COIL PROJECTS AS A MEANS TO FOSTER COLLABORATIVE WORK IN THE PROFESSIONS

M.C. Campoy-Cubillo[1], V. Jiménez Estrada[2]

[1]Universitat Jaume I (SPAIN)
[2]Algoma Univerity (CANADA)

Abstract

Collaborative Online International Learning (COIL) projects aim at achieving a common goal through teamwork and cooperation. Collaborative skills are among the top soft skills employers want from their employees. COIL as a teaching and learning method develops reflexivity skills since at the core of a COIL experience students are asked to examine their own reactions and motives to face specific course contents (such as ways to feel about and act to find solutions for social and environmental issues). Likewise, instructors face the challenge of imparting awareness leading to cultural shifts creating spaces where students discuss and analyse how different groups think or act in the same situation. This particular COIL experience brought together two universities, one located in Canada and the other in Spain, both including students from different ethnic and cultural provenance.

COIL is a learning process that integrates different skills and attitudes to succeed in the workplace of the future. Among these skills, problem-solving, intercultural skills and collaboration skills are key to COIL projects. This paper reports on a COIL project focusing on the United Nations' Sustainable Development Goal 13 (SDG13) with two student cohorts, one focused on criminology and security studies and the other on sociology and critical thinking. This paper shows how 21st-century skills are developed in online collaboration and how they may be seen as a step towards achieving intercultural and soft skills in a professional collaborative environment. The project engaged students in discussions and debates about contemporary environmental and community issues, climate change/climate crisis, food security/urban development, the relationship between environmental problems and marginalization/exclusion, and racial discrimination.

Keywords: collaborative work, Collaborative online international learning (COIL), 21st century skills, Sustainable Development Goals (SDGs).

1 INTRODUCTION

Collaborative skills in the workplace are gaining importance [1] (Rios et al. 2020) and the possibility of online collaboration has contributed to the interest in how collaboration may facilitate knowledge and skills development and contribution in the workplace. In this sense, case studies show [2] (Lee & Bonk 2014) that in order for collaboration to take place and be operative, organizational and collaborative culture in the workplace is particularly relevant, as is the effectiveness of collaboration and the chosen collaborative tools. [1] Rios et al (2020) identified the key 21st-century skills in the workplace and analysed which were the most demanded skills, with the top three skills being collaboration, problem-solving and communication skills. These skills coincide with the most relevant skills that are fostered in COIL projects. The majority of the other important skills these authors identified (namely, critical thinking, oral and written communication, ethics, cultural sensitivity, adaptability, creativity, time management, professionalism, and social intelligence) have also proved to be relevant to COIL experiences.

As explained in the literature [3][4][5], Collaborative Online International Learning (COIL) can be briefly explained as working together to achieve a goal. We may define collaboration skills as the ability to effectively work with others to achieve common goals. In order to do so, cultural sensitivity, effective communication, teamwork, and problem-solving skills are needed. Professors need to make sure their students understand the different values and practices of the students in both universities who come from different socio-economic, linguistic, and ethnic backgrounds and need to make sure that their interactions are respectful and attend to the group's diversity. In other words, creating inclusion in the learning process is key.

Communication implies expressing our thoughts clearly. This is particularly important in a working environment. Proficient communication is not only expressing our thoughts but also being able to understand the opinions and viewpoints of other people (our classmates or workmates) and being able

to understand diversity in the group. Diversity can appear in different layers such as age, nationality, religious background, skill background, sexual orientation, political preferences or functional diversity. Diversity also encompasses personality traits and could include introversion, extraversion, openness to experience, different degrees of conscientiousness, etc.). In a COIL team, where idea sharing is at the core of the experience, both the group and the professors need to consider the group's idiosyncrasy in order to be able to achieve the objectives set out for the COIL experience.

