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Estrategias para fomentar el aprendizaje autónomo de lenguas mediante el uso de dispositivos móviles (mobile learning)

Strategies for fostering autonomous language learning through the use of mobile devices (mobile learning)

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RESUMEN.
La autonomía del aprendizaje ha cobrado gran importancia debido a la necesidad de satisfacer la demanda de formación continua de los profesionales. En un escenario tan dinámico como el mundo actual, parece que los modelos educativos clásicos no son suficientemente flexibles para que este aprendizaje permanente sea, por una parte, compatible con el resto de obligaciones y, por otra, ajustado a las necesidades formativas individuales. Por tanto, se promueve el uso de estrategias que permitan que las personas aprendan de manera autónoma.

Nos acercaremos al concepto de aprendizaje autónomo desde las definiciones de (Esch, 1996) o (Holec, 1981), para unirlo al concepto de aprendizaje móvil, siguiendo a (Godwin-Jones, 2011), quien entiende que es el complemento ideal, pues posibilita llevar a cabo formación en distintos contextos (seamless learning), y que, además, permite la creación de entornos personales de aprendizaje en un paradigma integrador de distintos escenarios formativos (Park, 2011) (Sharples et al., 2008).

Estos dos conceptos son la base del proyecto europeo SEAGULL. El proyecto parte de la convicción de que el aprendizaje de una lengua es un proceso dependiente de la capacidad de cooperación comunicativa y de la autonomía de sus participantes (Escribano Ortega & González Casares, 2013).

Se propone el trabajo en tándem con base tecnológica de comunicación síncrona a través de Internet: parejas de alumnos que se apoyan mutuamente en el aprendizaje de una lengua extranjera, siendo cada uno de los participantes nativo de la lengua que está aprendiendo su compañero (Grümpel, Orduña, & Ruipérez, 2014).

El objetivo de este artículo es ofrecer una visión específica del aprendizaje autónomo basado en Mobile Learning (M-Learning) con el fin de establecer interrelaciones que fomenten el aprendizaje con tandems.

El presente artículo es resultado del siguiente proyecto de investigación: SEAGULL, Smart Educational Autonomy through Guided Language Learning (European Commission's Lifelong Learning Programme).

PALABRAS CLAVE.
Aprendizaje autónomo, aprendizaje móvil, enseñanza de lenguas asistida por ordenador.

ABSTRACT.
Learning autonomy has become extremely important due to the need to meet continuing education demand from professionals. In a scenario as dynamic as today's world, it would appear that classical educational models are not sufficiently flexible for this permanent learning to be, on the one hand, compatible with other obligations and, on the other, adapted to individual educational needs. Therefore, the use of strategies enabling people to learn autonomously is promoted.

We will approach the concept of autonomous learning from the definitions of (Esch, 1996) and (Holec, 1981), to combine it with the concept of mobile-learning by following (Godwin-Jones, 2011), who understands that it is the ideal complement, since it enables education to be carried out in different contexts, known as seamless learning (Wong, Sing-Chai & Poh-Aw, 2017), and also allows personal learning environments to be created in an paradigm that includes different educational scenarios (Park, 2011) (Sharples et al., 2008).

These two concepts form the basis of the European Project SEAGULL. The project is born from the conviction that learning a language is a process that depends on its participants' capacity for communicative cooperation and autonomy (Escribano Ortega & González Casares, 2013).

Working in tandem using synchronous communication technology through the Internet is proposed: student pairs mutually helping each other to learn a foreign language, each participant being a native speaking of the language his/her partner is learning (Grümpel, Orduña, & Ruipérez, 2014).

The aim of this article is to offer a specific vision of autonomous mobile learning of modern languages to establish interrelationships to foster tandem learning.

The present article was performed as a result of the following research project: SEAGULL, Smart Educational Autonomy through Guided Language Learning (European Commission's Lifelong Learning Programme).

KEY WORDS.
Autonomous learning, mobile learning, computer-assisted language learning.

1. Introduction.
Lifelong learning is necessary in today's world. Companies and institutions need employees who are trained to adapt and be able to respond appropriately to very dynamic and competitive environments (Cabero Almenara & Aguaded Gómez, 2003).

