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The OPENLang Network Pedagogical Framework: Designing an Open and Collaborative Language Learning Environment for Erasmus+ KA1 Mobility Participants

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Abstract. The design of an online open and highly interactive language learning environment is quite challenging as it entails a variety of specific factors to be carefully considered. One of the main challenges of the OPENLang Network project is to create an open and collaborative language learning environment for networking between language learners and teachers across Europe. The OPENLang Network platform envisages to bring together Erasmus+ mobility participants that wish to improve their language skills and cultural knowledge as well as volunteer educators who would like to offer support to all learners and share open language learning resources. This initiative is funded by the Erasmus+ programme and aims at raising language awareness of mobility participants, as well as fostering the Open Education European multicultural and multilingual vision via Open Educational Resources (OERs) and Massive Open Online Courses (MOOCs). The development of the OPENLang Network language learning environment is based on the design of the OPENLang Network's Pedagogical Framework. This paper first analyses the pedagogical theories, frameworks, and models applied in the Online Language Learning and Teaching context. Then, it presents the major research findings of the initial OPENLangNetwork's needs analysis survey which aimed to map and analyse the language needs of the participants involved in long-term mobility activities supported under Erasmus+ Key Action 1. Finally, it presents and analyses the OPENLang Network pedagogical framework which drives the design and development of the OPENLang Network language learning environment.

Keywords: Online Language Learning, Pedagogical Framework, OPENLang Network

1 Introduction

Designing an open and highly interactive language learning environment is a big challenge. Interaction-based learning is a cornerstone of many socially oriented approaches to L2 learning [1]. As it is known, increasing contact with the target language appears to be one of the most critical factors for successful Language

Learning. Language is about communication and there is nothing more motivating than being able to use one's newly acquired language skills in an authentic environment [2,3]. In fact, learner's participation and interaction are at the center and of crucial importance for successful language learning, whether it involves face-to-face, blended or fully online teaching. This is because "language learning is a skill-based process rather than a content-based one. Skills' development, such as the acquisition of speaking and listening skills, require constant synchronous interaction in the target language" [4]. In fact, fostering real-time synchronous interaction is an important principle in distance language teaching as synchronous oral and visual interaction is a crucial component in online language learning. Furthermore, a successful online language learning environment should support learners' autonomy and should give them sufficient time for practice and the possibility to get feedback and guidance when they need them [5].

Taking into consideration all the aforementioned factors a research has been initiated which aims at creating an open and collaborative language learning environment for bringing together language teachers and learners from different parts of Europe who wish to learn and practice the European language of their preference as well as to explore its rich and unique culture. This research initiative is conducted in the context of the OPENLang Network project (<https://www.openlangnet.eu/>) which is funded by the Erasmus+ programme under the Key Action 2 (KA2). Its main research goals include raising language awareness of mobility European languages, as well as fostering the Open Education European multicultural and multilingual vision via Open Educational Resources (OERs) and Massive Open Online Courses (MOOCs). More concretely, the OPENLang Network project aims at developing the OPENLang Network platform which envisages to connect Erasmus+ mobility participants that wish to improve their language skills and cultural knowledge, as well as volunteer educators who would like to offer support to all learners and share open language learning resources. As it was aforementioned, designing an online open and highly interactive language learning environment is quite challenging as it entails a variety of specific factors to be carefully considered. To that end, our research team explored first the pedagogical theories, frameworks, and models applied in the Online Language Learning and Teaching context. Based on the outcomes of the literature review as well as on the research findings emerged by a needs analysis survey which was conducted in the context of the project, it was proposed a pedagogical framework which drove the design and development of the OPENLang Network language learning environment. All these pedagogical design process phases will be analysed in the following sections.

2 Online Language Learning and Teaching Practice: Theoretical background

2.1 Computer Assisted Language Learning theoretical overview

During the last four decades there are a plethora of studies which attempt to address the pedagogical aspects of online, bended and hybrid language teaching. The research area

which investigates in general the digital language learning and teaching is known as CALL and was defined by [6] as “the search for an study of applications of the computer in language teaching and learning”. This area has undergone quite dramatic changes in pedagogical paradigms in the wake of technological changes first with the advent of the web, and later with the e-learning platforms and apps, and web 2.0 technologies.

But is there a CALL theory? Researchers have tried to define what is a CALL theory. Hubbard [7] emphasised the importance of deep understanding of the impact of technology on the learning environment and the learning process. He defined CALL theory as “the set of perspectives, models, frameworks, and specific theories that offer generalizations to account for phenomena related to the use of computers and the pursuit of language learning objectives, to ground relevant research agendas, and to inform effective CALL design and practice.... a CALL theory is a set of claims about the meaningful elements and processes within some domain of CALL, their interrelationships, and the impact that they have on language learning development and outcomes [7]. On the other hand, Egbert & Hanson Smith [8] claimed that there is no need for a "CALL theory": “... educators do not need a discrete theory of CALL to understand the role of technology in the classroom; a clear theory of SLA and its implications for the learning environment serves this goal.

