Tidbits of knowledge

Daniel Costa
introduces microlearning at a glance.

The idea that knowledge should be gained in small amounts has found expression in an increasingly researched pedagogic approach known as 'microlearning'. I see these bites as 'tidbits' (Cambridge, 2025) on the grounds that a small piece of interesting information resembles a small dish of pleasant food, as its definition conveys. Mobile devices, time scarcity and social connectedness have been considered main drivers of the practice (Torgerson, 2021:14–31). A glance at the state of the art of microlearning suggests that its essence is less clear cut than it seems, given the diversity that the concept entails. In a context dominated by studies from the corporate world, the current article explores its nature in language education by taking into account relevant research in relation to its flourishing practice.

Theories and praxis

Although the concept can date back millennia if taken at face value, the coinage of the portmanteau purportedly dates back to 1963, when it was introduced by Hector Correa in his book *The Economics of Human Resources* (Correa, 1963). Advocates of microlearning typically associate the practice with theories related to human psychology in order to support their stance. An oft-cited one is the Ebbinghaus Forgetting Curve, introduced in late-19th century Germany by Hermann Ebbinghaus. This showed that learners are likely to forget 50% of what they learn in less than an hour, 70% within a day and 90% within a week, substantiating decreased memory retention over time and the need for spaced repetition (Ebbinghaus, 1885). Similarly, American psychologist George Miller (1956) claimed that the human brain can only retain five to nine 'chunks' of information in his paper 'The magical number seven, plus or minus two'.

Of relevance is John Sweller's (1988) Cognitive Load Theory, which holds that pedagogic methods should avoid overloading working memory in order to enhance intellectual performance. The Australian researcher distinguished between task-based (mental load) and learner-based (mental effort) dimensions, identifying three types of cognitive load, namely: intrinsic (referring to the inherent complexity of what is learnt); extraneous (how it is presented to the learner); and germane (effort made to learn and construct schemata) (Sweller, 1988). Such musings also interact with nanolearning, where the tidbits of knowledge are even smaller. Reviews have suggested that other prominent theories have interacted with microlearning as well, thereby contributing to its development. These are exemplified by Seymour Papert's (Silva *et al.*, 2025) constructionism (which posits learners' creation of something meaningful in order to gain knowledge) and Deci and Ryan's (Silva *et al.*, 2025) self-determination theory (based on autonomy, competence and relatedness) (Silva *et al.*, 2025).

Attempts have been made to introduce a taxonomy for microlearning in order to guide educators willing to include it in their practice. A case in point is Theo Hug's (2005), which distinguished between: time; content; curriculum; form; process; media; and type. Another example is Peter Baumgartner's (2013), which comprises the following stages:

- Learning I – influenced by behaviourism, this stage has students absorb abstracted knowledge of a given topic in a way that fosters long-term retention.
- Learning II – influenced by cognitivism, this stage has students participate actively in the learning process via planning, revision and reflection.
- Learning III – influenced by constructivism, this stage has students co-create a problem to be mastered in order to generate knowledge.

These are then repeated at a higher level or with content related to another field, constituting the stage Learning I+. He calls this process a competence spiral (Baumgartner, 2013).

Microlearning has gained prominence in e-learning (Sankaranarayanan *et al.*, 2023) and has been used in fields which range from language education to nursing. Despite diversity as regards length of

sessions, these do not typically last longer than ten minutes, and usually focus on one learning outcome, catering to the shorter attention spans and hectic schedules which pervade several contemporary contexts. Microlearning has prompted offspring such as contextual microlearning, while research has underscored the growth of related publications on areas such as: microlearning design; implementing microlearning as a strategy; method or intervention; assessing microlearning outcomes; and using mobile devices for microlearning.

Tidbits of resources

Which resources, then, are typically used to foster microlearning? Examples include: videos; games; static texts; infographics; podcasts; and videos. The latter being the most popular ones due to their flexibility and their ability to enhance knowledge retention and engagement (Shabadurai *et al.*, 2022). Other resources are applications and social media (Tira Nur Fitria, 2022). The former include Gnowbe, NeNA, Axonify and EdApp and the latter is exemplified by the well-known Facebook, Twitter, LinkedIn and TikTok. Learning Management Systems such as Moodle have been used for microlearning (Monib *et al.*, 2025). In this context, microlearning has found solace in mobile technology, as the popularity of smartphone flashcard apps substantiates. Mobile microlearning has been the focus of researchers investigating the learning of vocabulary using the Superstar app with college students in China (Chen & Sitthiworachart, 2023).

Despite these postmodern feats, traditional media such as articles can also be used as resources for microlearning. Well-known magazines such as *The Economist* even mention the amount of time it takes to read them, which typically falls within the aforementioned timeframe. Similarly, a brief session based on new dictionary entries can convey the scope of microlearning, as a recent Cambridge Dictionary (2025) post distinguishing between *celeb bait*, *whaling attack* and *wrench attack* exemplifies.

Quality or quantity?

Recent research has suggested that microlearning can reduce cognitive overload by 37% (Thomas & Coecke, 2023). It has been shown that it improves retention by 20%, supporting spaced repetition, active learning and the application of knowledge (Mostrady *et al.*, 2025). Further studies have underlined the benefits for students, such as: increased accessibility; customisation; empowerment; retention; and comprehension. As for teachers, it has been shown to facilitate content updates due to reduced input size and to foster a greater awareness of learning outcomes (Fitria, 2022). A recent review specifically devoted to EFL has concluded that the practice enhanced areas such as vocabulary, grammar, pronunciation and interaction, while shedding light on innovative teaching strategies and on the value of microlearning to foster self-development (Prasittichok & Smithsarakarn, 2024).

Researchers, however, have alerted readers to a lack of understanding of what microlearning actually means and how to implement it in course design (Shabadurai *et al.*, 2022). Others have underlined the need to combine it with in-depth learning strategies to ensure comprehensive understanding, pointing to shortcomings such as its unsuitability for complex topics, limited learner engagement, risk of cognitive overload and technological dependency and accessibility (Mostrady *et al.*, 2025). The practice has also been hampered by resistance from students due to their preference for more traditional methods in EFL. On the whole, the relative novelty of microlearning means that solid conclusions are still incipient due to smaller cohorts vis-à-vis other groups (Prasittichok & Smithsarakarn, 2024).

Memorable tidbits

Extensive research on this topic prompted the conclusion that certain aspects of my experience as both a teacher and learner are implicitly based on microlearning. Although microlearning might come across as a superficial way to access profound knowledge, it ultimately depends on how this is done and perceived. On the quest for memorable input, brevity need not imply superficiality, just like quantity does not necessarily correlate positively with quality, although it certainly can. As the long-term impact on learning is yet to be seen, can tidbits serve as a reminder of the affordances of learning devoid of bells and whistles?

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