So, it seems evident that education must also provide a solution to these needs. However, presence-based models come up against the impossibility of making educational activities compatible with work and personal life, while semi presence-based or virtual paradigms

generally replicate presence-based ones, presenting an inflexible structure in which the teacher still performs the central role.

Increasingly, then, the aim is to foster strategies that allow people to learn autonomously: at their own pace, anytime and anywhere and in an individualised way, according to their educational needs. So we are walking towards college 2.0 (Cabero-Almenara, Ballesteros-Regaña & López Meneses, 2015) where new teaching paradigms as MOOC are arising (Aguaded Gómez, Vázquez Cano & López Meneses, 2016). In this context, the ability to learn autonomously can provide flexibility and skills so that professionals can successfully cope with the requirements of complex and changing working environments (Godwin-Jones, 2011).

The student's autonomy fits in rather well with the informal learning paradigm, which takes place outside the classroom, whether it be physical or virtual. The internet provides us with a large and varied amount of educational resources that are likely to be used by anyone with an appropriate need for information from a mobile device (Peters, 2007).

Strategies for fostering the student's autonomy are accommodated in all educational models and contexts, but appear to be particularly relevant in informal contexts, given that they generally have no central teacher figure guiding the process. We think, for example, of models such as MOOC, in which, despite the existence of activity, content, etc. planning done by a teaching team, the student's participation therein is in essence autonomous (Aguaded, 2013) (Medina Salguero & Aguaded Gómez, La ayuda pedagógica en los MOOC: un nuevo enfoque en la acción tutorial, 2011).

In such a dynamic context, the concept of mobile learning also comes into play as the ideal technological environment to respond to these challenges in our increasingly mobile lifestyle (Kukulska-Hulme, 2009).

Mobile devices, so popular in recent years, are put forward as particularly suitable for fostering learning autonomy: they allow learning anytime and anywhere, provide access to a huge amount of resources that exist on the Internet (or expand the classical formats through applications like augmented reality), make it possible for the student to create his own personal learning environment using whatever tools best meet his needs, etc. And last but by no means least, they enable the development of individualised learning focused on the student and responding to his diversity (Godwin-Jones, 2011).

We will analyse the relationship between these two concepts and will later mention the projects listed to foster learning autonomy with mobile devices within the framework of the European Project SEAGULL.

2. Autonomous learning.

The concept of learning autonomy is complex and the terminological diversity in the bibliography is extensive. Given that this is a relatively confusing concept, we think it is interesting to start with an ex negativo definition, as proposed by (Esch, 1996): it is not about self-learning or learning without a teacher; there can/must be a teacher who participates in certain phases of the process, but it is not a new methodology, but rather a personal path of the students until they achieve competences and skills to effectively manage their learning.

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(Godwin-Jones, 2011) elaborates on this idea when he states that contrary to the popular belief to which the colloquial interpretation of the term can lead, autonomous learning is not shutting yourself away with a stack of learning materials.

The term was coined by (Holec, 1981) when he said that the student moves onto being responsible for making all the decisions relating to his learning process: determining objectives, content, study techniques and procedures; following up on the process; and, finally, assessing acquired knowledge and skills.

The theory of learning autonomy has borrowed from many sources and has been affected by very different influences, but there is no doubt that constructivism, the theory that explains learning as a series of active socially conditioned processes of interpretation of the world, is one of the most important ones, given that it is the one that marks the paradigm change in the teaching-learning process, according to which the student is the author of his own learning and the teacher is a mere facilitator thereof (Xixiang, 2016), (Dwee & Anthony, 2017).

Autonomous learning is a complex topic and, therefore, has to be approached using eclectic context-specific strategies (Little, 1999).

3. M-learning.

Mobile-learning or m-learning is also difficult to define as a concept. Early approaches attempted to define it from a technology-centred perspective (Kukulska-Hulme & Traxler, 2005).

But it soon became clear that these definitions were not helping to understand the nature of the concept itself, but were rather limited to instantiating the generic definition of e-learning in order to apply it to mobile devices. (Peters, 2007) pointed out that its connections to flexible learning models, the ubiquitous ones, etc., had to be taken into account.

