Ephemeralisation and its Impact on Language Learning and Teaching

Irina Janina Boncea[1]

Abstract:
The current paper seeks to investigate the impact of our habits of using increasingly sophisticated technology on the way in which we learn and teach foreign languages. Ephemeralisation, i.e. doing more with less, is the term used to describe the performance of technology in today's world as well as the way in which we are currently putting it to use. The focus of the present research is to discuss the implications of ephemeralisation on the technical students enrolled in English L2 language classes. The central question is whether increasingly smarter technology and the unlimited availability of information is producing better learning outcome in foreign languages classes or it is merely creating an illusion of learning within a gapped foundation of concept comprehension.

Keywords: *digital exposure, English for Specific Purposes, ephemeralisation, learning outcome*

[1] Lecturer, PhD, University of Craiova, Faculty of Letters, Department of Applied Foreign Languages, specialisation: English for Specific Purposes, Phone 0040724083333, Email: irina.boncea@edu.ucv.ro. ORCID ID 0000-0002-9277-0234

Irina Janina Boncea

1.   Introduction

In the post-communist Romanian education system, the introduction of technology into language classrooms was relatively slow but it has now become an integral part of learning activities at all levels, starting from kindergarten. Moreover, most language students boast great competence at English resulting from game playing, video and music exposure and social media interactions at very early ages. The current paper will try to investigate the effects of exposure to ephemeral digital content on the overall English learning and teaching outcome, with a focus on what are the areas in which digital exposure can be harmful and how these shortcomings can be overridden by awareness, careful planning and integration into classroom activities in the development of skills for the future.

Coined by Buckminster Fuller, an American architect, systems theorist, designer, inventor, philosopher and futurist, *ephemeralisation* is a term used to refer to the technological progress that enables **increased output** (in the form of services and information) with **reduced input** (such as time, effort and resources). The term can be defined as "doing more and more with less and less until you can do everything with nothing". *Ephemeralisation* represents the concept of enhancing efficiency to achieve better results with minimal expenditure of time, energy and money. The noun *ephemera* deriving from Greek *ephemeros* (for a day) makes reference to the *ephemerid* or mayfly or anything of short life or duration. *Ephemeral* thus describes anything that lives for only one day or anything transitory or lasting for a very short time. With reference to the pervasive technological tools of the present, ephemeralisation also renders the idea that all technology and digital resources soon turn obsolete as they are being replaced by increasingly complex and easier to use tools and resources. We shall also be using the term *ephemera* to refer to digital resources that are accessed and consumed at high speeds with little impact on long term memory: (short) videos, podcasts, tutorials, video and console games etc.

When applied to language learning, ephemeralisation makes reference to the deployment of technology tools of digital content aiming at increasing learning results. What language teachers might expect from the use of digital tools is:

- optimised memorization and enrichment of vocabulary, concept comprehension, accuracy enhancement, linguistic data structuring and use;

- rapid and engaging access and exposure to genuine language through audio, video, Virtual Reality (VR), Augmented Reality (AR), and

- the creation of dynamic, customised learning journeys that minimize learned and learning input to maximize communicative output.

As the students of today grew up with technlogy tools, they develop tech-saviness from an early age and are able to use a multitude of digital instrumets in their learning quests. Much like most modern teachers, Bălănescu & Marcu (2025: 68) identify their ESP students' sources of information as „Wikipedia and ChatGPT frequently, alongside social media […]. At the same time, more traditional means were added, such as books, dictionaries and scientific articles. Some of them even mentioned mass media, particularly TV news and documentaries, which they find helpful in further adding knowledge to their field of interest." The main concern associated with pervasiveness of the digital tools used for information gathering is that they are often unverified and volatile. With AI and even browser search queries retrieving results that are based on previous browsing history, one might enjoy the idea of being offered a customised search result but this can still be highly

subjective in nature and not necessarily accurate.We often hear students invoke ideas such as „I read it on the internet, so it must be true". This represents a vulnerability that teachers can address by helping their students improve their research skills in a number of ways:

- by showing them how to cross reference, how to cite reliable sources;

-by encouraging them to actually use citations rather than passing ideas ar their own;

- by showing students how to access copywrighted materials and acknowledge the source;

- by demonstrating how to refine search vocabulary for more specific and relevant search results;

- by encoraging students to subscribe to recognised repositories, libraries, websites etc., to access credentialed associations and professional bodies etc.

