, incidental learning, multimedia glossing, computer-assisted language learning (CALL), data-driven learning, captioned video, teacher mediatio.

1. Introduction

Two strands of research have come to dominate discussion of materials in contemporary language education: one concerned with media resources, that is the channels and tools through which content is represented and delivered, and one concerned with lexical resources, that is the vocabulary that learners must acquire and the means by which it is taught. Although these literatures developed largely in parallel, recent scholarship suggests that they are increasingly difficult to separate, since the digital media now ubiquitous in classrooms have transformed how words are encountered, glossed, recycled and retained (Stockwell, 2012; Webb & Nation, 2017). This review brings the two bodies of work into dialogue. It first establishes the theoretical foundations of each, then synthesises the empirical evidence on their intersection, before identifying limitations in the existing research and suggesting where future inquiry might most usefully be directed.

The review is organised thematically rather than chronologically, following the convention that a literature review should map the conceptual terrain of a field rather than merely list studies in sequence (Cooper, 1988). Sources were drawn from peer-reviewed journals in applied linguistics, educational technology and vocabulary studies, with priority given to empirical studies, meta-analyses and influential theoretical statements. Where the evidence is contested, competing positions are presented side by side rather than reconciled prematurely, since a central function of the review is to expose unresolved tensions as much as to report settled findings.

The rationale for treating these two fields together is more than a matter of convenience. Vocabulary has long been recognised as the component of language most amenable to support from external resources, since words are discrete, countable and recyclable in a way that grammatical competence or pragmatic skill is not (Nation, 2013). Media resources, for their part, have repeatedly been justified to teachers on the grounds that they make vocabulary more memorable, more contextualised and more engaging (Mayer, 2009). The claim that media aid lexical learning is thus one of the oldest and most frequently repeated in the applied literature, yet, as this review will show, the empirical picture is considerably more nuanced than the promotional rhetoric of textbook publishers and software vendors would suggest.

2. Theoretical foundations



2.1 Media resources and theories of multimedia learning

The theoretical case for media resources rests substantially on dual-coding theory (Paivio, 1986) and the cognitive theory of multimedia learning (Mayer, 2009). Paivio argued that information processed through both verbal and visual channels is more robustly encoded than information processed through a single channel, a claim that provides a cognitive rationale for pairing words with images. Building on this, Mayer (2009) proposed a set of evidence-based principles – among them the multimedia, modality and redundancy principles – specifying the conditions under which combining words and pictures aids rather than hinders learning. A recurring caution in this literature is the risk of cognitive overload: media that present too much simultaneous information, or that duplicate the same content across channels, can depress rather than enhance learning (Sweller, 1994; Mayer, 2009).

Earlier conceptualisations of educational technology tended to treat media as neutral delivery vehicles, a position famously challenged by Clark (1983), who argued that media themselves do not influence learning any more than a delivery truck influences nutrition. Kozma (1991) countered that the affordances of particular media can indeed shape cognition. This unresolved debate continues to inform the field and cautions against attributing learning gains to a medium rather than to the method of its use (Selwyn, 2011).

Sociocultural theory offers a third theoretical lens, complementary to the cognitive accounts above. Drawing on Vygotskian principles, this perspective frames media resources as cultural tools that mediate the relationship between the learner and the object of learning, with the teacher acting as the more capable other who scaffolds the learner's engagement with those tools (Lantolf, 2000). On this view, the question is not merely whether a video or an app transmits vocabulary efficiently, but how it is appropriated within socially organised activity. This theoretical framing helps to explain why the same resource can produce very different outcomes in different classrooms, and it foreshadows the emphasis on the teacher's mediating role developed later in this review.

2.2 Lexical resources and theories of vocabulary acquisition

The lexical literature rests on a complementary set of foundations. The lexical approach (Lewis, 1993) repositioned vocabulary, and particularly multi-word chunks and collocations, from the periphery to the centre of language teaching, challenging the earlier dominance of grammar. Nation's influential programme of work (Nation, 2001, 2013) established a framework distinguishing the breadth of vocabulary knowledge (how many words) from its depth (how well each is known), and articulated the conditions for learning, including the now widely cited claim that learners need to meet a word many times in varied contexts before it is retained.

Central to this literature is the distinction between intentional and incidental learning. Intentional learning involves the deliberate study of vocabulary, often through word lists or flashcards, while incidental learning occurs as a by-product of meaning-focused activity such as reading or listening (Hulstijn, 2001). Schmidt's (1990) noticing hypothesis and Laufer and Hulstijn's (2001) involvement load hypothesis offer competing but compatible accounts of why some encounters with a word lead to retention and others do not, the latter proposing that the depth of cognitive processing – the combination of need, search and evaluation – predicts learning.

