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25. Evaluation and validation of informal language activities with open badges¹

Benjamin Holt², Aleksander Wiater³, Annick Rivens Mompean⁴

Abstract: This article describes the creation of an open badge system meant to increase recognition of informal language learning. After laying the theoretical groundwork of informal language learning, we introduce open badges and the underlying blockchain technology that allows for their existence. While open badges can be used to recognize all kinds of informal learning and skill development, our focus is on how this technology can be used to recognize and promote foreign language learning in informal contexts. We present a system of micro badges designed for the specific purpose of allowing learners to gain official recognition for informal language learning activities that were completed outside the classroom. The badge system was developed as part of the Erasmus+ project called DIAL4U (*Digital pedagogy to develop Autonomy, mediate and certify Lifewide and Lifelong Language Learning for (European) Universities, 2021–2023*). We then raise essential questions concerning the evaluation and validation of these activities. Finally, we discuss the future prospects of this system of micro badges and the long-term implications that this technology has on language learning.

Keywords: Informal Language Learning; Evaluation; Validation; Open Badges; Blockchain Technology.

1. Introduction

Prior to the late 1960s, researchers and educators paid virtually no attention to informal education. The concept was developed in the context of psychological and pedagogical research, when it was noticed that learning does not have to take place only in formal or non-formal learning situations. One of the first empirical approaches to informal learning was presented by Canadian educator and researcher Allen Tough (1967), who was interested in getting students involved in the learning process. What was originally called self-planned later morphed into self-directed learning. In the European context of foreign language pedagogy, research on informal foreign language learning was initiated almost 40 years later, mainly by Geoffrey Sockett, Denyze Toffoli and Meryl Kusyk. Today, informal learning is rapidly gaining interest among researchers (e.g. Babault, Grabowska & Rivens Mompean, 2022), who are paying special attention to the breakthrough that has

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1. This document is an edited version of the original online document:
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occurred—and that is ongoing—thanks to the widespread presence of Information and Communications Technology (ICT).

Access to a myriad of online resources supporting informal learning allows for learners to remain in constant contact with a foreign language without the need for linguistic immersion in an endolingual context (i.e. in a country where a given target language is used as the natural means of communication). Of course, the countless different situations in which informal foreign language acquisition occurs means that learners are not always aware of the learning potential of the activities they engage in, and of the impact they have on their linguistic knowledge and competence (Grabowska & Wiater, 2023). Research has shown that learners are satisfied with repeatedly engaging in practices that are conducive to learning (e.g. watching videos or listening to music in a foreign language) without considering their effectiveness (Valetopoulos & Wiater, 2023). Moreover, informal learning does not benefit from the same status as formal education. Grabowska (2023) attributes this to its horizontal dimension, meaning that it is spread out over everyday life, as opposed to the vertical dimension associated with climbing the ladder of formal education. However, formal education accounts for only a small percentage of time devoted to learning, which means that much of the learning that takes place is not recorded or reported in standard educational systems. We agree that “informal education appears to be the first educational modality, the one with which everything begins and which dominates the logic of lifelong learning” (Brougère & Bézille, 2007: 126, our translation). Foreign language teaching supports self-directed, learner-centered activities, in which learners make their own decisions about what they will learn, at what pace, from what sources, etc.

Hence, as part of an Erasmus+ project conducted by eight universities from eight European countries called *Digital pedagogy to develop Autonomy, mediate and certify Lifewide and Lifelong Language Learning for (European) Universities* (DIAL4U)⁵, one of the goals was to develop digital tools allowing educational institutions to appreciate and recognize knowledge, skills and competencies acquired by learners engaged in informal language learning. Although the identification and validation of informal education should, in principle, remain optional, it is important to support learners and teachers in this process of empowerment by offering them tools that will allow them to gain validation and recognition for all activities and experiences that can have positive effects on the learning process.

5. DIAL4U (<https://www.dial4u-uni.eu>) comprises eight university partners: Malmö Universitet (Sweden), Mykolo Romero Universitetas (Lithuania), Stiftung Europa-Universität Viadrina (Germany), Universidade Do Minho (Portugal), Universitat Jaume I de Castellon (Spain), Universitatea Babeş-Bolyai (Romania), Université de Lille (France), and Uniwersytet Wrocławski (Poland).