As underlined by Lăpădat & Lăpădat (2025:10) "digital literacy has moved from an optional enrichment to a defining competence of modern education", be it formal or informal. Therefore, this rolling stone of students'digital literacy represents a phenomenon that can no longer be ignored by modern education. Additionally, language students have nowadays developed their linguistic skills with technology to such extent that its presence in the classroom is not only welcome, but rather expected. The question arising from this is whether the shortcomings of fast information consumption can be overcome during language classes by raising awareness and planning intentionality into a framework of education that yields the desired learning outcome.

2. Skills for life and the dangers of ephemera

Lin et. al. (2020) have put together a list of skills for students to possess in the 21-st century for an optimised performance in their subsequent social and professional lives, most of which can be enhanced with digital resources. Within a refined conceptual framework, they list three types of skills attainable with the help of technology that will enable students to adapt to modern society and enhance their competitiveness on the labour market (Shadiev et al., 2022a,b):

(1) learning and innovation skills: critical thinking and problem solving, creativity and innovation, active communication and peer-collaboration,

(2) digital literacy: information literacy, media literacy, information and communication technologies (ICT) literacy, and

(3) career and life skills: flexibility in thinking, initiative and self-direction, social and cross-cultural interaction, productivity and accountability, leadership and responsibility.

Language teachers have a responsibility to ensure students are equipped to function in their chosen professional domains by helping students develop the above mentioned skills in their class interactions. One way of achieving an increase in the quantity and quality of educational outcome is to develop proficiency in the use of digital tools such as smart devices, AI, applications and streaming platforms for a number of purposes:

- creating instant communication skills with no L1 intervention,

- generating customised learning plans, charts and quizzes of learned content and

- accelerating comprehension, linguistic competence, accuracy and fluency in a social and professional environment that is meaningful for the students' integration into a subsequent network of like-minded individuals.

Secondly, students need to be made aware of and avoid the ***ephemera*** traps in terms of optimal quantity and learning quality. In this respect, the two immediately visible dangers of ephemera are:

a) Excessive exposure to social and digital media for unproductive purposes and
b) The apparent acquisition of knowledge in the absence of skills formation.

The former is an entertaining addiction that can be tackled consciously and coherently with a little help from the educators in the presence of clear criteria for relevance in skills development, life and work applicability and credibility. Lăpădat & Lăpădat (2025:13) propose "to make critical evaluation explicit and routine. Short cycles of claim checking and lateral reading can be integrated into weekly coursework". Not only is the development of critical thinking a useful tool in education, but it is also a solution for the gullibility manifested in relation to the un-verified online content which is sometimes downright dangerous. Moreover, when students learn to discern true from false and verify multiple sources, they develop the ability to crystallise what they have learned into a personal viewpoint, a genuine production of opinion stemming in their own minds.

The latter, resulting in elusive and incomplete learning, can be approached by being intentionally confronted as part of classroom activities aimed at concept defining and refining paired with practical skills development in the form of applicative exercises, hands-on experiments and simulations etc. In other words, instead of merely verifying if the knowledge has been acquired, educators might opt for testing its existence in the development of an actual skill. Therefore, debriefing no longer suffices whereas applying learned content is much better when integrated into assessment tools.