The fact is that since 1960 there is a huge body of research in the field of CALL which shows that there are no prevailing CALL theories but only a group of theories which include a mix of the known learning theories, Second Language Acquisition theories, linguistic theories, and human-computer interaction theories. Many researchers [1, 9-12] described how the different approaches such as behaviorist, cognitivist, and sociocultural (constructivist) have influenced theories and research on the second language acquisition.

In fact, Warschauer and Healey [13] classified the history of CALL in three main phases: a) First phase: “*Behaviorist and later structural CALL*” (1960s to 70s); b) Second phase “*Communicative CALL*” (1970s to 80s); and c) Third phase “*Integrative CALL*”(2000 onwards).

More specifically, the first phase was characterised by its focus on the behaviorist approach in language acquisition and has mostly promoted behaviorist language learning approaches such as practice tasks and drills. As Warschauer [13] sustained “Essential in *behaviorist CALL* is the understanding that repeated exposure to the same material is beneficial or even essential to learning”.

In the second phase, prevailed mostly the communicative approach in CALL which emphasized the important role of interaction and promoted the cognitivist approaches both in second language acquisition and learning theories. Such approaches focus on the importance of thinking processes in learning and language learning. In fact, language learning is seen as a process which involves memory, thinking, reflection, abstraction, and metacognition. In this case, research has shown that the way the learning content and tasks are presented in the online environment can have a major impact on how this material will be stored in the learner’s long-term memory [14,15].

Finally, in the third phase, the “Integrative CALL” phase [13], prevailed mostly the use of web, multimedia, Computer-mediated Communication (CMC) [12] and was encouraged both the project and task based language learning, as well as the tandem language learning. Tandem learning is a very powerful use of CMC especially in second language pedagogy as it gives the opportunity of instant communication to two native speakers of different languages to communicate regularly with one another, each one with the purpose of learning the other’s language. In this CALL phase, it is also observed the arrival of MOOs (“Multi-user domain, Object-oriented”), an online social community where you can interact with other users in a text-based virtual reality. It is clear that a MOO provides a potentially highly useful and cost-effective way of bringing students together for tandem learning [16]. This offers the benefits of authentic, culturally grounded interaction, while also promoting a pedagogical focus among participants.

In “Integrative CALL” phase, sociocultural approaches, which draw heavily on Vygotsky and Bakhtin, are promoted in Second Learning Acquisition (SLA), which see language learning as an “interpersonal process situated in a social and cultural context and mediated by it” [17]. Vygotsky claimed that learning resulted from social interaction rather than through isolated individual effort, and that engagement with others was a critical factor in the process [18]. Generally, when sociocultural theory is applied in CALL, it means that new and different forms of social interaction can occur, both online and in the classroom. The terms ‘situated learning’ and ‘communities of practice’ derive from this perspective and are often used to highlight the importance of active learner participation in the community of the classroom or in online community settings [19]. Warschauer [20] also argued about cooperative or collaborative learning in online language classrooms where teachers could work with students on purposeful activities and could learn in social groups and communities of practice.

In fact, Constructivist or Socio-Cultural Approaches in second language learning theories see as essential the possibility for learners to construct their own knowledge and the importance of social contexts as preconditions for learning a language. As a consequence, learners in online second language learning environments should be allowed to construct knowledge rather than being given knowledge through instruction.

Furthermore, learners should be given the possibilities to interact with both online teachers and other online learners [9, 14, 21]. Sociocultural SLA approaches encompass a number of known terms: Zone of proximal development (ZPD), scaffolding, mediation, identities, interculturalism, affordances, community of practice, participatory learning, situated learning theory, co-construction, ecology, dialogism, critical theory, discursive practices, activity theory, private speech, peer response, collaboration, networking, etc. [22]. The sociocultural approach to CALL has a better compatibility with the Web 2.0 tools. Of course, each technology has its own affordances that govern differently the ways in which interactions occur [23,24]. The technology does not determine the interaction, but its attributes do help shape them. New emerging technologies of this new web era have opened new opportunities of interconnection and interaction and have brought new learning theories that apply to CALL. Recently, the connectivist theory was named as “the learning theory for the digital age” [25]. It perceives learning as a process that is not entirely under the control of the individual and occurs within

complex and lacking definite form environments [25]. Downes [26] argued that “to learn in a connectivist course is to grow and develop, to form a network of connections in one’s own self. Connectivist learning is a process of immersion in an environment, discovery and communication – a process of pattern recognition rather than hypothesis and theory-formation”.

This has led to the current phase of CALL as it brings new educational challenges in the area of online language learning in terms of the nature of networks connecting people but also in terms of the quantity and the availability of knowledge. Examples of these new practices in online Language Learning are the Massive Open Language Learning Courses (LMOOCs or MOOLCs) which aim at unlimited participation and open access via the web and they are largely divided into behavioristic-based xMOOCs and connectivist-based MOOCs. According to the literature, the connectivist MOOC type (cMOOC) is ideal for language learning courses since cMOOCs encourage openness, autonomy, interactivity, peer-to-peer learning, social networking, and emergent knowledge [2, 27]. Furthermore, it is worth mentioning that many advanced technologies (i.e., advanced computer-mediated communication tools, artificial intelligence, augmented reality, smart mobile apps) which have been used in the language teaching process during the last decade have also implemented known teaching approaches in innovative ways such as webquests 2.0 [28], problem-based language learning [29], mobile assisted language learning [30], game-based language learning [31,32], augmented reality in language learning [33].