2. Open badges and informal, lifelong learning

Open badges were invented as a way for learners to earn recognition for their drive, passion, skills, achievements, and experiences, especially those that are not listed on traditional diplomas issued by higher education institutions. They also take into account the fact that learning takes place across time and across contexts, and that not everybody is able to attend expensive higher education institutions. The Mozilla Foundation, in partnership with Peer 2 Peer University (2012), is widely regarded as a pioneer in this field by proposing a system of online badges that allows badge holders to gain formal recognition of their skills and achievements by higher education institutions and employers. Open badges account for skills that are not always formally recognized such as digital literacies, granular skills, soft skills, and particular experiences. They are learner-centered, personalized, can be combined, and show a more complete picture of lifelong learning than do traditional diplomas. They symbolize membership of a particular community (e.g. language learning, computer coding, etc.). They also challenge the notions that knowledge is produced only by expert authorities and that learning can only take place within classrooms or expensive universities. As the Mozilla Foundation and Peer 2 Peer University (2012: 3) explain in their seminal working paper, "Learning is not just 'seat time' within schools, but extends across multiple contexts, experiences and interactions. It is no longer just an isolated or individual concept, but is inclusive, social, informal, participatory, creative and lifelong."

Open badges are also useful because the skills required to be an educated citizen are constantly evolving. The Mozilla Foundation argues that in addition to being able to read and write, we must now be able to use various technologies, seek information online, produce content, and be good digital citizens. We must also be able to judge the quality of sources, multitask and network. These skills are often developed in informal contexts. The authors take issue with the fact that institutions still get to decide what kind of learning should count and who should have access to it. Open badges can therefore empower individuals who are motivated and have valuable skills and experiences to offer, but who did not necessarily follow a traditional educational trajectory. Open badges are beneficial not only to learners, who can gain recognition for their skills and achievements, but also to employers, who can use open badges to narrow and sort a pool of job applicants by skills (Devedžić & Jovanović, 2015).

According to the Mozilla Open Badges Guide for Adult Learners, published by Mozilla Open Badges and co-funded by the Erasmus+ Programme of the European Union,

A Badge is a little digital image that can be displayed on social media or other places on the Internet. The hidden beauty of an Open Badge lies in its metadata and is revealed when you click on the image: Metadata are information contained within a badge that defines it, the metadata includes name, description, and links to other important details like the badge's criteria, evidence. Metadata also contains a description of what the badge earner had to do in order to gain it and a link back to the awarding institution for verification (Mozilla Open Badges, 2016: 2).

In sum, badges can attest a granular learning path with specific skills that are picked up along the way, they are motivational because they provide learners with a sense of accomplishment and make them aware of what skills exist and can be gained, they are innovative and flexible because they can capture a wide range of skills including those that are often missed by diplomas or that are rapidly changing such as digital literacies, they formalize reputation and identity, and they signal community membership (The Mozilla Foundation & Peer 2 Peer University, 2012).

Before returning to open badges and their applications in foreign language learning, we must first discuss the technological revolution that is behind open badges.

3. Open badges and blockchain technology

The ease with which digital documents can be duplicated, modified and distributed has created new needs in terms of safe and secure recordkeeping. Banks, educational institutions and other third parties have traditionally been responsible for this. Recordkeeping comes with an inherent material cost, since one must pay the bankers or recordkeepers. It can also lead to trust issues, since a central entity has complete control over all transactions and recordkeeping. In the field of education, the falsification of diplomas and certificates is ongoing and rampant (Eaton, Carmichael & Pethrick, 2023).

Several innovative solutions have been proposed to overcome these obstacles, culminating in what is now known as blockchain technology. To protect against falsification of documents and tampering with timestamped data, David Chaum came up with a system of distributed trust so that one party is not solely responsible for keeping track of and guaranteeing the authenticity of digital records. His multiple-vault solution was presented in his doctoral dissertation, which was a "feasibility argument for computer systems which can be established, maintained and trusted by mutually suspicious groups" (Chaum, 1982: 3). He is known as the inventor of digital cash and as the first person to present a blockchain protocol. Haber and Stornetta (1991) came up with a cryptographic solution using hashes for timestamping digital docu-

ments in such a way that makes it impossible to alter them. Nakamoto (2008) presented a peer-to-peer payment system called Bitcoin that allowed mutually distrusting parties to carry out transactions without the need for a third party such as a bank. It offered a cryptographic solution to the double-spending problem, making it impossible to copy and spend a digital token twice. However, blockchain is useful for more than just the transfer of money. As Panagiotidis (2022: 67) points out, cryptocurrencies and blockchain technology are two separate things: “Cryptocurrency is the means by which transactions are made, and Blockchain is the system that supports, verifies, approves, records and ensures the security and validity of transactions.”

