Chapter Six

Developing Transversal Key Competencies for Lifelong Learning through Collaborative Online International Learning

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https://doi.org/10.53615/978-83-65020-54-3/87-105

Introduction

Key competencies for lifelong learning were first proposed by the European Commission (EC) in 2006. In 2018, the concept was redesigned, and minor changes were made to the definitions of the eight key competencies. The Council Recommendation of 22 May 2018 on Key Competences for Lifelong Learning (2018) emphasises that educational systems should include the idea of developing key competencies in formal, non-formal, and informal education, all in the function of individual and societal well-being, with a focus on the individual who, by learning throughout life, has high adaptability to a changing society, especially in the work environment. Educational systems address the introduction of key competencies in various ways.

Three key competencies are traditionally recognised as part of formal education in all educational systems and are taught as separate subjects. These include communication in the mother tongue and in

Dermol, V., Demaj, E., Nuka, D., & Altmann, M. (Eds.) (2025). *Higher education contemporary learning landscape: Virtual collaborative learning.* ToKnowPress.

foreign languages, as well as competencies related to mathematics and the natural sciences (STEM). The other key competencies are, by nature, transversal, meaning that their elements belong to and can be developed through various subjects, interdisciplinary themes, and so on. Transversal key competencies, therefore, need to be developed through the intersection of different teaching subjects, as well as through teaching and learning methods, techniques, and strategies – i.e., by creating an appropriate teaching methodology and a rich learning environment.

Collaborative online international learning (COIL) is one form of virtual mobility and, at the same time, an educational opportunity for learning that extends beyond subject content, where numerous transversal competencies can naturally be connected. Since COIL involves international groups and teams learning together, communication competencies can be encouraged through various activities. At the same time, COIL is mostly oriented towards problem-solving, research-based, or project-based learning, so it creates a potent digital learning environment (DLE) in which many cross-sectional competencies, including key competencies, may be upskilled by students and by teachers.

In this chapter, we discuss the possibilities for developing transversal key competencies in the pedagogical environment provided by COIL. COIL is presented here as a concrete and structured model of Virtual Collaborative Learning (VCL), which offers rich opportunities for acquiring, applying, and transferring transversal competencies across cultural and disciplinary contexts. The chapter is structured as follows: first, we define the system of key competencies for lifelong learning (LLL), then we describe COIL. In the third part, we highlight the opportunities that COIL offers to develop competencies.

Key Competencies for LLL in the Contemporary Educational Context

In the second half of the 20th century, traditional educational programs were mainly content-oriented. However, the rapid development of science and technology significantly changed the labour market, revealing that formal education focused on knowledge accumulation does not provide sufficient transfer value or adaptability. Learners trained in such systems often struggle to adapt to changing work conditions, especially if they lack opportunities for upskilling or retraining.

In such circumstances, which were already visible in the 1990s, it was necessary to reform the curricula, i.e. find the possibility of their different orientation to increase the transfer value of school learning and to learn those elements (knowledge, skills, attitudes, values, etc.) with high functionality, time-resistant, future-resistant, sustainable, etc. These elements help the individual in adapting to new circumstances in the living and working environment.

By the 1990s, it became evident that curricula needed to be reoriented toward more functional, sustainable, and adaptable forms of knowledge, those that enable individuals to respond to lifelong challenges in personal and professional domains. This shift gave rise to the growing importance of competency-based education, conceptualised as a dynamic integration of knowledge, skills, and attitudes (Buscà Donet et al., 2017; OECD, 2005).