2.2 Theories, frameworks and models in online language teaching and learning

From the analysis of the evolution phases of CALL in the previous section, it is clear that there is no common CALL theory and that technology and pedagogy are closely interconnected and one drives the other.

Recently, this was also confirmed by [34] who examined 166 research papers in order to detect the pedagogical theories used in the context of CALL. They found that there were no clearly ‘dominant’ theories showing up with any consistency except from a small number of general labels (SLA theory, learning theory, linguistic theory). They identified four primary sources for the theories: (1) language learning-centred extensions of human-computer interaction or technology in education theories, (2) technology-centred extensions of second language acquisition theories, (3) learning theories from psychology and education, and (4) linguistic theories. Across twenty-five years of articles, they identified just one solid reference to a theory developed specifically for this field [34]. Generally, literature reveals that there are a number of theories (Major theories, SLA theories, Foreign Language Acquisition theories, e-learning theories) that clash with one another and emerge in new combinations according to the affordances of novel online language learning environments.

In regards to frameworks and models which have been used in online language teaching and learning there is not so much research evidence. According to literature, there are not many frameworks and models which specifically addressed the needs of online language teaching and learning. On the contrary there are numerous models and

frameworks (i.e., Merrill's instructional design principles [35]; Kolb's learning cycle [36]; Mayes & Fowler's framework [37]; Laurillard's conversational framework [38]; Community of Inquiry framework, Garrison and Anderson [39]; Collis & Moonen's '4Es' pedagogical model' [40]; Jonassen's constructivist model [41]; n-Quire model by Dewey [42]; Activity Theory by Kuuti [43]; Wenger's community of Practice [44]; Salmon's 5 stage e-moderating model [45]; Connectivism by Siemens [25]; Preece's framework for online community [46]; The 8 Learning Events Model (8LEM) by Leclercq & Poumay [47]) which were used for the design of online language courses and mostly adopted from the e-learning field. Each model has a particular focus and emphasis, and is aligned with a particular set of theoretical perspectives which are based on the major learning theories.

As far as frameworks and models for online language teaching is concerned, there has been some research that addresses technology integration in language teaching from different perspectives and frameworks [48-53]. Technology integration is defined as 'the process of determining which electronic tools and which methods for implementing them are the most appropriate responses to given classroom situations and problems' [54]. For example, Hoven [55] offered theoretically grounded models for computer-based listening. Salaberry [51] outlined the pedagogical principles of using technologies in teaching second language, while Bax [49] presented the process of 'normalization' of CALL and ways of how 'technology could become invisible and embedded in everyday practice'. Tudor [52], on the contrary, proposed an ecological perspective of language teaching highlighting 'the various human and contextual factors which influence the use and likely effectiveness of this technology' [52] without addressing the role of technology. He emphasized that teaching and learning processes involve teachers, students, and all others who influence the practices in each classroom, as well as the dynamic interaction between participants, methodology, and context. Later, Plass & Jones [50] proposed a model of cognitive processing in second-language acquisition supported by multimedia. This model provides only insights on how teachers can use multimedia to support language learners but does address the factors that could affect the use of technology by teachers. Hampel & Hauck [53] described a pedagogical framework for integrating audio-conferencing effectively in distance language courses at their institution.

Known theories and concepts that have supported the process of designing instructional technology for language learning are the following: "The Content-Based Lesson Plan", "Bloom's Taxonomy", "Constructivism", "Metacognition", "Schema Theory". Perhaps the most elaborated design framework is that of Colpaert (2004), which is pedagogy-driven and creatively blends engineering principles and pedagogical approaches and is specifically focused on the creation of language courseware. As most of the pedagogy-driven approaches, this is also inspired by the learner centered or constructivist pedagogical approach. Colpaert [56] has explored the boundaries of pedagogy-driven research in the context of online language learning. This design framework consists of two phases: (a) define first what is needed in terms of functionalities, and (b) evaluate to what extent available technologies allow them to be implemented. It is similar to the instructional design model "ADDIE" (Analysis, Design, Development, Im-

plementation, Evaluation). In contrast to the other alternative approaches for the development of an online learning environment (technology-driven, attributes-based and affordance-based), this approach involves “a detailed specification of what is needed for language-teaching and language-learning purposes in a specific context, defines the most appropriate method, and finally attempts to describe the technological requirements to make it work”. The goal of this research was to try to prove that sufficient linguistic/ didactic functionality can be realized online by applying an adequate design plan.

Furthermore, it is worth mentioning that there are also specific theories of Foreign Language Acquisition which have provided one rationale for instruction and for the design of online language learning environments such as the “Monitor theory” [57], the “Input Processing Model” [58], “Interaction Theory” and “Sociocultural Theory” [18, 59-61]. “Monitor Theory” [57] emphasizes the importance of comprehensible linguistic input in the acquisition process. It proposes an initial silent period in which students listen, but do not speak, as a way to promote acquisition. “Monitor Theory” indicates that a series of activities emphasizing listening comprehension should precede even the most simple production activities.

