

CURRENT RESEARCH, PEDAGOGICAL MODELS AND ASSESSMENT CHALLENGES IN FORMALIZING AUTONOMOUS DIGITAL LANGUAGE LEARNING

Martynyuk Olena

PhD in Pedagogy, Associate Professor
Khmelnyskyi National University
Khmelnyskyi, Ukraine

Introduction. Foreign language (FL) acquisition increasingly occurs in both formal classroom settings and diverse informal contexts (like digital media, social interaction, etc.). While formal instruction provides structure, informal learning boosts learner autonomy, motivation and practical communication skills.

Despite the proven value of autonomous learning, its integration into formal FL instruction varies widely across countries. Teachers often lack methodological guidance, while cultural, curricular and pedagogical differences influence their methods. To effectively leverage both approaches, it is essential to incorporate autonomous learning outcomes into curriculum design and teacher training.

This study **aims** to identify globally applicable strategies to formalize autonomous FL learning outcomes.

Research results. The current research regarding autonomous language learning is defined by three interconnected areas of focus: the critical role of *learner autonomy*, the prevalence of *digital environments*, and the necessity of *integrating* these processes with formal language instruction.

The shift in control to the student is central in autonomous learning. This relationship – where learner engagement fosters a sense of control and is a vital step in developing learner autonomy (the ability to take charge of one’s learning) – has been considered as a primary research focus (Benson, 2013). The experience of emergency remote teaching during the pandemic served as an unplanned experiment, shifting an emphasis on self-management and virtual learning. However, studies revealed a struggle among both teachers and learners due to the lack of self-management skills required for autonomous learning (Oportus-Torres et al., 2024).

The tension between autonomous practice and established formal learning is a widely-discussed issue. Learners, when granted online autonomy, sometimes default back to structured, classroom-like behaviors, even viewing unstructured content as a ‘guilty pleasure’ rather than a proper learning space.

Beyond simply confirming a positive link, recent studies identify the specific psychological mechanisms leading to achievement. The *Flow Theory* is frequently employed to explain deep engagement in autonomous digital learning: learners enter a state of ‘flow’ when their skills match the activity’s challenge or enjoyment, which ultimately boosts engagement, persistence, and outcomes (Csikszentmihalyi et al., 2010). Research also suggests that autonomous digital learning positively influences *online self-efficacy* and *digital competence*, which in turn partially mediates the

relationship between digital literacy and overall academic success (Barkati et al., 2024). Studies examining *motivational factors* show that instrumental motivation (language use for practical goals like work or travel) and interest are highly significant predictors of FL proficiency gained autonomously (Truong, 2021; Ghafar, 2023).

The majority of contemporary research has shifted its attention from generic ‘informal learning’ toward the technologically-mediated context, most frequently labeled as *Informal Digital Language Learning (IDLL)* (Barkati et al., 2024; Lee et al., 2021; Rezai et al., 2024). IDLL is consistently defined as autonomous language learning occurring in out-of-class digital settings, independent of formal instruction (Lee et al., 2021).

Common IDLL practices include both *receptive activities* (streaming, watching FL YouTube videos, engaging with social media content) and productive activities (interacting with others or writing comments in a FL on social media or in online games) (Toffoli et al., 2023). Significantly, it is the *quality* (diversity and variety) of IDLL activities – not the sheer *quantity* (frequency and time spent) – that is more strongly associated with FL vocabulary and proficiency outcomes. This finding emphasizes that varied exposure, effectively combining meaning-focused (like watching a movie) and form-focused (like using a language app) activities, is essential for success. Furthermore, researchers are actively investigating the role of modern tools, such as the potential of AI Chatbots, in enhancing receptive skills and enriching out-of-class learning environments (Toffoli et al., 2023).