The Lisbon Strategy (*Lisbon European Council 23 and 24 March 2000,* 2000) positioned the EU as a global knowledge economy, prompting the alignment of education systems with the needs of the so-called 'knowledge society.' This led to the promotion of learning outcomes-based education, underpinned by transferable and functional competencies. Caena (2011) and Vukasović (2006) both emphasise the holistic nature of competence, combining cognitive, behavioural, and affective dimensions. In addition, at the end of the 20th and the beginning of the 21st century, the internationalisation of education pointed to the necessity of comparing processes and effects in the education sector and directed the emergence of initiatives that could contribute to the harmonisation of education systems. The most important among these initiatives is PISA (Programme for International Student Assessment), launched in 1997 and first implemented in 2000 (OECD, 2001), which is a three-year cycle that checks the levels of student skills in the basic areas of literacy (reading, mathematics, science) and enables vertical and horizontal comparison. Results and some important contextual factors that influence learning, such as motivation, learning strategies, attitudes toward learning, and beliefs about oneself as a student, are also a part of the PISA database. PISA deals with literacy in a functional sense, i.e. it tests the functional literacy of fifteen-year-olds. The PISA research methodology is aimed at assessing the adoption of basic skills in contextualised problem situations, i.e. in problem-type tasks. PISA tests cannot be done successfully if the focus of learning is not on understanding what was learned.

Another important initiative concerns the definition of the concept of universal key competencies for LLL, which has the task of enabling individuals' success in professional and personal life (e.g. DeSeCo – Definition and Selection of Key Competences) (OECD, 2005; Council Recommendation of 22 May 2018 on Key Competences for Lifelong Learning, 2018).

The DeSeCo project was born from the idea that international assessments of student achievements must include the so-called new competencies, skills that are not limited to individual subjects but are cross-curricular, and for them, it is possible to state an exceptional general importance, hence the name key (Marušić, 2018). Therefore, in contrast to professional competencies, which concern a specific area and are needed by individuals exclusively in that area, key competencies are general or generic (Gonzales & Wagenaar, 2005). As such, not specific to only one area, they are used and learned transversally, through different subjects. Key competencies are not limited only to the cognitive area but also include various elements that belong to the affective area, such as attitudes, values, and emotions. They enable the individual to successfully face various complex, troublesome situations, to adapt to new work and living environments, to respond well to changes, and to often tolerate uncertainties.

The PISA and DeSeCo initiatives have focused attention on learning outcomes, which may be understood more broadly than the usual subject perspective. Student achievements in PISA or competencies as described by DeSeCo have directed education's attention towards curricula oriented towards achievement, i.e., learning outcomes. As a result of reforms towards competence-based education, the European Qualifications Framework (EQF) was set up in 2008 and later revised in 2017. National qualifications frameworks are closely related to the EQF, so each of them operates in terms of competencies and sub-terms such as knowledge, skills, and attitudes.

Lifelong learning (LLL) is understood as education and training that spans the entire life course, occurring in formal, non-formal and informal settings embedded in school, workplace, home, and community (Laal, 2011). From the early 21st century onward, LLL has been promoted as the appropriate response to rapid social change (Gibbs et al., 2007) and as a way to satisfy both personal and societal needs (Billett, 2009). European policy documents further present LLL as a lever for resilience, social inclusion, and innovation (Smidt & Sursock, 2011; Ceschi

et al., 2021). Within this perspective, key competencies conceived as a dynamic blend of knowledge, skills, and attitudes, equip individuals to perform effectively not only in the workplace but also in everyday life (Sartori et al., 2018), and thus lie at the heart of contemporary education and employment strategies.

The shift from DeSeCo's three broad domains of competence (working with others; working with knowledge, technology, and information; acting autonomously in society) (OECD, 2005) provided the foundation for the European Commission's Recommendation on Key Competences, first adopted in 2006 and revised in 2018. This Recommendation establishes eight transferable key competencies needed for personal fulfilment, active citizenship, social inclusion, and employability (European Commission, 2018).

With the first EU Recommendation on key competencies, Europe started a reform based on this approach. So, studies indicated several attempts to adjust educational systems (Dumitrescu et al., 2014; Halász & Michel, 2011). However, 'It is concluded that there is still unfinished business for educational researchers in critically engaging with framing and defining competencies for the twenty-first century, their causes, impact, and consequences for schooling and learning internationally, as well as how competence-based education is recontextualised into specific national contexts' (Tahirsylaj & Sundberg, 2020, p. 131).