A few years later, in the face of the great technological revolution of recent years, it seems reasonable to understand m-learning as one more part of the consubstantial rise in a mobile lifestyle (García-Cabrero J. C., 2011). If we look at (Sharples et al., 2008), the concept of mobility makes reference to at least the following aspects: mobility in the physical space that can be the scene of the educational action or purely circumstantial; mobility of technology, given that the user utilises different technologies throughout the day to access content; conceptual mobility, in the sense that the student's attention can vary between different learning topics or interests within a brief lapse of time, with unconnected leaps between learning content being increasingly frequent; mobility in social space; and, finally, mobility in time and between formal, non-formal or informal educational contexts.

Our opinion is the same as the one expressed by (Sharples et al., 2008): mobile-learning must be understood from a wide-ranging and inclusive point of view and cannot be restricted to a mere technological approach.

Unfortunately, we are still in the early stages of development and the models for use or applications that truly provide the learning process with substantial elements are not clear. (Park, 2011) expresses himself clearly: while the number of mobile-learning services rises notably, they remain immature with regard to technological limitations or pedagogical considerations, therefore, it appears evident that instructional designers and teachers need

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to base themselves on solid theoretical principles that are still to be developed, so that they can use mobile technologies and effectively integrate them into their teaching models.

Therefore, we appear to be faced with technologies for which a large educational potential is being sensed, but for which there are still not enough rigorous scientific studies upon which to establish the pillars to achieve effective integration in a generalised way in the educational world. It appears that this is a road not free from obstacles, on which we can identify from generational and digital gap factors between teachers and students to the cost of providing content and suitable infrastructures, passing through the management of the change in an environment like school, which is traditionally not very receptive to certain disruptive innovations and technologies that are usually perceived as a passing fashion by many educational heads (Peters, 2007) (Carey, Harrison & Dwye, 2017).

It seems that technologies and mobile devices have obtained their natural space in many of the environments of our daily life, but are yet to find their place in the world of education. To date the use of m-learning has not moved on from being merely anecdotal, usually done voluntarily by teachers in short-lived experiments and perhaps difficult to extrapolate. Research into mobile-learning (m-learning) has been distinguished to date by short-term pilot studies with little high-level critique and scant contributions to developing the formation of a theory on the matter (Cochrane, 2014).

4. M-learning and autonomous learning.

The relationship between m-learning and learning autonomy has been dealt with by researchers from many differing points of view. Nonetheless, in our opinion, the are many superficial projects that are limited to pointing out to institutions to the enormous possibilities of mobile-learning, but usually without providing scientific data that backs them up and, almost always, from a technology-centred but scarcely pedagogical point of view (Godwin-Jones, 2011) (Kim & et al., 2013) (Ardy, 2017).

The more pedagogy-centred approaches attempt to connect the concepts of mobile and autonomous learning through classical theories like constructivism. For example, (Van Hove,Vanderhoven & Cornillie, 2017), (Zurita & Nussbaum, 2004), (Peters, 2007) or more recently (Uzunboylu & Ozdamli, 2011; Zurita & Nussbaum, 2004), influence the role change in teachers and pupils, and insist on the fostering of learning autonomy.

However, in our opinion, it is also interesting to link the concepts of mobile and autonomous learning from traditional theories of distance education, such as the classic theory of transactional distance proposed by (Moore, 1993), that considers the distance not as a geographical separation, but rather as a pedagogical concept that describes the universe of relationships between teacher and pupil when they are separated in space or in time, almost like a psychological and affective vacuum.

Without going into details that clearly go beyond the objective of this project, what we are interested in highlighting is the influence of the media in transactional distance (TD), since it enables us to link autonomous and mobile learning, such indicated, for example, by (Park, 2011).