Blockchain technology (see Nofer, Gomber, Hinz & Schiereck, 2017 for an in-depth explanation) allows mutually distrusting parties to transact with one another by ensuring the authenticity of digital records. A public blockchain is a public ledger that is visible to all parties at all times, and is made up of individual blocks that are cryptographically linked to one another. In the case of the Bitcoin network, a new block is added to the chain every ten minutes, and each block contains all the transactions that took place during that time. Once a block is added, it is cryptographically locked in place via a hash and cannot be modified. It is impossible to modify any portion of the blockchain without also invalidating the hash. The Bitcoin network is public, meaning that the entire blockchain (and therefore every transaction that ever took place) is visible to everyone at all times. Blockchain networks are distributed, meaning that each individual node has a full copy of the entire blockchain, from its inception to the current block. Blockchains are also consensus-based; if a bad actor were to try to modify the blockchain in his favor, he would not succeed because his copy of the blockchain would not agree with the copies of the blockchain stored on all the other nodes. Another advantage of distributed ledgers is that if one node goes offline or is destroyed, the blockchain is still protected thanks to all the other nodes. One obvious use case for blockchains is therefore the secure storage of unfalsifiable academic records, such as the Blockcerts system issued by MIT Media Lab (Vidal, Gouveia & Soares, 2020).

In addition to allowing the secure and decentralized transfer of funds, distributed ledgers can also be used for smart contracts (see Szabo, 1997 for an introduction). These can be thought of as simple computer programs or lines of code such as if-then statements that execute automatically once certain conditions are met, allowing mutually distrusting parties to enter into agreements with one another without an intermediary. The best known blockchain network for smart contracts is the Ethereum network, which was invented by Buterin (2014). As a possible use case, Buterin (2014: 1) gives the example of “a treasury contract of the form ‘A can withdraw up to X currency units per day, B can withdraw up to Y per day, A and B together can withdraw

anything, and A can shut off B's ability to withdraw." In sum, the Ethereum network "allows anyone to build what is essentially a command line application run on a virtual machine that is executed by consensus across the entire network, allowing it to modify a globally accessible state as its 'hard drive'" (Buterin, 2014: 34). In the field of education, smart contracts can be used to automatically award a diploma, validate an assignment, or award "kudos" once certain conditions are met (Sharples & Domingue, 2016).

As Panagiotidis (2022) explains, blockchain technology has evolved since it was first invented. Blockchain 1.0 is used for sending, receiving and storing digital currency such as Bitcoin. Blockchain 2.0 is used for smart contracts such as Ethereum. Blockchain 3.0 uses decentralized applications in various sectors such as healthcare and art. Blockchain 4.0 aims to respond to business demands such as supply chain management. There are public blockchains such as Bitcoin that anybody can use, private blockchains that are only open to authorized users, and consortium blockchains, which are a hybrid of the two (Grech & Camilleri, 2017). Blockchain technology has also undergone, and continues to undergo, wide-ranging technical improvements that allow it to work faster and more efficiently, with less power consumption and lower processing requirements (Poojaa & Kumar, 2023).

4. Blockchain technology and informal language learning

Although blockchain technology is most famous for its applications in digital finance and in smart contracts, it also offers many benefits to society outside of these domains. In 2017, Grech and Camilleri wrote a report for the European Commission in which they explain how blockchain technology can be useful for issuing certificates to learners, storing verified e-portfolios, and managing intellectual property. As for certificates, "The objective of notarising certificates on a blockchain is therefore to transform a digital certificate that a student usually receives privately into an automatically verifiable piece of information that can be consulted by third parties through an immutable proof system, on a public Blockchain" (Grech & Camilleri, 2017: 51). As mentioned above, an open badge contains metadata that can be used to verify the authenticity of the badge. A bibliometric analysis by Reis-Marques (2021) shows that many scientific articles have been published on the use of blockchain technology for safe recordkeeping and to fight against the falsification of diplomas.