A further strand of the lexical literature concerns the nature of lexical knowledge itself. Vocabulary is increasingly understood not as a list of isolated items but as a network of form, meaning and use, encompassing collocation, association, register and frequency (Nation, 2013; Webb & Nation, 2017). The recognition that much of the lexicon consists of formulaic sequences and multi-word units, rather than single words combined by rule, has profound implications for how resources should present vocabulary, since it suggests that learners need rich, repeated exposure to words in their typical company rather than in decontextualised lists (Lewis, 1993). It is precisely here that media resources, with their capacity to present language in



authentic, contextualised and multimodal form, appear most promising, and it is to this point of intersection that the review now turns.

3. The convergence of media and lexical resources

The two literatures meet most clearly in research on how media-rich environments support vocabulary learning. Table 1 summarises the principal lines of inquiry that connect them.

Research strand	Media element	Lexical focus
Multimedia glossing	Text plus image, audio or video annotations	Incidental word retention
Captioned video	Subtitles and captions on authentic film	Form-meaning mapping
Corpus tools	Concordancers and corpora	Collocation and usage
Mobile applications	Spaced-repetition and flashcard apps	Deliberate breadth building

Table 1. Lines of research connecting media and lexical resources.

3.1 Multimedia glossing and annotation

A substantial body of experimental research has examined multimedia glosses – the on-screen annotations of unfamiliar words with definitions, images, audio or video. The foundational study by Chun and Plass (1996) found that vocabulary recall was strongest when learners received both verbal and visual glosses, consistent with dual-coding predictions. Subsequent meta-analytic work (Yanagisawa, Webb, & Uchihara, 2020) confirmed a positive overall effect of glossing on incidental vocabulary learning, while noting considerable variability attributable to gloss type, language proficiency and word characteristics. The literature broadly converges on the finding that media-based glosses outperform traditional marginal glosses, though some researchers caution that overly elaborate multimedia may distract from the text itself (Mayer, 2009; Yun, 2011).

Importantly, the glossing literature directly tests predictions derived from both parent fields, making it a paradigm case of convergence. Dual-coding theory predicts that pictorial glosses will outperform verbal-only glosses, and the evidence largely bears this out; involvement load theory predicts that glosses requiring learner choice or evaluation will outperform passive ones, and here too the evidence is supportive (Yanagisawa et al., 2020). Where the literature remains unsettled is on the question of learner-related moderators: lower-proficiency learners may benefit most from glosses but may also be most vulnerable to overload, an interaction that the primary studies have not consistently disentangled. This tension illustrates a recurring methodological problem, namely that aggregate effects can obscure substantial variation across learners and conditions.

3.2 Captioned and subtitled video

Authentic video, particularly when captioned, has attracted sustained attention as a source of rich lexical input. Studies generally report that captions support both comprehension and incidental vocabulary uptake by helping learners segment the speech stream and map spoken forms onto written ones (Montero Perez, Van Den Noortgate, & Desmet, 2013; Vanderplank, 2016). Meta-analysis indicates a reliable advantage for captioned over uncaptioned viewing for vocabulary learning, although effects on listening comprehension are more equivocal and may depend on learner proficiency (Montero Perez et al., 2013). This strand neatly illustrates the convergence theme of this review: the medium (video plus captions) and the lexical outcome (word retention) cannot meaningfully be analysed in isolation from one another.

Researchers have also begun to differentiate among caption types, comparing full captions in the target language, keyword captions, glossed captions and bilingual subtitles, with evidence suggesting that more selective and interactive forms may direct attention more efficiently to



target items (Montero Perez et al., 2013). The wider availability of streaming platforms with adjustable captions has made this an unusually accessible resource for both classroom and autonomous use, blurring the boundary between instructed and naturalistic exposure. At the same time, reviewers caution that the engagement which video reliably produces should not be mistaken for learning; affective appeal and cognitive uptake are distinct outcomes, and a clip that learners enjoy may nonetheless leave little lexical trace unless follow-up tasks induce deeper processing (Vanderplank, 2016).

3.3 Corpus tools and data-driven learning

A distinct line of work treats the corpus itself as a media resource for lexical learning. In data-driven learning (Johns, 1991), learners use concordancers to observe patterns of word use, collocation and colligation directly from authentic language data, adopting the stance of a 'language detective'. Reviews of this tradition report generally positive effects on the learning of collocations and lexico-grammatical patterning, while acknowledging that the approach makes considerable demands on both teacher expertise and learner training (Boulton & Cobb, 2017). Boulton and Cobb's (2017) meta-analysis of data-driven learning found medium-to-large effect sizes overall, lending empirical weight to what had previously rested largely on enthusiastic case reports.