Shadiev & Wang (2022:16) make reference to an additional set of challenges that are to be overcome in the process of technology aided learning:

a) **Technology challenges**, when learners encounter difficulty to use technology during learning activities because of the mobile applications interface or device incompatibility, poor network quality and speed.
b) **Self-competence challenges**, with learners perception of learning tasks as difficult, especially when multitasking, or blaming insufficient time to complete learning tasks, absence or inappropriateness of research skills or with insufficient language skills needed to complete tasks. Additionally, challenges in identifying interesting topics and choosing the appropriate tools to create original work are often invoked.
c) **Peer-collaboration challenges**, when learners noting are faced with uncoordinated teamwork, uneven distribution of tasks and unequal student contributions during collaborative tasks. Self-awareness was also mentioned by learners who experienced anxiety about video chatting when communicating remotely, as well as fear of having their writing/ speaking errors made visible to their partners when communicating in writing or speaking, all of which constitute a hinderance of learning.

The first category of challenges can be overcome with some basic organisational interventions. The second category, however, is more difficult to tackle. Insufficient time and language resources may indicate that the tasks have not been carefully adapted to students' level of capability, both linguistic and operational. But, perhaps the most important challenge is that of empowering students with the right research tools that can help them create genuine work rather than plagiarism. This requires careful planning and actual incorporation of research tools development during language classes, as previously

mentioned. One specific example in this respect is a situation that I personally encountered some years ago when I asked a group of Computer science students to create a presentation (following a course on how to make a good presentation) about a topic deriving from a personal interest they had, either professional in nature, for instance a programming language or a favourite computer game, or simply some activity they liked to spend time doing (sports, reading, music etc.). To my surprise, the followed the guidelines about what to include on their presentation slides, but only a small percentage of them possessed good research skills in the sense that they did not know how to refine their search queries or how to properly discern reliable websites, repositories, dictionaries from unverified ones. This kind of discovery revealed the stringent need for educators to guide students as they shuffle through vast amounts of data, digital content and tools in order to help them crystallize acquired knowledge and input into original and personal output. After all, we all use the knowledge of our predecessors to build our own but it is with the tools of critical thinking and creativity that we can genuinely recompose it into original output. And the absence thereof should be addressed sooner rather than later.

The third category of challenges can be addressed by teaching students how and when to self-regulate, how to collaborate in harnessing emotions and putting them to good use. For instance, the fear of public speaking (especially in a foreign language) is one that terrorizes many adults who have never had a chance to refine their emotional intelligence at an early stage. Ephemeralisation may also play a role in increasing participation anxiety since fast digital content consumption may leave students with the impression they have not retained much. Hence the need for educators to be excellent coordinators of learning tasks, making sure each student understands and can play their role, empowering them to participate actively and be given more time if need be, breaking content into manageable chunks and distributing work evenly and fairly.

3.   Is technology exposure affecting our brains?

The lure of digital engagement is by no means restricted to the young and impressionable generation who grew up with technology. "Mobile learning (often 'm learning') is in itself not new, but new devices with enhanced capabilities have dramatically increased the interest level, including among language educators" (Godwin Jones, 2011:2). As actors on the stage of education, teachers have been exploring means of incorporating a variety of media into language classes for the benefit of all parties involved. In other words, not only are language classes more interesting and engaging when digital content is included, but they also satisfy an unspoken need to incorporate what students are familiar with and interested in, i.e. technology. Ignoring this salient need and refusing to adapt to the new requirements would probably represent professional suicide for educators. This ever-growing resource of human knowledge and creativity is presumed to produce better learning output since it ticks both intrinsic and extrinsic motivational boxes, it is interesting and entertaining as well as less time-consuming and cost effective.

Literature cited by Correia de Barros (2024) mentions a number of encouraging outcomes resulting from learning with digital tools including notable benefits in second-language acquisition, (Osterhout et al., 2008) learning new motor skills, (Scholz et al., 2009) and even formal education (Draganski et al., 2006). However, more recent studies have revealed that the extensive usage of internet search engines for factual information might irreversibly affect brain areas associated long-term storage in the memory and impairment of sustained concentration in the case of attention (Firth et al., 2020).