The “Input Processing Model” [58] differentiates between input (the language to which the learner is exposed) and intake (the language that actually gets processed by the learner). This model emphasizes the importance of binding the form of a word to its meaning. If it is used as a rationale, it would indicate that early input activities ought to be simple recognition activities that require students to attend to one important detail and connect form to meaning. Activities would progress from simple to complex activities along a continuum ranging from recognition to simple one word production to sentence level and discourse level production in a logical order.

“Interaction Theory” and “Sociocultural Theory” emphasize the importance of the social aspect of language learning [18, 59-61]. Within these frameworks, language is negotiated and socially mediated or assisted. Paraphrasing, requests for repetition, clarification requests, verification checks, and comprehension checks are tools used by the novice learner to achieve proficiency during interaction with an expert speaker. Promoting social interaction through the computer and providing opportunities for the production of both oral and written language that may be negotiated would be indicated in a design organized around these theories. These two theories also imply that a completed educational program should be designed so that paired and group-learning opportunities are afforded to the student.

Theories are linked to a variety of language teaching methods (i.e., Community Language Learning Method, Communicative Approach, Multiple Intelligences -Based Instruction, Content-Based Instruction, Task-Based Instruction, Interactive-Integrated Approach) which also influence the design of instructional material and of online language learning environments.

In conclusion, the literature reveals that there is a variety of theories such as Major Learning Theories, SLA theories, Foreign Language Acquisition theories, e-learning theories that are applied in different combinations to Online Language Learning and Teaching Practice according to the technical affordances and the pedagogical goals in every case. There are also interesting frameworks and models which can be applied in

the context of Computer Assisted Language Learning (CALL), depending on different educational goals. Frameworks and models related to social constructivism theories and connectivism are preferred in the context of CALL, because they promote task based learning, social interaction, authentic learning, collaborative learning, personalised autonomous and self-directed learning, social learning which are crucial for learning a second or a foreign language.

3 OPENLang Network Needs' analysis survey

During the first semester of 2019, the consortium of the OPENLang Network Erasmus+ project (<https://www.openlangnet.eu/>) conducted a needs' analysis survey in order to identify the language and cultural needs as well as the motivations of the Erasmus+ KA1 mobility participants who were involved or planned to be involved in an Erasmus + mobility for at least one month. There were also taken several interviews with a number of Erasmus+ stakeholders from 3 European countries (Greece, Cyprus, and Italy). The research findings of the survey have shown that learning a new language and exploring a new culture were the two main reasons for participating in an Erasmus+ mobility, as it was also mentioned by other researchers in literature [62]. Improving or gaining language skills for a fluent or at least basic communication level or even for specific purposes were the most important educational priorities for the participants. In fact, most of the participants characterised their communication with local people during their mobility as the biggest linguistic challenge. Other important linguistic challenges for them include the difficulty to understand the regional accents/dialects and the comprehension of the academic language. Though, for many of them, advancing their listening skills and enriching their general vocabulary was still a very important factor, while improving their reading and writing skills was a less important one [63, 64]. Participants also had different views regarding the language level needed by the Erasmus+ participants during their mobility. Based on their linguistic priorities, some participants claimed that the C1-C2 levels (based on CEFR classification) were the ideal language levels to have in order to cope with material that is academic or cognitively demanding, while for everyday communication a lower level was enough. Participants were also asked to express their preferences regarding the type of learning content, the online language learning environment and the mode of learning. Regarding the content, most of the participants preferred multimedia material (images, video, etc.) and an interactive user-friendly online language learning environment with less text and more visual representations.

Regarding the mode of learning most participants preferred the social way of learning. Combining the results of questionnaires and interviews it was shown that there is a big need for linguistic support via training, seminars or language courses for both outgoing and incoming participants. Furthermore, there is a need for networking and collaboration between participants in the Erasmus+ KA1 mobility in order to achieve cultural understanding and intercultural communication, as well as to build friendships or even professional opportunities for the future. The findings of the OPENLang Net-

work survey have confirmed previous research findings that have shown that the development of language proficiency and learning a different culture are the main reasons to participate in an Erasmus+ mobility [62, 65-68]. Other research findings, that were also really important for the design of the OPENLang Network Pedagogical Framework, were first that the participants gave priority in advancing specifically their listening and communication skills as well as their general vocabulary, and secondly that the participants preferred social learning, intercultural communication and networking in an interactive multimedia environment.

4 OPENLang Network Pedagogical Framework: dimensions and process

The OPENLang Network's Pedagogical Framework is designed based on the questionnaire and interviews answers which were conducted to explore the language and culture awareness needs of the Erasmus+ KA1 mobility participants involved in long-term mobility activities, as well as on the literature review on the theoretical background of the online language education.