Based on a meta-analysis of articles published from 1997 to 2017, Tahirsylaj and Sundberg (2020) rightly state that in the papers they analysed, if definitions of competence-based education appear at all, they are based more on DeSeCo and/or EC documents, reports, and recommendations, than on definitions derived from theories of learning (to which it really belongs in a scientific sense). For the purposes of this work, we will also use the European Commission's definition because the subject of our investigation is directly derived from the EC's concept.

The eight key competencies are (European Commission, 2018):

- Literacy competence
- Multilingual competence
- Mathematical competence and competence in science, technology, and engineering
- Digital competence

- Personal, social, and learning to learn competence
- Citizenship competence
- Entrepreneurship competence
- Cultural awareness and expression competence

The first three are commonly addressed through subject-based instruction. The remaining five are considered transversal, acquired over subjects and situations and are central to this chapter. These competencies are foundational for navigating uncertain and diverse environments, and they align closely with the pedagogical opportunities provided by COIL.

Collaborative Online International Learning (COIL)

Collaborative learning is strongly recommended as a model with exceptional results in cognitive and affective student achievement in face-to-face, traditional teaching/learning. Digital tools offer even more intensive opportunities to expand options for this type of learning.

Digital tools and generally the digital learning environment (DLE) unexpectedly bridge the barriers of time and place and create a frame of reference in which students who are physically distant and may not even be in the same time zone learn simultaneously and in collaboration. Such possibilities were unimaginable until recently, but in the modern educational milieu, they are a real fact, expected to be used for LLL, which can certainly contribute to group and individual success. In a world where numerous jobs can be done online, the need for COIL learning opportunities is also increasing. Given that current students expect working conditions in which international cooperation will often be a condition for success, COIL represents an excellent foundation for such conditions.

COIL is an educational approach that uses online learning opportunities and helps universities internationalise (Rubin, 2017). Internationalisation, by its very nature, develops intercultural competencies, due to contact among individuals, cultures, languages, etc. It has become the basis of modernisation, progress, learning, and research at almost all universities. The globalised world order requires universities to offer a wide range of skills, knowledge, and technologies, making it difficult to expect any one university or even one country to meet all market demands.

Thanks to international cooperation, universities can help each other provide comprehensive skills for the modern labour market. In addition to the development of expertise and the exchange of technologies, the diversification of the working and cultural environment is of great importance for the academic and non-academic staff of the university, and especially for the students themselves, who are the main motive for the development of international cooperation. One faculty or one environment cannot present all the possibilities of the global academic community. This is the main reason constant communication between universities is necessary: gaining insight into market trends, sharing good practices and skills, and continuously working on removing physical boundaries among those whose basic vocation is the search for knowledge. Therefore, joint, collaborative, and teamwork represent the imperatives of modern university teaching.

Collaboration is an important transversal skill seen as a prerequisite for many jobs in different work environments (Marutschke et al., 2019). In the context of dominant learning theories, primarily social constructivism, the collaborative way of learning leads to the active construction of knowledge. Social constructivism as a learning paradigm comes predominantly from the socio-constructivist theory of Leo Vygotsky (1986), defined in the 1930s of the 20th century (first published in 1934). Vygotsky (1986) determined, through experiments, the external origin of higher mental activities, that is, the fact that the child first builds knowledge in a social environment, in cooperation with adults, which then moves to the internal plane through the process of interiorisation and functions there under the child's control. The same process exists in both traditional and online learning environments.

Therefore, knowledge was created and continues to be constructed in social interaction, which makes its transmission impossible. Vygotsky's theory singles out *the zone of proximal development* as important for cognitive progress – learning occurs in situations that are slightly above the child's current abilities, in which the child interacts with those who know more than him/her (teacher, peers). The same principles related to the social construction of knowledge apply to learning at all ages, so students also construct their knowledge systems in interaction with professors and peers. Interaction in the learning function can be realised directly, in face-to-face classes, but also in different online learning environments. Knowledge exchange occurs in social interaction, and COIL is one type of virtual exchange (Hackett et

al., 2024), along with tele-collaboration, online intercultural exchange, e-tandem, global virtual teams, and globally networked learning environments (O'Dowd, 2018, p. 4).