In the field of education, several studies have looked into how blockchain technology can be used to facilitate teaching, learning, course design and recordkeeping (see Facey-Shaw et al., 2018 and Panagiotidis, 2022, for re-

views). Teacher interviews carried out by Min and Bin (2022) showed that blockchain technology can be useful for many aspects of course design and evaluation as it can build trust, trace data, ensure accuracy, foster teamwork among colleagues, and enrich competence-based evaluation. Downes (2019) demonstrated how open badges and blockchain technology can be used to validate the completion of MOOCs. In order to fight against the falsification of credentials and academic fraud, the information of each badge can be stored in the blockchain itself, allowing for decentralized recognition of course achievements, distributed content and assessment, and the ability to merge and combine parts of different courses. Sun, Zou, Li and Luo (2021) created a system that facilitates the continuous assessment of English learners in China. It facilitates the storage and evaluation of student productions with a tamper-proof system underpinned by blockchain technology. Students receive scores based on their performance, and these scores cannot be later modified by teachers. As we can see, blockchain technology has many useful applications in the field of education.

Open badges are particularly useful for language learners. As Spencer and Bussi (2020) point out, a language course may be field-specific, but the transcript may only read “language.” Open badges can therefore help prospective employers know what granular, field-specific skills the learner acquired. Furthermore, open badges are locally and internationally recognized at the same time: “An Open Badge is an internationally standardized credential awarded and designed by local providers, who tailor their badges to meet specific local needs. As such, it is a peculiarly ‘glocal’ form of accreditation” (Spencer & Bussi, 2020: 427). These authors point out that university language centers are especially fertile grounds for open badges because they are the meeting place of language learners from many different disciplines.

In sum, open badges have many use cases in education, including language learning. In addition to helping to overcome the technical challenges involved in secure, decentralized recordkeeping, they allow for personalized, learner-centered and self-directed learning. Open badges motivate learners by helping them gain recognition for achievements and by making them aware of further skills to be acquired.

5. A system of micro badges

As mentioned above, learners can earn badges to reflect their involvement in activities that may not have been undertaken for the sole purpose of learning. This helps to recognize and appreciate learning that took place outside the walls of traditional educational institutions. Linguistic input comes in

many different forms and in various natural environments. Informal learning, which can be related to experiential learning (Kolb, 2015), is therefore an involuntary and inevitable part of everyday life. It is considered to be partly intentional (the learner listens to music because she wants to learn the culture of the language she is learning) and partly incidental (listening to music in a foreign language accompanies the learner in his free time and he does not necessarily pay close attention to the words or to the act of language learning). Informal learning is conceptualized as any learning that takes place outside of formal and non-formal educational programs (we use the word ‘program’ because the essence is not learning outside the system of organized education, but outside the prescribed and planned program):

Informal learning can be acquired through a wide variety of different experiences including, among others, work situations, civic engagements or family responsibilities, and activities such as reading, volunteering, surfing the Internet, attending film or theater festivals, traveling, pursuing hobbies, participating in religious activities, joining study groups, watching television, visiting museums, taking craft classes, and developing personal research projects (Schugurensky, 2007: 15; our translation).

It is important to emphasize the fact that even though informal learning is mostly unintentional, the boundary between intentional and unintentional learning is not clear cut, and informal learning can take place in situations that were sought out intentionally. In other words, participation in various activities can either be a conscious choice by the learner who intends to learn a foreign language, or it may be beyond the learner’s awareness and be considered as leisure or free time. Fig. 1 outlines the differences between formal, non-formal and informal learning.

	Formal	Non-formal	Informal
Directed by the institution	+	-	-
Presence of structured goals	+	+	-
Intentional learning	+	+	-(+)

Fig. 1 Properties of formal, non-formal and informal learning

Easy access to situations, tools and materials at little to no financial cost, combined with their attractiveness, interactivity, flexibility and openness, are just some of the advantages that contribute to the increased incidence of informal language learning. From this perspective, recognition of informal learning can complete and reinforce learners’ motivation, as the use of open

badges provides learners and teachers with visible, stimulating and motivating tools. As mentioned above, open badges allow for the official recognition of different activities that learners engage in and complete during their free time.