3.4 Mobile-assisted and app-based vocabulary learning

The proliferation of smartphones has generated a rapidly expanding literature on mobile-assisted language learning, much of it focused on vocabulary because words lend themselves to the short, repeated study sessions that mobile devices afford (Stockwell, 2012; Burston, 2015). Spaced-repetition applications, which schedule review of items at expanding intervals, operationalise long-standing findings on the spacing effect (Nakata, 2011). Reviews report that mobile tools can be effective for deliberate breadth-building, though they also note methodological weaknesses in the primary studies, including short durations, small samples and a tendency to compare new tools against no-treatment rather than against established methods (Burston, 2015). The literature thus offers cautious optimism rather than unqualified endorsement.

4. The mediating role of the teacher

A consistent thread running through both literatures is that the value of any resource, media or lexical, depends heavily on how the teacher mediates it. The technological pedagogical content knowledge framework (Mishra & Koehler, 2006) formalises this insight, arguing that effective technology integration requires the intersection of technological, pedagogical and content knowledge rather than technical competence alone. Applied to vocabulary, this implies that a teacher must understand not only how to operate a glossing tool or corpus but also which words are worth teaching, how they should be sequenced, and how repeated meaningful encounters can be engineered across media (Nation, 2013; Webb & Nation, 2017).

Several reviewers observe that the literature has tended to foreground the tools while under-theorising the teacher who selects and orchestrates them (Selwyn, 2011; Kessler, 2018). This echoes a broader concern in applied linguistics that teachers remain a relatively neglected stakeholder in materials research (Mercer, 2018). The convergence of media and lexical resources therefore raises questions not only about cognition but about teacher knowledge, workload and professional development, an area where empirical evidence remains comparatively thin.

The teacher's mediating function is especially consequential for vocabulary because lexical learning depends so heavily on principled selection and recycling. A media resource may expose learners to thousands of words, but only the teacher can judge which of these are worth deliberate attention, ensure that high-value items recur across subsequent lessons, and design the tasks that convert fleeting recognition into durable knowledge (Nation, 2013). Left to themselves, learners using media autonomously tend to encounter words in an unsystematic fashion, with



frequent items repeated and rarer but useful items neglected. The teacher, in other words, supplies the curricular logic that media resources, however rich, cannot supply for themselves. This observation reframes the perennial question of whether technology improves learning: the more pertinent question is whether teachers are equipped and supported to integrate technology in pedagogically principled ways.

5. Gaps in the literature

Synthesising across the strands reviewed above, several gaps become apparent. First, much of the experimental research measures vocabulary learning through immediate post-tests, leaving the durability of gains under-examined; delayed post-tests, where used, frequently reveal substantial attrition (Yanagisawa et al., 2020). Second, studies tend to isolate single media in controlled conditions, whereas real classrooms blend many resources simultaneously, limiting ecological validity (Stockwell, 2012). Third, the lexical literature has concentrated heavily on single-word items, with multi-word units and collocations – central to the lexical approach – comparatively under-researched in media contexts (Lewis, 1993; Boulton & Cobb, 2017). Fourth, the rapid arrival of generative artificial intelligence as a lexical and media resource has outpaced the empirical literature almost entirely, creating an urgent need for rigorous study of its effects on vocabulary learning. Finally, as noted above, the teacher's role in mediating these resources remains insufficiently theorised and investigated.

6. Conclusion and directions for future research

This review has argued that the literatures on media resources and lexical resources, long pursued separately, are now best understood as deeply intertwined. The theoretical foundations – dual-coding and multimedia learning on one side, and depth-of-processing and incidental learning accounts on the other – prove remarkably complementary, and the empirical evidence on glossing, captioned video, corpus tools and mobile applications consistently shows that media can support lexical development when their design respects the limits of cognitive processing and when teachers mediate them skilfully.

Yet the evidence is uneven and the methodological weaknesses are real. Future research would benefit from longitudinal designs that test the durability of gains, from ecologically valid studies of blended resource use in authentic classrooms, from greater attention to multi-word lexical units, from rigorous investigation of generative artificial intelligence, and from a renewed focus on the teacher as the decisive mediator of both media and lexis. The overarching conclusion of this review is therefore consistent with a recurring finding across applied linguistics: resources matter, but it is the informed professional judgement of the teacher that determines whether they translate into learning.

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