Designing an open language learning environment which could provide multiple types of interaction for the learners is a challenging task. Interaction-based learning is a cornerstone of many socially oriented approaches to L2 learning" [65]. As it is known, increasing contact with the target language appears to be one of the most critical factors for successful Language Learning. Language is about communication, and there is nothing more motivating than being able to use one's newly acquired language skills in an authentic environment [69,70]. In fact, learner's participation and interaction are at the center and of crucial importance for successful language learning, whether it is face-to-face, blended or fully online teaching. This is because "language learning is a skill-based process rather than a content-based one. Skills' development, such as the acquisition of speaking and listening skills, required constant synchronous interaction in the target language" [4]. In fact, fostering real-time synchronous interaction is an important principle in distance language teaching since synchronous oral and visual interaction is a crucial component in online language learning. A successful online language learning environment should support learners' autonomy and should give them sufficient time for practice and the possibility to get feedback and guidance when they need them [2, 27, 69]. Each learner of the OPENLang Network is seen as an autonomous learner but also as a learner who can interact with other peers and/or the teacher in pairs or in small groups or even in a big community.

One of the main challenges of the design of the OPENLang Network's Pedagogical Framework was to provide the opportunity to each learner for social interaction, Language Learning input/output, authenticity, exposure, feedback, and learner autonomy which are key factors for a successful language learning [70].

More concretely, the philosophy behind the design of the OPENLang Network's Pedagogical Framework was inspired by a learner-centered, social-constructivist and connectivism pedagogical paradigm blending a variety of pedagogical approaches and instructional strategies derived from the areas of CALL, elearning, SLA and FLL (i.e.

Autonomous learning, Self-regulated learning, Personalised learning, Collaborative learning, Cooperative learning, Community learning, theory of transactional distance, Language Communication theory, Second Language Acquisition theories, Interaction and Socio-cultural theory, Social Constructivism and Connectivism, Activity theory, Situated Learning theory, Language Acquisition Theory, Tandem Learning theory, Wenger's Theory of communities of practice).

The OPENLang Network open and collaborative language learning environment is designed to provide multiple types of interaction to learners who belong in a community of language practice. Each learner of this environment is seen as an autonomous learner who can use the open educational material content (OERs), but also as a learner who can interact with other peers and/or the teacher in a one-to-one pair or in small groups or even in a big community. Learners are placed at the center of the OPENLang Network online language learning environment and are free to take their own personalised learning paths as it presented in the following diagram below which showcase the OPENLang Network Pedagogical Framework (Fig.1).

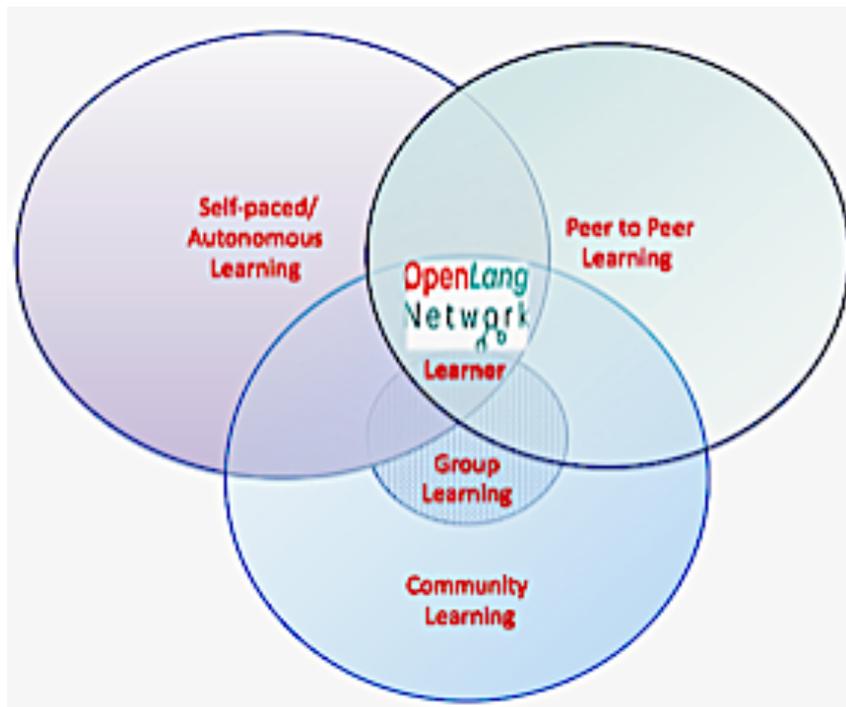


Fig. 1. OPENLang Network Pedagogical Framework

The learners can select the mode of interaction and collaboration that they prefer (autonomous, one-to-one, pair-to-pair, one-to-many), choose among the available tools and services offered by the platform, and control the amount of open material (OERs) they want to use, reuse, share as well as the duration of time that they need to spend for studying or practicing the target language or exploring a new culture. Each learner can

practice the language of his/her choice by choosing a language partner such as a peer, a group or a teacher. A learner in the OPENLang Network belongs to a large community and has access to an open forum where he/she can start an interesting discussion about any topic he/she likes. This aspect is very important because the target group of users are Erasmus+ students who face many challenges and difficulties in every phase of their mobility. Teachers play also a significant role in this network as they can support the community with their contribution either as language partners, or as members of the discussion area or as content contributors as they can create, share, evaluate or recommend their language OERs. The following diagram (Fig. 2) presents the active role of the OPENLang Network learner.