However, the virtues of open badges can also lead to challenges. Widespread availability and use of badges increase their usefulness, which in turn makes learners more likely to benefit from them. But as pointed out by Ahn Pellicone and Butler (2014: 9), “if anyone can create badges, it may be the case that many badges are not designed well from an instructional design perspective, and do not guide learning effectively for a learner.” In addition, due to the ubiquity of resources and activities, not all learners are capable of judging which ones are worth their time, and of self-directing their learning. Therein lies the value of badges that are designed and administered by teachers and researchers in the field of education, such as the ones proposed as part of the DIAL4U project.

The first step is to identify the situations in which informal learning is likely to occur. The system of micro badges created as part of the DIAL4U project was designed to account for certain activities that are conducive to language learning. The team also implemented a validation process that can be used by teachers and learners alike. The goal is for learners to graduate from university prepared for lifelong, independent learning, and equipped with effective tools that can be applied to their professional careers.

The part of the DIAL4U project dedicated to developing badges that recognize informal language learning is divided into four main tasks:

- Task 1: Determine the challenges of non-formal and informal learning vis-à-vis formal learning of foreign languages.
- Task 2: Define what skills are necessary for effective language learning and what types of activities can help develop these skills.
- Task 3: Design badges corresponding to a list of necessary skills for autonomous, self-directed language learning.
- Task 4: Issue the first certified badges by the DIAL4U consortium using blockchain technology.

For task 2, in the continuity of Rivens Mompean and Eisenbeis (2022) who sought to identify the intentions behind the integration of informal and non-formal learning into a self-directed language learning environment, Monika Grabowska elaborated a study that was administered to 37 Polish and 27 German learners of French as a foreign language. The learners had different levels of French (A1–C1). Over a two-month period, they were tasked with keeping a logbook of their informal, outside-the-classroom and autonomous French language activities that could lead to

learning. As presented by Babault and Grabowska (2022), the comprehensive analysis of these logbooks indicated what activities are practiced by the learners and which of these can lead to language acquisition in an exolingual environment, meaning an environment in which the target language is not spoken as the main means of communication (e.g. learning French in Germany or in Poland). The first objective of this study was to compare informal language practices and the associated metacognitive skills among learners from different countries and of different native languages. No significant differences in this respect were observed between Polish and German students. The second objective was to establish a list of practices that can lead to the development of certain skills. This list served to define the competencies that should be recognized. In parallel, Babault and Grabowska (2022) created a versatile, multidimensional model for badge attribution, shown in Fig. 2.

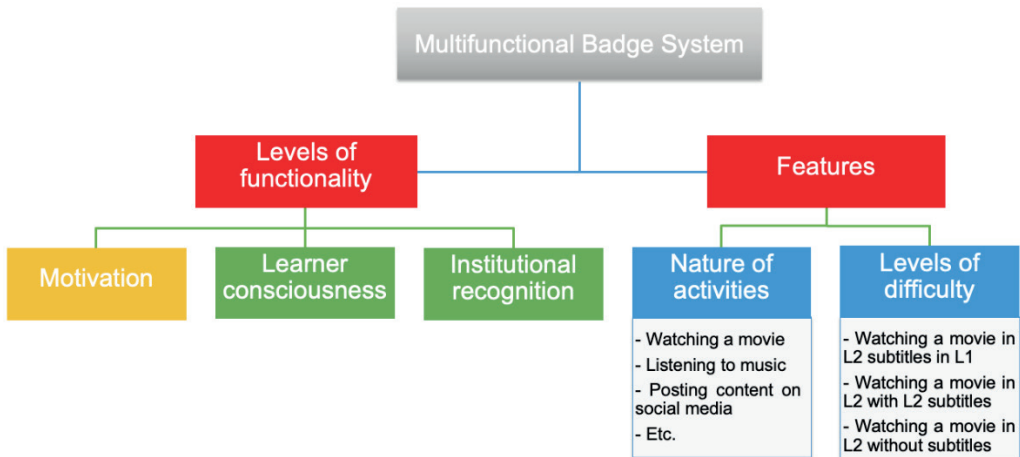


Fig. 2 Multifunctional badge system (Babault and Grabowska, 2022)

The DIAL4U open badge system was designed to increase learner motivation and consciousness regarding various language learning activities and situations. This, in turn, will lead to institutional recognition of foreign language learning.