Despite the negative connotation and in the absence of irrefutable evidence, the term "digital dementia" (Spitzer, 2012) further depicts an entire set of cognitive impairments, such as memory loss, attention deficit, and impaired decision-making abilities, attributable to the excessive use of digital technology (in Manwell et al., 2022:28). Despite the volatility of evidence that digital consumption is eating away at our brains, it can easily be postulated upon self-observation that information tends to linger less effectively when we are being exposed to digital content that is perceived as *ephemera* by the brain: whatever results from fast exposure to enormous amounts of data in a short time span is handled as such, i.e. it is deemed either unimportant or gulped down without being chewed on. Similar to fast food consumption that is not nutritious in nature, we tend not to bother retaining content that is not informative in nature.

Additionally, excessive use of devices can create what we may call ***cognitive load***, a short-circuit if you will, that results in a division of attention, thus leading to poorer performance on tasks and reduced information retention in long-term memory. Moreover, daily multitasking and constant information overload from digital exposure can contribute to shorter attention spans and make it harder to develop in-depth and long-term learning to pair up with palpable skill. Moreover, memory and attention have been demonstrated to be directly affected by constant consumption of technology-powered content (Lodge & Harrison, 2019, Hembrooke & Gay, 2003) in terms of:

-**Divided attention and difficulty with focus**: when a device is present nearby, this can negatively impact focus as it creates an additional distraction, splitting resources away from the primary task which will be performed to a lesser extent or with poorer quality;

-**Memory impairment and reduced retention**: Over-reliance on technology means students will spend too little time exploring concepts and developing skill as they with scrutinize websites for very specific answers rather than going through the entire process of information retrieval. Additionally, students may miss out on opportunities to do something with the knowledge in terms of developing and stabilizing synapses through repetition, drilling and skill development. For example, using a keyboard can be less effective for learning than using pen and paper, which takes longer and requires multiple sensory engagement, or constantly multitasking can lead to less effective learning and less retention of course material.

-**Reduced social and emotional intelligence**: excessive time with digital communication tools can negatively impact the ability to recognize and interpret social and emotional cues learned through face-to-face interactions. Students who spend most of their social interactions online develop social anxiety and sometimes they do not know how to handle themselves in the actual presence of people with a variety of body language manifestations and gestures that are not visible in online universes. Added to this is the occasional immersion into dark online worlds that leave a psychological mark on the state of mind, often leading to depression and dark thoughts and behaviours. From a linguistic viewpoint, we often hear students using a number of English expressions they have learned online and they transfer into real life, often with no relevance or appropriateness in actual social exchanges.

- **Long-term over-reliance resulting in loss of skill**: users may experience significant loss of previously formed abilities when gadgets do the tasks for them, known as the "use-it-or-lose-it" principle, which shows that processes of learning and memory can stimulate the growth of new synaptic connections and preserve existing ones. Or perhaps they are missing out on developing and perfecting new skills. Two very simple

examples are how quickly we lose the ability to do mental calculations when calculators are used instead or how fast we lag behind on fluency in a foreign language if we don't practise. Additionally, one can also perform tasks erroneously and develop faulty skills if the accessed digital content provides incomplete or inaccurate information.

4. Mitigating the negative effects of ephemera- strategies for a carefully balanced and mindful digital engagement

Once educators become aware of the perils that lie within the alluring layers of technology resources, they can start taking measures for the optimal retrieval of learning outcomes and for increasing the positive impact of technology onto education. In discerning between the implications of using digital literacy as learning and teaching tools, Lăpădat & Lăpădat (2025:18) call attention to the extent to which it falls into a visionary framework of learning development: "What distinguishes strong implementations of digital literacy is the way they tie small design moves to big educational purposes". Resultantly, unless technology serves the purpose of a socially and professionally integrative tool, it will remain a mere form of entertainment: "It is a daily craft. It is the thoughtful arrangement of tasks, tools, and conversations so that learners encounter authentic language, analyze it carefully, and use it responsibly to make things that matter, […] prepare students not just to pass a class but to participate in the public life of their communities with judgment and imagination."(2025:18).