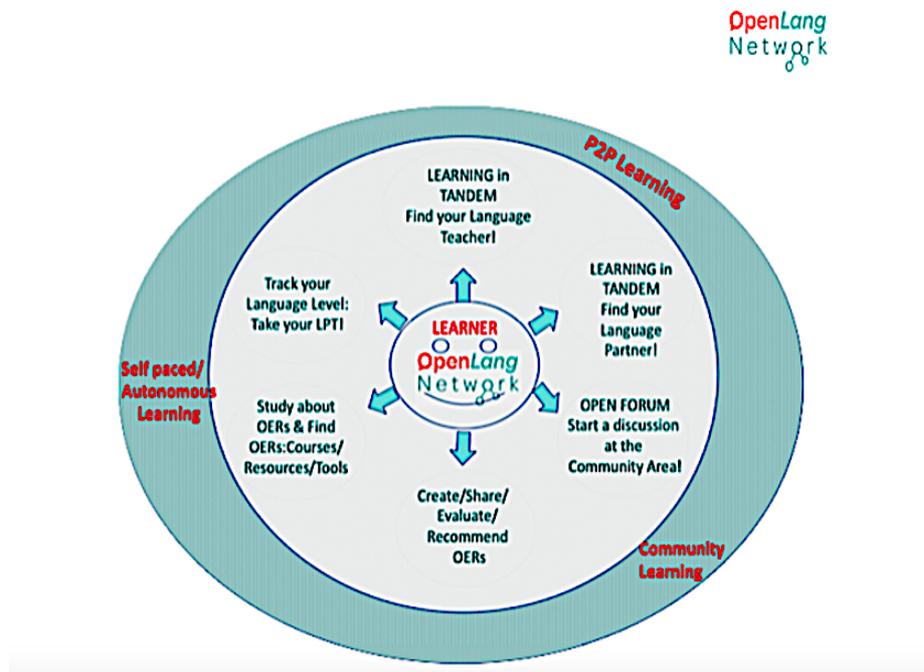


Fig. 2. OPENLang Network Language Learning Environment (Phase 1).

In general, the learning process is in accordance with the principles of the self-paced self-regulated learning and autonomous learning, personalised learning, tandem learning, cooperative and collaborative learning, community learning, social constructivism and connectivism.

4.1 Self-Paced, Self-Regulated & Autonomous Learning

Each learner of the OPENLang Network is seen as an autonomous learner who is at the center of the learning process. A number of known theories are connected to autonomous learning and the learner-centred approaches. According to the literature, in a learner-centered approach the learner is considered as the key agent of the learning

process [71], and a defining element in online learning [4]. The choices regarding the pedagogical design of the OPENLang Network language learning environment were driven by the learners' interests and needs. From this pedagogical perspective, our research team aims to create a diverse learning environment which could enable personalized learning that could allow learners to make decisions about how to choose tools and configure the learning environment to best suit their learning goals and needs [72]. Personalised and autonomous learning are in line with self-paced and self-regulated learning (SRL). Naidu [73] defines self-paced learning as "a mode of learning that enables individuals to study online or with the help of portable technologies in their own time, at their own pace, and from their own place" (p. 260). Self or learner paced distance and e-learning courses are based on increased learner independence and flexibility, as learners can start their courses at any time during the year, and complete them at their own pace [74]. Self-regulated learning (SRL) is a known distance education theory, which is defined as the ability of learners to control the factors or conditions affecting their learning [75]. Pintrich [76] defined self-regulated learning as "an active and constructivist process whereby learners attempt to monitor, regulate, and control their cognition, motivation and behaviors after setting goals for their learning, are guided and restricted by their own goals and the learning environment they are in". Social context plays an important role in self regulated learning [77]. Instructors or peers are external factors who become models to guide learners in self-regulation activities and provide feedback [78]. Because of the social processes, learners can develop their competencies to meet challenges, for content and context. Consequently, they become self-regulated learners [78].

The OPENLang Network language learning environment aims to be a social language learning environment where each learner is a self-paced and self-regulated learner who can have multiple opportunities for authentic interaction (input and output). This pedagogical approach offers also other important opportunities to learners such as the free choice to set their own goals, their own learning strategies, the time of study, with whom to study and the possibility to monitor and reflect on their learning progress [77]. Some studies have shown that self-regulated learners are more successful in distance learning [79] sustained that distance learning is more flexible, learner-centered, and autonomous than face-to-face as it requires learners to be self-regulated and use their self-regulated learning skills more frequently. In general, self-regulated learning skills are critical for success in self-paced distance learning environments where learners study on their own.