Pedagogically, there is a distinct move toward merging autonomous FL learning into structured courses. The consensus in academia now places these two learning styles on a continuum, rather than viewing them as separate. This explicit integration, which involves teachers recognizing and utilizing students’ digital habits from outside the classroom, has demonstrated several benefits: it increases student engagement with informal learning, creates chances for practical speaking, and directly assists in developing learner autonomy. Teachers are increasingly adopting the role of facilitators of autonomous learning providing three types of support (Rezai et al., 2024):

- affective support (recognizing and encouraging IDLL);
- cognitive support (providing tips and resources);
- behavioral support (acting as role models).

The difficulty in assessing the balance between formal and autonomous learning has led researchers to depend more heavily on mixed-methods designs. These studies merge numerical data, obtained via quantitative scales used to gauge IDLL frequency, motivation, and proficiency, with descriptive qualitative methods like reflective journals and virtual ethnography, which are used to capture the learner’s unique, self-directed process (Barkati et al., 2024; Lee et al., 2021).

Universities in different countries have significantly incorporated autonomous language learning, particularly in their Foreign Language and English as a Second Language programs. Today, university FL programs are moving beyond simple encouragement to implement structured models that formally integrate students’ autonomous learning habits into the academic curriculum, complete with systems for accountability.

One approach to be mentioned in this context is *Formal Recognition and Accountability*. It means that FL instructors initially perform a so-called ‘curriculum audit’ or survey to identify students’ existing autonomous digital learning activities, such as their media consumption or gaming habits. This information then involves mandatory assignments:

- students must maintain an Informal Learning Journal where they log and reflect on their FL consumption for a formal grade;
- they receive contextualized homework that directly references the informal content they are already engaging with (e.g. using a Netflix clip to illustrate a specific grammar point) (Toffoli et al., 2023).

This method essentially formalizes autonomous digital learning by giving it explicit institutional recognition and credit.

Another model is the *Project-Based Language Learning (PBLL) Model*, which structures the formal course around a substantial, graded assignment requiring students to use authentic, external and informal resources. For example, in intermediate FL courses, a project (such as developing a travel guide) includes a *Resource Mandate*. This mandate compels students to show evidence of resourceful searching using informal channels, such as community forums or YouTube vlogger content. The final assessment is based not only on the quality of the FL product but also on a metacognitive reflection. This reflection must detail how the informal sources presented challenges or provided unique input that was absent in the textbook (Hill, 2018). This method actively encourages learner autonomy by structurally guiding students toward beneficial, self-directed resource discovery, aligning perfectly with integration goals.

A third model, the *Language Exchange Program (the so-called Virtual Tandem Requirement)*, formally incorporates the social and interactional dimensions of autonomous learning, particularly in advanced FL courses emphasizing communicative competence. This requirement sets mandatory hours for students to complete a minimum amount of FL practice with native speakers using virtual platforms. A crucial element of accountability is the submission of a post-interaction report that documents specific cultural encounters, newly learned idiomatic phrases, or communication strategies employed. By institutionalizing this social engagement component, this method addresses the critical need for practical communicative skills and ensures students are accountable for autonomous interaction with the FL community (American University, Washington, D.C.).

To achieve comprehensive insights when balancing autonomous digital and formal language learning, researchers frequently rely on *mixed-methods* combining quantitative instruments (such as surveys and proficiency tests) with qualitative techniques (like interviews and learner journals).

This multi-faceted approach is especially critical for measuring *learner autonomy*. Since autonomy is a complex trait encompassing both cognitive and behavioral aspects, its measurement in foreign language learning demands a diverse set of methods, predominantly categorized into two methodological groups: quantitative and qualitative.

Quantitative methods concentrate on measuring learners' perceived autonomy and the frequency of autonomous actions, generating scalable data that allow statistical examination of which independent learning behaviors are adopted and how often (Lee et al., 2021). Common instruments include self-report questionnaires, such as the Learner Autonomy Scale, which typically employ Likert-type items to assess learners' subjective views of their self-regulation, goal-setting, and reflective practices (Benson, 2013). In addition, autonomous learning inventories (e.g. the IDLL Inventory) are designed to capture behavioral autonomy by systematically recording how frequently learners engage in independent, out-of-class activities, such as using language-learning apps or viewing foreign-language media.