On the basis of this model and of the outputs of tasks 1 and 2, the team defined the parameters (12 micro badges for 12 different informal language learning activities leading to a Badge for Informal Language Learning in three versions: bronze, silver or gold, according to the number of micro badges earned) and the modalities (manual, semi-automatic or automatic) of badge attribution. A student has to practice an informal language learning activity 10 times within a determined time frame (e.g. one semester) in order to earn a micro badge.

Finally, a tiered system of badges was designed and implemented. The com-

plex task of designing and improving the badge system was a joint effort between DIAL4U partners, language teachers and learners. Just as The Mozilla Foundation proposes different levels of badges such as core, intermediate and expert badges, we propose a system of *micro badges* that learners can earn individually. These can be combined to earn a *meta badge* which certifies the fact that a certain number of micro badges have been achieved. The meta badges formalize the completion of informal activities, as they will be officially issued by the university through the Open Badge Factory, which offers a user-friendly interface for creating and issuing badges.

The DIAL4U micro badge system is made up of 4 automatic (including 2 fully automatic) and 9 manual (2 of which have the potential to become automatic provided the resources) micro badges. By the word *automatic*, we mean that badges are awarded automatically on the platform once the indicated resources have been used during an indicated period of time. The word *manual* means that badges are awarded by the teacher on the basis of the student's self-declared out-of-classroom learning situations.⁶ The multitude of potential learning situations and contexts makes the repository open; other badges can be added if needed. In alphabetical order, the micro badges can be awarded for the following informal language learning activities:

Activity	Type of validation	Description
Attending Workshops	automatic or manual	Activities include: spending 1 hour per week attending workshops or conferences in the target language.
Blogging or vlogging	manual	Activities include: creating blog posts (minimum 1,000 words) or vlogs (minimum 10 minutes of spoken content) at least once a week.
Browsing social media	manual	Activities include: spending at least 2 hours per week reading short posts, consuming original content, watching reels that include spoken language, watching tutorials, etc.
Developing Metacognition	manual	Activities include: making at least one entry per week in a reflective learning journal, creating video diaries, mind maps or blogs, etc., which reflect upon language learning.

6. To ensure the credibility of the certification process, the teacher (or designated person) may demand proof of participation in approved activities (e.g. participation in a conference or written work). However, we assume that the learner's primary motivation is intrinsic and is interested in gaining as much contact with the foreign language as possible.

Emailing or texting	manual	Activities include: spending at least 1 hour per week texting or emailing for personal or professional purposes.
Gaming or other hobbies	manual (potentially automatic provided that the institution has adequate resources)	Activities include: spending at least 1 hour per week on leisure activities requiring communication in the target language, e.g. online gaming, playing sports, participating in outdoor activities or solitary hobbies (cooking while following recipes in the target language, etc.).
Interacting Orally	manual	Activities include: spending at least 1 hour per week on face-to-face conversation, videoconferencing, phone conversation, etc.
Listening to or Singing songs	manual (potentially automatic provided the institution has adequate resources)	Activities include: spending at least 1 hour per week listening to music that is sung or spoken with words or singing (e.g. karaoke).
Listening to spoken content	automatic	Activities include: spending at least 1 hour per week listening to radio programs, podcasts, etc.
Reading	automatic or manual	Activities include: spending at least 1 hour per week reading books, magazines, articles (online or print versions), etc.
Watching videos	automatic	Activities include: spending 1 hour per week watching TV shows, movies/films, online videos, TED talks, etc.
Writing (fiction or non-fiction)	manual	Activities include: spending at least 1 hour per week writing fiction or non-fiction or keeping a personal journal.
Engaging in other activities	manual	The student is free to declare any informal language learning activity that is not listed above. The teacher assesses the value of informal learning.