As mentioned earlier in this chapter, COIL is a teaching methodology that focuses on creating collaborative learning experiences across geographical and cultural boundaries, which is one of the prerequisites for higher education (HE) internationalisation (de Wit et al., 2015; O'Dowd, 2018; Beelen & Jones, 2015). De Wit et al. (2015) underline that COIL is one of the basic methodological instruments for HE internationalisation: 'It is thus necessary to give increased attention to digital and blended learning as instruments to complement the internationalisation of higher education, not only through MOOCS but also through virtual exchange and collaborative online international learning' (p. 30). In COIL, students are engaged in cross-cultural cooperation (Duus & Cooray, 2014), meaning that it allows students from different parts of the world to engage in shared academic projects by utilising online platforms, without physically moving from home (Beelen & Jones, 2015). The approach is built around a strong foundation of cross-cultural interaction, which enhances subject matter understanding and fosters global competence and collaboration (Rubin & Guth, 2022). The nature of COIL encourages active learning, requiring students to engage critically with both the subject matter and each other's ideas.

Students working on joint projects navigate cultural differences, adapt to various communication styles, and arrive at solutions that incorporate diverse perspectives. This active engagement fosters critical thinking, communication skills, and flexibility, competencies crucial in today's interconnected world. The collaborative nature of COIL also encourages self-reflection, as students often reflect on their cultural biases and how these influence their academic approach and decision-making process.

At the core of COIL is the course design, which is a joint effort between faculty members from different institutions (Rubin & Guth, 2022). These instructors collaborate to create a shared syllabus that blends their academic expertise and aligns with the learning objectives or learning outcomes of both institutions. This joint design allows for the integration of interdisciplinary and culturally relevant content, ensuring the course is cohesive and relevant for students from diverse backgrounds. The faculty members agree on key components, such

as assessment methods, collaborative activities, and the use of suitable digital tools for communication. The design of these courses often emphasises not only academic goals but also promoting the development of intercultural understanding, encouraging students to engage with different perspectives. This means that the courses are not only focused on cognitive but also affective elements of teaching and learning, making them more relevant for social and emotional upskilling.

The success of COIL courses relies heavily on the use of technology to bridge the distance between students. Communication tools, such as video conferencing (e.g., Zoom or Microsoft Teams), online discussion forums (e.g., Moodle or Blackboard), and collaborative workspaces (e.g., Google Docs or Padlet), are employed to facilitate interaction. These digital platforms allow students to collaborate in real time, even if they are in different time zones (Rubin & Guth, 2022).

Technology facilitates not just formal communication but also informal exchanges, where students share experiences and ideas outside the confines of the traditional classroom. This part of students' interaction is beneficial for their personal growth because DLES may build student groups from diverse cultural settings. That is, an essential component of COIL is the intercultural exchange that occurs during these collaborative projects. By working together on academic tasks, students from different countries and regions bring their unique cultural perspectives, enriching the learning experience. These projects typically involve group work, where students are paired or grouped with peers from other countries. In this collaboration, students learn from each other's viewpoints, cultural contexts, and problem-solving approaches. It is an opportunity for students to engage in peer learning, where they teach and learn from one another in a shared academic space.

Assessment in COIL courses is designed to evaluate not only academic outcomes but also collaboration and intercultural competence (de Wit et al., 2015), and it also needs to be formative and summative (Altowairiki, 2021). Students are typically assessed based on the quality of their project contributions, their ability to work as part of a diverse team, and their reflective insights. The final assessment often includes a project that demonstrates the collective work and shared learning of the students. Peer assessments, where students evaluate the contributions and teamwork of their group members, and self-reflections, where students assess their growth in terms of intercultural communication and global collaboration, are also common (de Wit et al., 2015).