- **Practice mindful and purposeful usage of technology**: become conscious not only of when and how one uses devices, but also what educational purpose they serve, if there is one. If there is none, educators can train students to create one. For instance, if they are film or video binging on steaming platforms, they can watch the movies/ videos with subtitles and audio in English or any other language they wish to learn. Thus, they can benefit from the double input strategy, i.e. they hear and see at the same time. This yields great benefits, especially since most students challenge themselves to watch movies without any subtitles at all. Additionally, movies and videos should be paused every time one encounters a new concept/ turn of phrase or challenging word and consciously make an effort to retain it, even by writing it down with a contextual usage example. Also, music can be played with lyrics on and students should be encouraged to sing along for an entertaining and educational investment of time. This approach will promotes active learning and skills development rather than passive consumption of digital content.

- **Engage students in offline activities following online tasks**: generate time for extensions into analog activities such as reading one physical book after playing a recording of three distinct book/film reviews or abridged short stories. Technology thus plays the role of *captatio benevolentiae*, winning the students' goodwill and arousing the curiosity to further dive into the story by reading the actual book that caught their attention and interest while also satisfying their need for control. Though technology is initially present, the learning outcome is a digital detox that students will appreciate.

- **Control and reduce multitasking**: removal of unnecessary distractions and dedication of focused blocks of time to single tasks to deepen understanding and optimize concentration. An ongoing challenge of modern education is the difficulty of convincing students to study without listening to music. Despite the obvious, most claim they actually study better with music than without it playing in the background. In order to make the most of both, students may try the following sequencing of tasks

instead of overlapping them: study for ten minutes in silence, then listen to a song for 5 minutes for relaxation and repeat. Similarly, the experiment can prove useful during class activities as well. For instance, the teacher might ask students to remain perfectly quiet for 10 minutes while doing a listening task after which they are rewarded with 5 minutes of free social interaction with each other in English.

- **Intentionally and purposefully schedule technology use**: we should all include specific times for the use of devices for constructive purposes, such as learning or work/school-related tasks. Students may be asked to keep a diary of every time they touch their phone or laptops during a couple of days and the duration use, be it 5 minutes or hours. After analyzing the results, they can decide which incursions into the online content can be put to better use and redirected towards learning something useful or doing some productive work. The challenges here would be to convince them to actually keep the diary, to analyse the results and tackle the addiction by turning some of it into productiveness. Focusing on high-quality educational content and the redistribution of time must be intentional and measurable within reasonable limits as students might not be willing to give up their drug so easily without palpably becoming better at something.

- **Eliminate destructive temptations**: Uninstalling social platforms, apps or games that distract us from developing productive skills or acquiring meaningful knowledge can be made easier if we all increase our awareness of whether we are wasting or investing time in a specific digital channel. A typical example of destructive ephemera is the TikTok social app, with short videos that press a variety of emotional buttons but convey little to no content value. Moreover, in recent years it has been roumoured to be politically manipulative and highly addictive. Once students are made aware of the dangers of fast digital consumption, they might be willing to cut back on it if not remove it completely from their digital consumption habits. Instead, they can be encouraged to listen to podcasts, TEDtalks or watch Youtube tutorials related to their subjects of professional interests, thus expanding towards new horizons of curiosity and knowledge.

5.   Conclusions

As the world is changing into a place where computer technology has become ubiquitous, students and educators alike are faced with challenge of using rather than abusing it. With the range of negative effects technology can have on the learning process as well as on the brain itself, there is much need for awareness and empowerment in the direction of skills development and measurable learning output. In order to use technology with maximum learning yield, all parties involved in the educational process must collaborate to raise awareness, disseminate knowledge and find satisfactory solutions to the newly emerging realities generated by the use of digital tools everywhere and for everything. As digital devices are doing more and more with less and less, so should humans learn to use it less to create more. In other words, to put ephemeralisation in its right place, it should be used with care and awareness to construct and improve the professionals who will be operating with technology in their workplaces in a creative, ethical and mindful way.

Ephemeralisation and its Impact on Language Learning and Teaching

References:

Bălănescu, E.O., Marcu, D. (2025). Students' Needs and Expectations in ESP Classes: A Case Study. *Revista de Ştiinţe Politice. Revue des Sciences Politices*, no. 87, pp. 59-75.