4.2 Peer-To-Peer or Tandem Learning

Following the needs of the OPENLang Network's survey participants, about multiple opportunities for interaction, we have introduced tandem learning services in the OPENLang Network Platform as it was originally planned. Tandem language learning has a lot to do with collaborative language learning. This type of learning takes place when two people share the idea of improving their communicative competence in the target language, and establish a negotiation to reach an agreement on how they will deal with the tasks they have to face together [80]. The overarching principles of tandem

learning are: a) The principle of autonomy: Being responsible for your own learning; and b) The principle of reciprocity: Being responsible for ensuring mutual benefit [81]. More specifically, “Autonomy” implies that both partners are responsible for their own learning, so they decide “what they want to learn, how and when, and what sort of help they need from their partner”. “Reciprocity” means that each partner brings certain skills and abilities which the other partner seeks to acquire and in which both partners support each other in their learning in such a way that both benefit as much as possible from their working together [81]. Both principles are closely related to the views some scholars have on autonomy in foreign language learning [82-84], as a mutual collaboration among students with a view to improving their linguistic competence in the target language but also their intercultural communicative competence by learning of the way people live and behave within the target language community [85].

Other studies [86, 87] have explored the application of Tandem learning by Erasmus students. In the first study [86] Erasmus students preferred Tandem learning to other ways for practicing the language and learning the new culture. The students from other European Union countries, studying under the Erasmus scheme, reported that tandem learning was a real opportunity for them to get to know English students and to practice English as this was the best way to socialise closely with them since it was much more difficult to make English friends when they came to study in the UK. According to the findings of another study [87], Tandem learners may gain almost as much as learners immersed in the L2 environment, in this case Erasmus Tandem students. Interactive situations such as Tandem learning, which are typically friendly and of low anxiety, assist the development of automaticity in second language use, and thus the ability to produce longer and more fluent speech units. For the Erasmus students, who were immersed in the L2 environment, tandem learning has activated and automated some of the language that had been learnt formally in their country.

During the last 20 years, many researchers [88-92] have explored the potentials of tandem learning in the area of language learning. Tandem learners have practiced a variety of languages such as English, German, Spanish, Japanese, Chinese, Russian, Brazilian using first the traditional email and later several Web 2.0 tools such as *Skype*, *Adobe Connect*, *Google instant messaging*, *QQ*, *WeChat*, *wiki*, etc.

All these researches on tandem learning practices have explored mostly the use of tandem learning between specific groups of learners such as two university language classes [91] and usually on the acquisition of two specific languages. Rarely, we have seen a web-based tandem language exchange environment in which more than two languages were practiced such as the ETR web based tandem learning environment which included three languages [88].

Based on the research findings aforementioned, Tandem Learning was selected by the OPENLang Network team as an ideal pedagogical approach for Erasmus+ students to acquire linguistic and intercultural competence by interacting in synchronous and asynchronous ways in pairs or in small groups of tandem pairs. The research in this area is quite limited and the OPENLang Network team aims to explore the benefits of tandem learning practices in an open multilingual European community which is not limited to few languages but it will support and promote every European language. The research will focus first on finding ways to support the tandem pairs and at a later stage

will research small groups of participants. One idea would be connecting tandem pairs participating in a common discussion and debate on specific topics that a teacher or a peer would propose. Discussion topics for the Tandem communication could be also proposed in the discussion area by the OPENLang Network community. Learners' linguistic or intercultural needs that may emerge during the different phases of the Erasmus+ mobility could be discussed in the discussion area and in this way could enrich the linguistic and intercultural competences of all the participating learners. Small group learning is based on a cooperative learning approach while community learning promotes collaborative learning and is based on social-constructivism learning theories and the connectivism theory.

4.3 Small group Learning: Cooperative & Collaborative Learning

More specifically, the pedagogy which lies behind the small group learning is cooperative learning which shares the same basic set of principles with the widespread Communicative Language Teaching. Cooperative language learning responds to the trend in foreign language teaching methods with focusing on the communicative and effective factors in language learning because language learners need to know how to use the knowledge in practice and to express or narrate their thoughts and ideas. Cooperative learning can create an effective learning climate as it offers a relaxed climate in the classroom, can increase student motivation [93, 94] and increase learner's self-confidence and self-esteem [95]. It also provides various chances of Input and Output as it creates natural, interactive contexts, where students listen to each other, ask questions, and clarify issues and this is valuable in the oral practice and listening comprehension. They also produce more accurate and appropriate language, which itself provides input for other students [95]. Cooperative learning also increases a variety of language functions as it creates a real-life social setting in which language is normally used (i.e., clarifying, making suggestions, encouraging, disagreeing, negotiating of meaning, etc.). Furthermore, cooperative learning promotes learners' responsibility and independence to help students become more autonomous and self-controlled [96].

In the case of the OPENLang Network, the project's team will explore informal cooperative learning tasks where in each task there will participate up to three (3) tandem pairs, preferably with the support of the language teacher who could guide the specific task. In traditional class, the informal or formal group works are supported by the teacher in multiple ways via specific activities (i.e., webquest, think-pair-share, peer instruction jigsaw, etc.). In the context of the open language learning community we will explore how language learners could work either in one tandem pair, or in two or three tandem pairs together. Cooperative learning in an online context has different challenges and can be facilitated also by various advanced technologies.