While some COIL projects are designed as short-term collaborations, the methodology often aims to create lasting international learning networks (de Wit et al., 2015; Rubin & Guth, 2022). These networks can provide long-term benefits for students and faculty, as they offer opportunities for future collaborations, research partnerships, and career development in a globalised context. By engaging in COIL, students are not only learning academic content but also developing the skills and perspectives that are essential in today's global workforce.

Recent experience, gained during the COVID-19 pandemic, drew the attention of the global academic community to DLE. How teaching and learning at the University of Montenegro were organised during the lockdown period can best be described by the term emergency remote education (ERE), because the teaching methodology was mostly not adapted to DLE, online connections only enabled the transmission of content as it was planned for direct teaching (Vučković & Premović, 2023). The research carried out with students and teachers showed that both were faced with numerous challenges during the ERE, and that their attitudes were binary towards the future of teaching/learning in DLE – while some are strictly and exclusively against any form of online learning and teaching and underline the lack of socialisation effects, weak concentration of participants, weak feedback, and many ethical questions related to taking exams, others also pointed to the numerous advantages and opportunities brought by the possibility of learning in DLE (Vučković & Premović, 2023). Among other things, students indicated difficulties with concentration, attention, communication, and interaction, but at the same time, they had numerous insights that indicated the perception of some possibilities (Lodge et al., 2021; Vučković & Premović, 2023). Both students and teachers drew attention to the need for training on digital tools and the way of working in DLE (Vučković & Premović, 2023).

In summary, COIL is a dynamic teaching methodology that uses online collaboration to foster academic and intercultural learning. It is realised in DLE, allowing students from different countries to work together on meaningful projects, enhancing their understanding of the subject matter and the world around them. Through digital platforms, collaborative activities, and intercultural exchange, COIL creates an enriching and transformative learning experience for students, preparing them for success in an increasingly interconnected global society. However, for COIL to work, training for students and teachers is necessary in at least two areas: in the use of technology to create DLE and in

the psychological, pedagogical, and methodological aspects of teaching and learning in DLE.

Linking Key Competences for LLL and COIL

Transversal competencies are acquired in one context or mastered in a special situation/problem and can be transferred to another context. This means that they have a high transferability, e.g., may be used in a situation that significantly differs from the situation in which they have been mastered. These competencies are, e.g., problem-solving, decision-making, negotiating, strategic and innovative thinking, etc. The term transversal competence is not synonymous with key competencies, but there is a connection between the two. Namely, each key competence for LLL has its transferable elements, those knowledge, skills, and attitudes that may be used in many situations. For example, for civic competence, it is of utmost importance to develop skills for negotiation, so if we teach/learn about negotiation to develop civic key competence, we also develop transversal competence, which may be used interdependently, not only for problem-solving in civic matters, but in many other situations. Furthermore, COIL supports problem-solving, which is an important element of each key competence for LLL. In COIL courses, students work together on real-world, often interdisciplinary problems, requiring them to think critically and creatively. These problems are approached from multiple cultural and academic perspectives, encouraging students to develop solutions that are more innovative and inclusive. By collaborating with peers from different backgrounds, students learn how to solve complex issues using diverse methods, which strengthens their problem-solving abilities.

Connecting COIL with the key competencies for LLL offers an insightful perspective on how COIL, as an innovative teaching methodology, nurtures essential skills that are crucial for students' ongoing personal, academic, and professional development. Below is a breakdown of how COIL supports the transversal key competencies for LLL, as outlined by the Council Recommendation of 22 May 2018 on Key Competences for Lifelong Learning (2018) and other global competence frameworks.