In this methodological framework, it becomes evident that actively listening to others is necessary to work on the project's aims and solutions. Since a COIL experience involves students from different countries, the linguistic preparation of the project is a necessary step. First, the language of communication needs to be established. In our case, the two academic disciplines involved in the project were a subject on specialized English language skills for criminology students (from the institution in Spain) and critical and decolonizing Environmental Sociology from the university in Canada. Both courses were taught in English but for the first group English is a Foreign or Second Language (EFL/ESL) while for most students in the second group, it is their native language (there were international and domestic students in the group for whom English was also a foreign or second language). This means that the materials selected for COIL needed to be checked for text complexity (both in written and spoken texts) and support material for students in the first group was also designed. This support material entailed working with specialised vocabulary and phrases in the non-COIL time with the EFL/ESL class, as well as providing support for those students in the second group who asked for help with language issues.

In COIL, collaboration skills need to be accompanied by teamwork. Teamwork is the combination of individual efforts while collaboration is working as equals to achieve a goal.

It is the instructors' work to foster the students' willingness to collaborate. This is perhaps one of the most difficult tasks for professors working with diverse groups in two different universities who are working online with different time zones and time differences. It is indeed the first occasion in which students need to collaborate in order to establish their own working schedules as separate groups in the COIL class. Easy as it may seem, the 5 to 6-hour difference poses a real challenge to students in this particular COIL experience and managing time and working methods is the first collaborative skill they need to develop. In this sense, they will need to decide how frequently they may meet online (face to face) and how they will cooperate asynchronously (through email, shared documents in Drive, WhatsApp, etc.). This initial organization of the teams is very important in order to reach goals on time.

Finally, problem-solving is a key COIL competence. Students will have to take the time to listen to all group components and try to work out differences that may come out while developing the COIL project. Two important differences are adjusting to the selected work procedures for the group and finding an agreed vision of the project topic or a way to present the different perspectives studied in the final project.

1.1 Aim

The aim of the project is to engage in a Collaborative Online International [6] Learning experience that acknowledges and respects students in the two participating institutions: the University of Algoma in Canada and Universitat Jaume I in Spain. The goal of the project was to contribute to the environmental knowledge of students from a sociological and criminological perspective, paying attention to the use of language as a reflection of epistemological perspectives and worldviews. In this sense, this COIL project is aligned with Sustainable Development Goal 13 (SDG13). Due to its COIL configuration, the project tackles equality issues related to SDG10 (SDG10 Reduce inequality within and among countries). Special attention was paid to awareness of each person's socio-cultural backgrounds, values or personal circumstances of the participating students, as well as to the importance of respect for human dignity and equity while creating a context where negotiating disagreements and respecting opinions was key.

UNESCO [7:66] identifies the key types of learning associated with Education for Sustainable Development (ESD), among which (1) Participatory/collaborative learning, (2) Problem-based learning, and (3) Critical-thinking-based learning are considered the top three types of learning considered to be most impactful in the productive development of ESD goals. In this sense, COIL methodology is a good platform for UNESCO's ESD aims of "encouraging the transformation of education so that it is able to contribute effectively to the reorientation of societies towards sustainable development" [7:20]

EDS [8] has a long trajectory in which the concept of sustainability is defined across different boundaries where public policies, different ways of conceptualizing sustainability and of defining sustainable

competencies interweave. The results of these interconnections begin to be clear within educational settings, as suggested in [8:12]:

> the transformation of the concept of sustainability into a central axis of all academic programs gives students a highly demanding and current competence, and enables students to focus their knowledge on actions that lead to SD in any of its dimensions. Thus, education becomes the vehicle of transformation.

2   METHODOLOGY

Our COIL experience focuses on:

- SDG 13 Climate Action (Take urgent action to combat climate change and its impacts).

More specifically, the project is oriented towards the educative area of climate action defined in challenge 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Our COIL project developed within an interdisciplinary, collaborative, challenge-based approach connecting legal and social aspects of environmental issues in line with the EDS UNESCO's recommendations [9:7]

> What ESD requires is a shift from teaching to learning. It asks for an action-oriented, transformative pedagogy, which supports self-directed learning, participation and collaboration, problem-orientation, inter- and transdisciplinarity and the linking of formal and informal learning. Only such pedagogical approaches make possible the development of the key competencies needed for promoting sustainable development.