Qualitative methods seek to uncover the nuanced dimensions of learners' cognitive and motivational processes. They investigate the rationales behind learners' choices, their personal beliefs, motivational orientations, and sense of agency. Instruments such as reflective journals or diaries prompt learners to document their foreign language activities and explain the strategies they employ and the reasons for their decisions. Thematic analysis of these narratives is particularly effective in illustrating learners' agency, as it exposes the internal dynamics of autonomous decision-making as well as the challenges learners encounter. Semi-structured interviews are used to explore learners' underlying beliefs and intentions. Through open-ended questions addressing perceptions of control, motivation, and the role of the teacher, researchers can identify the personal and contextual influences that shape autonomous behavior. This qualitative method explains the *why* and *how* behind observed levels of autonomy, adding interpretive depth that cannot be captured through numerical data alone.

Learning outcomes may be evaluated using both objective measures, such as standardized testing, and subjective approaches, including self-assessment. Consequently, assessment frameworks typically combine quantitative and qualitative methods to address different facets of learners' abilities.

Quantitative instruments are mainly employed for objective evaluation and comparative analysis. Standardized proficiency tests represent a central quantitative approach, frequently using pre- and post-test designs to identify gains in language competence. These assessments often emphasize receptive skills, including vocabulary knowledge and reading comprehension, which are strongly shaped by exposure in both formal and autonomous digital learning contexts. Common examples include the Vocabulary Levels Test and specific components of standardized examinations such as TOEFL and IELTS tests. Another quantitative measure involves grammar or usage tests, which assess structural accuracy through formats such as multiple-choice items and gap-filling tasks. These tests evaluate the retention of form-focused knowledge typically developed through structured classroom instruction and are often tailored to reflect the precise grammatical content of a formal curriculum.

Beyond objective testing, two additional approaches are used to capture learners' subjective experiences and practical language use. Self-assessment of proficiency is a quantitative technique that measures perceived competence. Using Likert-type scales, this method evaluates learners' self-efficacy and confidence in using a foreign

language, which are key factors influencing motivation and willingness to communicate.

Performance-based tasks, by contrast, adopt a qualitative approach to evaluating communicative competence. Rather than focusing on isolated language points, they assess language use holistically, including aspects such as fluency, linguistic complexity, and overall communicative effectiveness. Tasks such as role-plays or presentations generate qualitative data (such as coded transcripts or evaluations by independent raters applying holistic rubrics), which provide insight into learners' real-world speaking ability.

Assessing autonomous digital FL learning involves several interrelated difficulties rooted in the nature of autonomous learning. The main challenge is the balance between authenticity and accountability. Autonomous learning is typically spontaneous, self-directed, and intrinsically motivated, yet assessment requires structure, which can undermine these qualities. When activities such as consuming FL content are formally assigned and logged, they risk becoming obligatory tasks rather than genuine engagement, reducing the motivational and experiential benefits of autonomous learning (Toffoli et al., 2023). Moreover, teachers often cannot reliably verify the depth or quality of learners' engagement with informal materials.

Another major challenge concerns the definition and measurement of learning outcomes. Autonomous digital FL learning tends to foster gains such as fluency, pragmatic competence, cultural awareness, and passive vocabulary growth – areas that traditional, form-focused assessments do not adequately cover. As a result, learners may show meaningful communicative improvement while achieving limited success on standardized tests. This issue is compounded by the diversity of resources students use for autonomous learning, which leads to varied outcomes and makes uniform assessment problematic. It is also difficult to attribute learning gains specifically to autonomous learning activities rather than formal instruction.