4.4 Community Learning: Communities of Practice & Connectivism

Additionally to tandem learning and small group learning, learning in an online community is also a challenging opportunity for OPENLang Network learners. Social constructivism, situated learning, communities of practice and connectivism are

theories which lie behind learning in an online community. Since 2005, most of the Second Language Acquisition (SLA) research explored sociocultural and social cognitive theories such as “activity theory, socio-constructivism, community of practice, social cognitive theory” [1]. Social constructivism conceptualises learning as participation in shared activities where the context and the situated nature of learning are integral considerations. From this perspective, knowledge is distributed among members of a community, and learning involves individuals’ abilities to participate successfully in community of practices [44]. Wenger [44] describes Communities of Practice (CoP) as “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.” This learning that takes place in a CoP is not necessarily intentional as it occurs in a community. Situated Learning Theory also emphasizes that learning is unintentional and situated within authentic activity, context, and culture, known as the “process of legitimate peripheral participation” [97]. It occurs when students work on authentic tasks that take place in a real-world setting [98]. Social interaction is a critical component of situated learning — learners become involved in a “community of practice” which embodies certain beliefs and behaviors to be acquired [44].

Social interaction is also a critical component in connectivism, the theory of the digital world according to Siemens [25] who argues that what is more important is the ability to learn (create and understand connections) than the current amount of knowledge. Connectivism is a logical development of social constructivist theory in a digitally-mediated world that views learning as a process of developing networks of information, contacts, and resources that are applied to real problems [25]. According to the theory of Connectivism, learning occurs when a learner connects to a learning community and feeds information into it. Connectivism “is built on an assumption of a constructivist model of learning, with the learner at the centre, connecting and constructing knowledge in a context that includes not only external networks and groups but also his or her own histories and predilections” [99].

Connectivism, outlines four foundations for learning, which include autonomy, connectedness, diversity, and openness [100]. According to Nattoch Dag [101] connectivism has similar principles with adult learning and “the main difference between adult learning and connectivism, however, is that whereas adult learning principles focus on the individual learner, connectivism focuses on the aspect of connectivity, and how the learner himself or herself connects the nodes”.

As far as language learning is concerned, it is important to use a variety of information resources (books, Internet, mass media, ICT, etc.) and this is in line with connectivism which defines learning as a process of creating connections among the nodes or information resources. Language learning is also a long-life activity and it cannot be learnt just as a set of words and phrases and this follows into the principles of lifelong learning in adult education and connectivism’s connectedness. A connectionist-based course is based on autonomy, diversity (different countries, different cultures and backgrounds) connectedness and interactivity. 'Autonomy' gives priority to learners' own goals, purposes, objectives or values. 'Diversity' ensures that creativity is fostered among members of a community. 'Openness' emphasizes the lack of barriers, ensures

the free flow of ideas and content sharing and gives freedom to choose between different technologies. A connectionist-based course which promotes connectedness, interactivity, autonomy, diversity, and openness are also highly important characteristics for an efficient online language learning environment because they are key factors for a successful language learning [2, 69, 70].

To sum up, a number of learner-centered and social-constructivist & connectivist learning theories and pedagogical approaches have inspired the design of the OPENLang Network's Pedagogical Framework.

5 Conclusions and future steps

The research findings of the OPENLang Network's needs analysis survey as well as the literature review on existing pedagogical theories, frameworks and models applied in Online Language Education led to the creation of the OPENLang Network's Pedagogical Framework. Based on this framework the OPENLang Network team has also developed the OPENLang Network's Design Framework and the OPENLang Network online platform which will be presented in future publications.

One first conclusion that the literature review revealed is that there is not a single CALL theory which is applied to Online Language Learning and Teaching but a variety of theories such as Major Learning Theories, SLA theories, Foreign Language Acquisition theories, e-learning theories that are applied in different combinations to Online Language Learning and Teaching Practice according to the technical affordances and the pedagogical goals in every case. Furthermore, it was found that the pedagogical models and frameworks which are applied for the design of online language learning environments are mostly adopted from the field of e-learning and inspired by a blend of theories as it was aforementioned. The major conclusion here is that the design of a highly interactive online language learning environment is quite challenging as it entails to take under consideration a number of factors such as the needs of the target group, the pedagogical implications and the technical affordances of the online environment.

Furthermore, the findings of the OPENLang Network survey shown that the development of language proficiency and learning a different culture are the main reasons to participate in an Erasmus+ mobility and that Erasmus+ participants need to be able to have access to a continuous language training before, during, and after their mobility.

Currently, the OPENLang Network team is getting prepared for piloting the OPENLang Network platform and all its available services. The team is organising a 4 weeks MOOC which will offer a full training course to language teachers with a focus on the use, creation, and share of language OERs. This course also aims to test the multilevel interaction scenarios of the OPENLang Network's Pedagogical Framework and, additionally, to explore the possibility of creating small working language groups in which a teacher could facilitate the discussion of max 6 students (or 3 tandem pairs). Based on the valuable feedback that will be received by all the participants, the OPENLang Network team will make all the changes needed.

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