In this sense, the course was based on the fields of critical sociology and criminology. Contemporary ecological-social problems and solutions were explored. Students were expected to spend some time outside of scheduled class time to enhance their ability to experience what they were learning and apply it to their theory and praxis on environmental issues.

This project was designed using the Google Meet platform for synchronous meetings. The professors established mixed work groups, including balanced numbers for students in both universities and finding at least one student with a high degree of English language proficiency. The instructors also planned the schedule for synchronous and asynchronous meetings responding to: a) tuition sessions and b) collaborative teamwork.

Methodologically, we were interested in making connections with all aspects that impact the social construction of the environment and investigating why different groups perceive that construction differently and therefore treat it according to their own perceptions.

From a linguistic perspective, the type of language we use to frame environmental issues played an important role in how we relate to the environment, as it reveals our beliefs about how our use of language can express how closely or how far we feel from nature. Linguistic awareness then becomes a relevant practice in this course to think about the different possible mental configurations of the environment that promote change.

Our students learnt about the relationship between environmental issues, marginalization/exclusion, and racial and gender discrimination while focusing on resistance, resilience, and strategies to achieve sustainable development within an interdisciplinary and experiential framework.

✦ *Context - Working Together.*

The collaborative project emphasized group work and collaboration between students from Spain and Canada. This "experiential project" involved a comparative analysis of an environmental issue affecting both regions to propose individual policies or changes through the UN Act Now Campaign for Individual Action. It also emphasized law regulations in relation to possible environmental actions.

Students developed collaborative work in pairs and groups and had to:

- Talk online with other students (Google Meet, email, chat, other) about how to work for each assignment.

- Both had to visit the virtual classroom to obtain more information about the topic to be discussed before starting the conversation, consulting specific topic information found on the web.

- Review and write down the important words they will use in the conversation (particularly EFL/ESL students).

- Agree on a future date and time (taking into account the time difference between countries, which is six hours), and try to reach an agreement, closing the conversation or collaborative event in a positive way.

By the end of the course, students contributed to engaging in practical applications of theory and action at local levels.

The Instruction and delivery methods employed were:

- Synchronous sessions via Google Meet

- Asynchronous sessions and activities

- Collaborative work following scheduled topics and work deliveries showing that they understood and were able to interpret the materials in the course

- Live group collaborative project presentations

✦ *Learning objectives*

This course aimed to:

- Provide an understanding of how the environment is a social construct depending on cultural, social, political and economic contexts;

- Engage students in discussions and debates on contemporary environmental and community issues, climate change/climate crisis, food security/urban development;

- Support students to develop confidence and competence in discussing environmental issues at local and global levels;

- Provide the opportunity to participate in the application of sustainable development goals to address local contemporary environmental and social problems through a small project.

2.1 Materials

The course provided materials through a Moodle platform that contained selected academic informative readings, videos, questionnaires, and forums.

2.2 Cooperative learning

As shown in [9], COIL is a cooperative learning opportunity for both teachers and learners. Our backgrounds as teachers were completely different: a linguist and a sociologist. The linguist is involved in EFL/ESL teaching and focuses her syllabus and research on linguistic content and assessment. The sociologist investigates the structure of groups, organizations, and societies, and the way people interact within these contexts. Bearing these content and academic differences in mind, we had to agree on a task design format and content that would satisfy both groups of students as well as easily converge with the original syllabus in our respective subjects. Some of the benefits of COIL for instructors reported in [7] are common in COIL experiences. Our COIL project allowed us to develop in specific areas of our work as teachers (defined below in Swartz's [9] words and explained with our own examples):

1 To discover different approaches and different angles in teaching and learning

   Belonging to two different areas of knowledge, we had very different approaches to what we taught, how we taught it and how we assessed our students. In this sense, for instance, the language teacher had to agree with the sociology teacher on those linguistic competencies that could be important for both groups of students in the development of synchronous sessions (being polite, negotiating, hedging, becoming aware of non-verbal communication, etc.) as well as linguistic aspects of the final oral presentation (clarity of speech, choice of terms, etc.)

2 To find creative solutions to our problems

   Students may decide to drop the subject in the middle of the course, or they may need to get a job and be unable to join the synchronous sessions, to this end, the Moodle forum was activated

to find specific solutions for each case. Teachers also had to rearrange the groups to keep them balanced and ensure equal participation.