Equity and validity issues further complicate assessment. Differences in digital access, device quality, and available time can disadvantage some learners when autonomous activities are incorporated into formal evaluation. In addition, assessing reflective or self-reported tasks may unintentionally measure writing or analytical skills instead of autonomous learning itself. Finally, many teachers are insufficiently prepared to assess autonomous and non-traditional learning experiences, highlighting the need for new assessment competencies when integrating autonomous learning into formal educational contexts.

Conclusions. The study highlights that integrating autonomous digital FL learning with formal instruction is crucial, viewing both as part of a continuous learning process. Autonomous digital FL learning, fueled by motivation and psychological flow, supports learner autonomy and real-world communication, with the quality of digital engagement outweighing quantity. Institutions address this by implementing structured models that recognize autonomous effort, such as graded Informal Learning Journals, project-based tasks using informal resources, and Virtual Tandem activities, all guided by teachers as facilitators.

Assessment remains challenging. Adding structure can reduce motivation and authenticity, traditional tools often miss pragmatic and cultural gains, and unequal access or time constraints create equity issues. Grades may also reflect formal skills rather than autonomous learning itself. Maximizing benefits requires improved assessment methods and enhanced teacher competence in evaluating autonomous learning.

References

1. Barkati, M., Kiyangfar, Z., Noughabi, M. A., & Ershadi, F. (2024). Contributions of self-efficacy, L2 grit and digital literacy to informal digital learning of English: A structural equation modelling approach. *British Journal of Educational Technology*. Advance online publication. <https://doi.org/10.1111/bjet.13547>.
2. Benson, P. (2013). *Teaching and Researching: Autonomy in Language Learning* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315833767>.
3. Csikszentmihalyi, M., & Nakamura, J. (2010). Effortless attention in everyday life: A systematic phenomenology. In Bruya, B. (Ed.) *Effortless attention: A new perspective in the cognitive science of attention and action*, 179–190. The MIT Press. <https://doi.org/10.7551/mitpress/9780262013840.003.0009>.
4. Ghafar, Z. (2023). Social media in language learning: Implications for second language motivation and linguistic acquisition: A comprehensive review. *International Journal of Academic Scientific Research*, 1(2), 105–118. <https://surl.li/jcfqre>.
5. Hill, Y. (2018). Project-Based Language Learning (PBL) Intensive Summer Institute: Pathways to PBL. National Foreign Language Resource Center, University of Hawai‘i at Mānoa. <http://hdl.handle.net/10125/58921>.
6. Lee, J. S., & Lee, K. (2021). The role of informal digital learning of English and L2 motivational self system in foreign language enjoyment. *British Journal of Educational Technology*, 52(1), 358–373. <https://doi.org/10.1111/bjet.12955>.
7. Oportus-Torres, R., Contreras-Soto, Y., Sanhueza-Campos, C., Maluenda-Albornoz, J., Pérez-Villalobos, C., & Quintanilla-Espinoza, A. (2024). Self-regulated learning and engagement through emergency remote teaching in EFL undergraduate students. *Frontiers in Education*, 9. <https://doi.org/10.3389/educ.2024.1416507>.
8. Rezaei, A., Soyooof, A., & Reynolds, B. (2024). Informal digital learning of English and EFL teachers’ job engagement: Exploring the mediating role of technological pedagogical content knowledge and digital competence. *System*, 122. <https://doi.org/10.1016/j.system.2024.103276>.
9. Toffoli, D., Sockett, G. & Kusyk, M. (2023). *Language Learning and Leisure: Informal Language Learning in the Digital Age*. Berlin, Boston: De Gruyter Mouton. <https://doi.org/10.1515/9783110752441>.
10. Truong, M. (2021). Motivating second language learners: From major L2 motivation theories to implications for L2 classroom practice and research. *VNU Journal of Foreign Studies*, 37, 55–71. <https://doi.org/10.25073/2525-2445/vnufs.4657>.
11. American University (Washington, D.C.). Language Exchange Program. <https://surl.li/puvdpp>.