The theory of transactional distance has been extensively explained and reviewed, through it is still to this day considered a basic starting element to analyse distance learning contexts, such as those that take place in mobile-learning. However, one must naturally take into account the new variants of interactions and structures that are provided by new technologies. (Park, 2011) provides the following theoretical framework to outline the transactional distance and, consequently, the autonomy of learning as a variable that influences TD and mobile-learning:
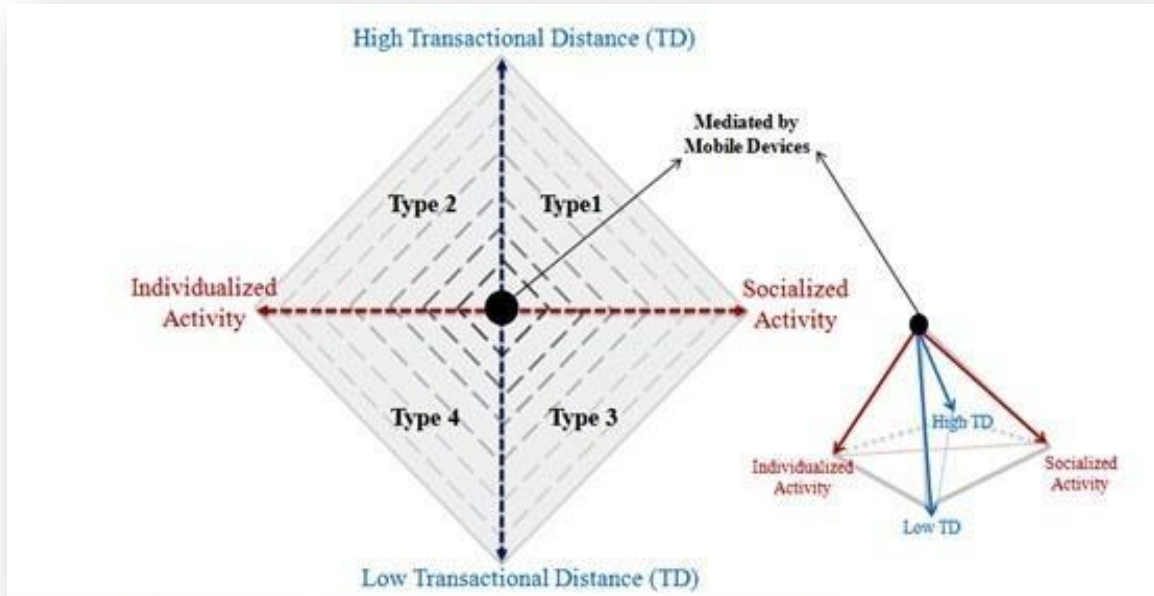

Figure 1: Pedagogical framework for m-learning (Park, 2011).

(Valenzuela Guadix, 2016) summarises the four environments that result from mixing these two dimensions:

1. 'High transactional distance and Socialized mobile learning activity': the teacher or the designer responsible for the course will give special attention to the design of the mobile application and the preparation of the social interaction that will take place. The instructor will have minimal participation in the group's activity. On the other hand, the student will access the material and resources through mobile appliances and work will be done through projects and in a group. The greater interaction will take place between the members of the community.

2. 'High transactional distance and Individualized mobile learning activity': the greatest interaction takes place between the student and the material or the content. There will not be much interaction between the instructor and the student. The activities are organised by following an order previously structured by the instructor.

3. 'Low transactional distance and Socialized mobile learning activity': distinguished by presenting a much smaller communication space with the instructor. The course is structured vaguely, work is done is a group and social interaction is encouraged

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between students. As set out by the author, very few studies can be found on this way of working in a MALL (mobile-assisted language learning) environment.

4. 'Low transactional distance and Individualized mobile learning activity': the communication space between the teacher and the student is smaller, therefore, there will be greater interaction. The course, as in the above case, is structured and defined vaguely, but students can interact individually with the instructor. The teacher controls the learning in order to meet the specific needs of each pupil.

These four approaches show a clear, concise way of how to design content and applications for m-learning. Promoting one or other way of working will depend on the pupils' needs, the type of course that is being given, etc.

In summary, our relationship framework for m-learning and autonomous learning are in scenarios in which social interaction is maximal, by becoming naturally integrated with constructivism.