3 To increase our own interest as teachers in our colleague's knowledge and expertise

The language teacher, for instance, learnt many aspects of environmental problems and how they relate to different ethnicities and social groups. Likewise, our assessment methods had to be combined to produce an assessment rubric that would be understandable for both teachers and their students and that would fit both syllabi.

4 To improve the quality of our lectures

Being able to share two totally different perspectives on environmental issues, we had to agree on which were the best ways to communicate content to our students, and which were the best readings and viewings (videos) so that they could understand the contents. This had to be done in a way that was not too complex (so EFL students could follow ideas) and not too simple (so that non-EFL students were not bored or unmotivated with the materials). Having different instructional styles, we also had to elaborate over and over again on the presentations we used and agree on the final outcome so we both felt comfortable when presenting the lessons.

5 To understand the value of knowledge sharing and collaboration

Since we viewed the materials and contents of the COIL experience from very different perspectives (both culturally wise and in terms of our own academic expertise), the learning experience was particularly rewarding as we complemented each other in different areas and academic knowledge.

On the other hand, learners' cooperative learning for this project can be summarized providing the foundations for learning to work with formerly unknown peers, with different levels of language proficiency, disciplinary backgrounds and starkly different academic contexts particularly in terms of schedules and timelines, to reach common goals. This is a big challenge, particularly for undergraduates, accustomed only to interacting with their own schoolmates, professors and subject matter.

2.3 Coil development

The course was structured around active and experiential learning and the development of soft and hard skills and provided an ideal environment to foster the development of intercultural competence skills. Being able to meet foreign students online was really appealing for both groups of students. This was even more so because there was no economic expense for them and the face-to-face challenge of international in-person exchange relieved the anxieties they would face in a physical exchange. However, this was an opportunity to see each other online that was very close to the international programs in which they had to travel to another country because they had to engage in conversation and had to negotiate group work and ways to collaborate as a team to reach their course goals.

The instructors spent the previous six months discussing which groups of students would be a good match for the COIL's project aims. They also had to work hard in the design of materials and the adaptation of those materials to two different groups of students enrolled in two separate subjects dealing with different contents.

The course was programmed in 5 sessions and designed to foster collaborative work in groups. Each group was made up of students from both universities. For each session, an online introduction was provided by the instructors and this was followed by collaborative work in groups. Each session had its own small challenge, informative materials to support that challenge and homework before the following session. There were two weeks between sessions in which the different teams had to agree on their meeting and work schedule to achieve the best possible results for the session's delivery through Moodle. During the synchronous sessions, instructors were available for support and worked with the different groups according to each group's specific needs. By the end of the course, all groups presented their projects to the rest of the class.

3 RESULTS

The course was able to achieve the following learning outcomes, defined below as the student's ability to:

- Identify the relationships between ecological, economic, political and social problems and how these develop for underrepresented groups within colonialism, comparatively between Canada and Spain.

- Identify indigenous/decolonizing/critical theories and practices that inform understanding and interactions between humans and nature, primarily environmental racism and justice;

- Propose a short-term "applied project" related to community participation in the context of the United Nations Sustainable Development Goals

One of the challenges instructors found was finding a way to assess competencies in a way that was adequate for both subjects and institutions. Assessment methods also needed to attend to different groups of students who had gone through formal education following different educational systems. The following section exemplifies how results were assessed. Two different evaluation criteria were followed: one is based on UNESCO's learning objectives for sustainable development, and the other was developed by the instructors for the occasion.

3.1 Assessing results

The students were informed of the assessment criteria at the beginning of the course. The following cognitive, socio-emotional and behavioral learning objectives in [10] were taken into consideration and adapted to the course aims when examining both the deliveries for the asynchronous sessions and the final projects presented through Moodle, assessing the work of the different groups:

Table 1. Course learning objectives taken from UNESCO's sustainable development learning objectives.