Fig. 3 Micro badge descriptions

Due to the countless situations in which learners can informally develop language skills, a thirteenth badge was added: “Engaging in other activities,” which allows the teacher to assess the student’s contribution and validate other kinds of activities not explicitly mentioned in the other micro badge categories.

6. Pedagogical issues and implications

There are several questions raised by the use of these badges. First of all, these activities are not necessarily separate from other formal activities that learners engage in, and a link needs to be established between formal and informal language learning. We consider that the self-access language learning center that most universities are equipped with is the best space to develop this link and to form a convergence zone between formal and informal learning spheres. This can be added to Spencer and Bussi (2020)'s list of reasons for why university language centers are so advantageous.

We also consider that this space is meant to equip language learners with the necessary reflexive tools, help them learn how to learn, develop their metacognitive competences, and help them become aware of the challenges and opportunities these activities provide. Rivens Mompean and Eisenbeis (2022) have described this as a dynamic, evolutive process. As learners gain access to a wider range of learning situations and resources, they also become more focused on their objectives, and therefore gain in intentionality.

The recognition offered by the DIAL4U badges creates a two-way movement, crossing between the two learning spheres:

- From informal to formal learning: Students' informal activities gain recognition by the educational institution (the university);
- From formal back to informal learning: The institutional recognition of learning leads to a never-ending validation of the lifelong learning process that takes place in informal contexts.

This movement has been described by Erstad (2018), who distinguishes two main learning dynamics: lifelong (diachronic learning throughout life) and lifewide learning, throughout the entire day and at any particular moment of the day—also called synchronic or “360-degree learning” (Guichon, 2022).

We would also like to add that these badges are not meant to replace official and internationally recognized language proficiency tests. Even though the final badge from our project is issued as an open badge, which is stored on a blockchain and justifies the completion of a certain range of activities, it does not certify any particular outcome or level of proficiency. Our badges should therefore not be considered as substitutes for language certificates or diplomas. However, one of the main advantages of badges is that they can be used for many different purposes in the educational landscape including motivation, engagement and participation (Facey-Shaw et al., 2018). Furthermore, the fact that badges can account for specific and short-term activities is

one of their strengths, in addition to their combinatorial nature and ability to represent unique learning profiles and personal roadmaps (Spencer & Bussi, 2020).

7. Conclusions and prospects

In this article, we presented the DIAL4U framework for a micro badge system based on informal language learning activities. The micro badges presented here do not certify hard skills, but help learners gain recognition for language learning activities that were completed outside the classroom, which should lead to increased motivation. The next step of the project will be to issue the first badges to a large cohort of language learners, which will allow for the institutional recognition of these activities. These badges will contribute to an open environment that enables lifelong informal learning. The open nature of the system will allow for new activities to be added and to account for the learning that takes place beyond the boundaries of institutions and organizations, therefore reflecting the open-ended and personalized nature of life-long learning. Our badges will also allow for endorsement by other institutions or individuals, along with the added value of raising awareness among employers and language learners.

However, some limitations and points of caution should be addressed. First of all, open badges are meant to serve as a complement to, and not as a replacement for, official diplomas awarded by institutions. Open badges therefore need to undergo widespread adoption and gain acceptance among employers and educational institutions in order to have utility. In other words, similar to cryptocurrencies such as Bitcoin, their value is defined entirely by their use and the amount of trust that people place in them. It is yet to be seen whether institutions, businesses and employers adopt and accept open badges, and if they do, they might not all agree on using a single block-chain where all academic records are stored, as hypothesized by Sharples & Domingue (2016).

Only time will tell whether open badges are here to stay, or if they are a fleeting fad. This will be determined by how many people use badges, and also by the quality of badges that are released. As Farmer and West (2016) point out, if there is a flood of badges, then they will have a limited effect, and it will be difficult for people to determine their value. It is therefore incumbent upon the badging community to create high-quality, meaningful badges. According to Farmer and West (2016: 48), "What is needed for an innovation like open badges to be successful, at this stage, are additional examples of effective badging practices, along with rigorous research into

the principles of quality badging.” Since open badges are still in their early stages, we remain optimistic that this system of micro badges will contribute to this goal. We aim to ensure that the evaluation and certification of skills and experiences keep pace with the inherently lifelong, personalized, decentralized, and often informal nature of language learning.

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