Brookhart, S. (2010). *How to Assess Higher-order Thinking Skills in Your Classroom*. Alexandria, Virginia: ASCD;

Correia de Barros, E. (2024). Understanding the influence of digital technology on human cognitive functions: A narrative review, IBRO Neuroscience Reports, pp. 415–422;

Council of Europe (1997). *Key competencies for Europe*. Report of the Symposium in Berne 27-30 March 1996. Strasbourg: Council of Europe;

Draganski, B., et al. (2006). Temporal and spatial dynamics of brain structure changes during extensive learning. J. Neurosci. Off. J. Soc. Neurosci. 26, 6314–6317;

Firth, J.A., Torous, J., Firth, J. (2020). Exploring the impact of internet use on memory and attention processes. In*t. J. Environ. Res. Public. Health* 17, 9481;

Fuller, Buckminster (2020). [1969]. *Operating Manual for Spaceship Earth*. Zurich, Switzerland: Lars Müller Publishers. ISBN 978-3-0377-8126-5;

R. Buckminster Fuller, *Nine Chains to the Moon*, Anchor Books, 1938, 1973, pp. 252–59;

Grabinger, R. S., & Dunlap, J. C. (1995). Rich environments for active learning: A definition. *Research in Learning Technology*, 3(2);

Godwin Jones, R. (2011). Emerging technologies: Mobile apps for language learning*. Language Learning & Technology*, 15(2), pp. 2–11;

Hembrooke H., Gay G. (2003). The laptop and the lecture: the effects of multitasking in learning environments, J. Comput. High. Educ., 15, pp. 46-64;

Higgins S., Baumfield V., Lin M, Moseley D., Butterworth M., Downey G., Gregson M., Oberski I., Rockett M., Thacker D. (2004). Thinking skills approaches to effective teaching and learning: what is the evidence for impact on learners? In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London;

Lăpădat, L.C, Lăpădat, M.-M. (2025). Digital Literacy: A Paramount Element in Modern Education. *Revista de Ştiinţe Politice. Revue des Sciences Politices*, no. 87, pp. 9-20;

Lin, L., Shadiev, R., Hwang, W. Y., and Shen, S. S. (2020). From knowledge and skills to digital works: an application of design thinking in the information technology course. Think. Skill Creat. 36, 100646. doi: 10.1016/j.tsc.2020.10 0646;

Lodge J.M. , Harrison W.J. (2019). The role of attention in learning in the digital age, Yale J. Biol. Med., 92, pp. 21-28;

Manwell, M. Tadros, T.M. Ciccarelli, R. Eikelboom R.J. (2022). Digital dementia in the internet generation: excessive screen time during brain development will increase the risk of Alzheimer's disease and related dementias in adulthood. Integr. Neurosci., 21-28;

Markant, D. B., & Gureckis, T. M. (2014) Is it better to select or to receive? Learning via active and passive hypothesis testing. *Journal of Experimental Psychology: General*, 143(1), 94;

Osterhout, L., et al., (2008). Second-language learning and changes in the brain. J. Neurolinguist. 21, 509–521;

Rychen D.S. & Hersch-Salganik, L. (2003). (Eds.) Key *Competencies for a Successful Life and a Well-functioning Society*. Göttingen: Hogrefe & Huber;

Scholz, J., Klein, M.C., Behrens, T.E.J., Johansen-Berg, H. (2009). Training induces changes in white-matter architecture. Nat. Neurosci. 12, 1370–1381;

Shadiev, R., Hwang, W. -Y., Ghinea, G. (2022). Guest editorial: Creative learning in authentic contexts with advanced educational technologies. Educ. Technol. Soc. 25, 76–79;

Spitzer, M. (2012). Digital Dementia. *Nervenheilkunde*, 31 (2012), pp. 493-497;

Stephenson J. (1992). Capability and quality in higher education. In: Stephenson J, Weil S. (eds), *Quality in Learning: A Capability Approach in Higher Education*, London: Kogan Page, pp. 1-7.