Cultural Awareness and Expression, and COIL

Of the effects concerning key competencies, the most research attention has been devoted to intercultural competence, so Hackett et al. (2023), Liu and Shirley (2021), and Mundel (2020) determined the

success of COIL in developing intercultural competence. The very nature of COIL involves students working in cross-cultural, international teams. These collaborations require students to navigate cultural differences in communication, work styles, and expectations. Through this process, students develop skills such as negotiation, conflict resolution, leadership, and mutual respect. One of the central goals of COIL is to create a space in which students from different cultural backgrounds can collaborate. This is compatible with the key competence of cultural awareness and expression, which includes understanding and respecting cultural diversity. Through COIL, students participate in intercultural exchange, share academic knowledge, and exchange perspectives and experiences shaped by their cultural context. By working on joint projects with peers from different countries, students learn to appreciate cultural nuances, which helps develop their intercultural competence, essential for personal and professional development in an increasingly globalised world. Recent meta-analyses confirm that students who participate in COIL projects show measurable improvements in intercultural sensitivity, open-mindedness, and communication across cultural boundaries (Schwab & Thees, 2023; Hackett et al., 2023). These findings are consistent across short- and long-term COIL implementations in higher education.

Digital Literacy and COIL

A foundational component of COIL is its use of digital technologies to facilitate international collaboration. Students need proficiency in various digital learning environments. Through the COIL experience, students naturally improve their digital literacy by using these tools to communicate, collaborate, and create. These skills are not only important in academic settings; they are also highly transferable to the workplace and essential for lifelong learning (LLL), especially as technology continues to reshape how we interact, work, and learn. COIL experiences also lead to gains in digital self-efficacy, particularly in collaborative workspaces and digital communication, as students navigate real-time problem-solving in unfamiliar technological settings (Leone & Cristóvão, 2022).

Digital Literacy has become a mandatory skill, leaving questions such as whether someone is familiar with the application of digital technologies in the past and asking how effective and broad their skills are. New generations that are coming to universities will not remember

the days without artificial intelligence. This will lead to their proficient use, or a quick getting-to-know process, with any new technologies that come in the future. Such energy will need to be supported and guided by universities, and one way to do so is by introducing students to COIL opportunities. It is essential to show young people and current professionals not only how they can be proficient and apply current digital tools (from video conferencing platforms, collaborative workspaces, project management software, VR, and Artificial Intelligence) but also how to be prepared for other innovations.

Needless to say, COIL environments will push students to improve their digital literacy by using these tools to communicate, collaborate, and create. These skills are not only important in academic settings but are also highly transferable to the workplace and essential for lifelong learning (LLL), as technology continues to reshape how we interact, work, and learn.

Since COIL relies on the use of digital platforms, students and educators must learn basic cybersecurity rules and skills to protect themselves and their data. Some of the basic skills they would be exposed to include using strong passwords, multi-layer authentication, recognising phishing attacks, etc. Additionally, it is crucial to develop familiarity with laws for data protection (such as GDPR) and various ways different websites are memorising and further (mis)using their data.

Personal, Social, and Learning to Learn Competence and COIL

COIL fosters self-directed learning and encourages students to take responsibility for their learning process. As they collaborate with peers across different time zones and cultures, students must manage their time effectively, adapt to new learning environments, and navigate diverse academic perspectives. These experiences help them develop strategies for learning throughout their lifespan, how to stay motivated and organise their studies without constant supervision. COIL pushes students to reflect on their learning styles, adapt to different methods, and continuously seek new knowledge, which is key for adapting to changing academic and professional contexts.

Not only will students develop their own personal learning styles, but they are encouraged to personalise learning goals and strategies. Furthermore, by following different teaching methods from COIL professors and being exposed to other learning styles among their online classmates, they can gain insight into new, useful learning practices

and tools and alternative viewpoints of learning materials (cultural subtext, etc.). Additionally, such an environment will help boost their learning flexibility, problem-solving skills, critical thinking, and tolerance of ambiguity, etc. Furthermore, by navigating the learning process with their peers, students develop skills for time management, they better understand their emotional background for and in the learning process, so they develop personal competence.

Civic Competence and COIL

COIL fosters civic competencies by encouraging students to engage with a global community, consider global citizenship, and participate in virtual communities. Through collaboration, students gain experience in working with people from diverse backgrounds, which helps them build empathy, respect, and the ability to navigate different social contexts. This is vital for LLL, as it prepares students to work in multicultural environments, contribute to discussions on global issues, and engage in collaborative decision-making processes that consider multiple viewpoints and contexts.