5. Strategies for fostering autonomy with m-learning.

Our participation in the project SEAGULL (Smart Educational Autonomy through Guided Language Learning, coordinated by the University of Greifswald, Germany), financed by the EU's Lifelong Learning Programme, has enabled us to approach the challenge of minimising the gap between the autonomous learning approach and systematic and calibrated support, in order for it to be effective. This projects starts from a previous autonomous work of the student in order to subsequently carry out activities in a linguistic tandem through mobile devices and online technologies.
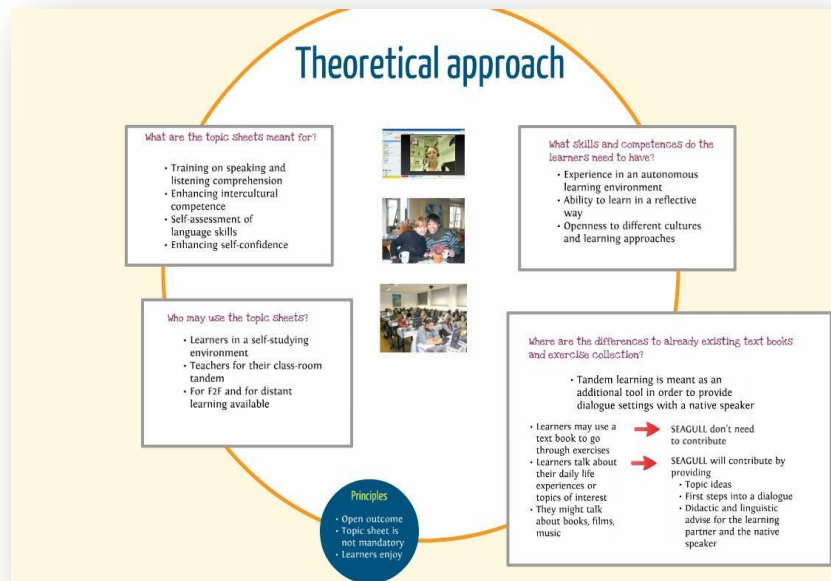

Figure 2: Theoretical work framework of the SEAGULL project.
Source: http://seagull-tandem.eu/portfolio/topic-sheet-development/

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Given that at SEAGULL, students' work is practically entirely autonomous, with scant or zero participation from the teacher, it has been necessary to develop microcontent that could serve as a guide so that the tandem communication is effective. Therefore, the central core of the project is the drawing up of worksheets or themed sheets covering levels A1 to B2 of the MCER of different languages, for the autonomous learning of languages through tandems, in which, via mobile videoconferencing technological tools, a pupil teaches his/her mother tongue to the other pupil through real communication situations in authentic, live conversations from the language level of the learner and common interests of both: they both choose which topics to discuss and when, even though the project research team provides them with a recommended sequence of content for each level.

The thematic sheets, give a lot of importance to intercultural competence, therefore, they are designed for the student to reflect on his cultural baggage by researching it and, at the same time, becoming familiar with and comparing other environments. There are two sheets for each level and topic: one worksheet for the foreign language student and another for the student teaching his/her mother tongue.

Figure 3: Foreign language student sheet.
Source: http://seagull-tandem.eu/spanish-a1/

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Figure 4: Respective sheet for the student teaching his/her mother tongue.
Source: http://seagull-tandem.eu/spanish-a1/

6. Final considerations.

Through the above reflections we consider that we have achieved the main goal presenting a specific vision of autonomous mobile learning of modern languages to establish interrelationships to foster tandem learning.

Existing tandems are currently starting to be assessed, both from a qualitative and quantitative point of view, to evaluate whether there are significant differences between the experimental groups (they use thematic sheets) and control groups (they do not use worksheets).

The intention is also to foster learning autonomy by means of Web 2.0 mobile technologies so that students build their personal learning environment in which, in a new way, the main content is generated by the pupils themselves as opposed to the more traditional model of use of m-learning that consists of the learner consuming the content created by the teacher.

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Once the project was completed, new lines of research have been opened, such as transforming current worksheets from static, closed content to materials based on microcontent dynamically created according to different factors (students' interests, situation that can be foreseen their mobile device's geolocation data, etc.), or the use of augmented reality technologies, with which, again depending on the georeferenced context, the student can access relevant audio visual recordings to help him/her with some of the standard communication tasks.

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