This is for young adults who come from culturally, ethnically, or racially uniform backgrounds and have not been exposed to societal diversity in a satisfactory measure. COIL will help them build their civic competencies, learn how to be global citizens, and develop culturally sensitive and knowledgeable approaches to different subjects and topics. Besides, skills such as empathy and cultural awareness will help them ease into the future workspace, no matter where they decide to live.

Since many COIL students have diverse backgrounds, this will also be a great opportunity to discuss various topics related to global issues and social injustices and share thoughts and experiences on how to give back to communities.

Entrepreneurial Competence and COIL

While COIL is primarily an academic tool, it also fosters entrepreneurial skills in students. Working in teams from different parts of the world, students need to be entrepreneurial; they must take initiative, manage their projects effectively, and adapt to new approaches and perspectives. This experience encourages innovation, resourcefulness, and creativity, all of which are important for entrepreneurship. A recent study by Min et al. (2022) found that participation in cross-border COIL

projects fosters entrepreneurial intention and project management skills among students, particularly when tasks involve real-life problems requiring innovation and initiative. Additionally, COIL projects often require students to find innovative solutions to complex problems, nurturing an entrepreneurial mindset-skills essential for adapting to an ever-changing global economy and for continuous personal and professional growth.

Although there are specific subjects in school curricula for teaching and learning foreign languages, it is important to mention here that COIL fosters the key competence entitled communication in foreign languages. While communication within COIL is typically in a common language (often English), the experience encourages students to develop their language and communication skills. Further, users of digital technologies need to be reminded that communication in real life and online communication can be vastly different and have their own rules (from Internet slang to adjusting tone and clarity to come across as intended). COIL's collaborative nature demands that students articulate their ideas clearly, using digital tools and overcoming language barriers. This process enhances their foreign language proficiency, as students become more comfortable engaging with peers from different linguistic backgrounds. The necessity to communicate across cultures pushes students to develop strategies for effective communication, a key competence for LLL in diverse environments.

Conclusion

In the context of COIL, students gain hands-on experience in developing the key transversal competencies required for LLL. COIL promotes academic growth and fosters critical skills that students will continue to rely on in their lives, both personally and professionally. With its emphasis on cross-cultural communication, digital literacy, problem-solving, and global collaboration, COIL prepares students to become active, adaptable, and competent lifelong learners capable of thriving in an interconnected world. By engaging in the international learning community through COIL, students are participating in academic exchange, besides enhancing the key competencies crucial for navigating the challenges of the 21st century.

COIL, in many ways, expands the learning environment, i.e. the traditional classroom in which students of the same age work on tasks, often

and independently of each other, into a digital learning environment, which is already rich in technological possibilities and tools and will be even more so in the future. In such an environment, the barriers of place and time for learning are completely overcome, so students from different global points can study and work on the same task. In addition to the excitement that this fact in itself brings to the learning process, DLE provides COIL with cultural, personal, and social diversity that is rarely possible in traditional classrooms. Vygotsky pointed out that learning in social interaction represents how individuals construct knowledge systems, so the wealth of social interactions that COIL brings certainly has the potential to improve learning and teaching in COIL and beyond.

Key Takeaways and Action Recommendations:

- Embed COIL in credit-bearing courses so transversal competencies are planned and assessed
- Tie each project to a clear target competency
- Train faculty & students in intercultural pedagogy and virtual-team tools
- Use real global challenges to drive negotiation, creativity and problem-solving
- Assess with a mix of artefact + self/peer reflection to capture competence growth
- Secure sustainable partnerships and basic IT support (stable LMS, video conferencing) to keep COIL running smoothly

These measures give educators and policymakers a concrete roadmap for leveraging COIL as a systematic driver of transversal key competencies and, ultimately, resilient lifelong learning systems.

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