Cognitive learning objectives
1. The learners **know** which human activities – on a global, national, local and individual level – contribute most to climate change.
2. The learners **know** about the main ecological, social, cultural and economic consequences of climate change locally, nationally and globally and understands how these can themselves become catalysing, reinforcing factors for climate change.
Socio-emotional learning objectives
1. The learners are able to **explain** ecosystem dynamics and the environmental, social and ethical impact of climate change.
2. The learners are able to **encourage** others to protect the climate.
3. The learners are able to **collaborate** with others and to develop commonly agreed-upon strategies to deal with climate change.
4. The learners are able to understand their personal **impact** on the world's climate, from a local to a global perspective.
5. The learners are able to recognize that the protection of the global climate is an **essential task** for everyone and that we need to completely **re-evaluate our worldview** and everyday behaviours in light of this.
Behavioural learning objectives
1. The learners are able to **evaluate** whether their private and job activities are climate friendly and – where not – to revise them.
2. The learners are able to **support** climate-friendly economic activities

The final project was also assessed with the following rubric that assessed spoken skills to present a topic related to climate change, some of these allowed for individual assessment:

Table 2. Course rubric designed for COIL.

	POOR	ADEQUATE	EXCELLENT
1. UNDERSTANDING OF THE TOPIC	At some points it is difficult to identify the problem and objectives. Some parts of the presentation are difficult to understand. Ideas are not clearly summarized. Presentation visuals do not seem to add value. *0.15 points*	Identifies topic and problem. Objectives are presented though there might be room for improvement. The whole idea of the project is developed in a more or less clear way and student manages to explain ideas in a way that can be followed by the audience (even if there are some mistakes and communication issues). Ideas are somehow summarized adequately. Visual material is adequate and aids comprehension in some points but could be improved. *0.35 points*	Summary of environmental problem addressed in presentation. Student identifies topic, problem and sets out objectives clearly. The whole idea of the project is developed and explained clearly. Is able to clearly summarize ideas. Visual material is clear, well chosen, and reinforces the content of the presentation (adds value). *0.5 points*
2. GOAL / ORGANISATION OF PROJECT	POOR SDG – The long-term goal of the project is not clearly identified. The presentation lacks coherence/is not properly organized. *0.15 points*	ADEQUATE SDG – The long-term goal of the project is identified The presentation has an adequate organization/structure. Presentation seems somehow to reflect the course readings. *0.35 points*	EXCELLENT SDG – The long-term goal of the project is clearly identified. The presentation is properly organized/structured. The presentation answers to the questions: What is the rationale for the project you are proposing to carry out (why is it important) and: What parallels can you make in relation to course readings related to Critical / Indigenous / Ecological Theory? *0.5 points*
3. ACTIONS TO ADRESS / TEAMWORK	POOR There is no evidence of any teamwork. The work does not specify actions/specific short-term actions/ objectives and the impact these may have, or it was difficult to identify them when presented. *0.15 points*	ADEQUATE Teamwork is shown at some points of the presentation (at least between 2 of the participants). The work specifies at least one action/specific short-term action/ objective and the impact it may have. When the project presents more than one action, they are not presented as clearly as they should have. *0.35 points*	EXCELLENT Teamwork is evident (at least between 2 of the participants). The work specifies at least 3 actions/specific short-term actions/ objectives and the impact these may have. *0.5 points*
4. CLARITY / COMMUNICATION ABILITY	POOR Attempts to sustain a description of one climate change goal without success. No actions are proposed or these cannot be followed by the audience. Ideas are presented as a linear sequence of points. Can produce mainly isolated phrases with no idea conexions to other parts of the presentation. *0.15 points*	ADEQUATE Manages to communicate actions proposed. The presentation is clear. Key concepts are presented and explained. Can give clear, detailed descriptions and presentations on a climate change goal and related actions within their field of interest, expanding and supporting ideas with subsidiary points and relevant examples. Can give clear, systematically developed descriptions in the presentation, with appropriate highlighting of significant points, and relevant supporting detail. *0.35 points*	EXCELLENT Clearly communicates actions proposed: Which is the main environmental action you are proposing to the audience? The presentation is clear. Key concepts are presented and explained (even the metaphors) Can produce clear, smoothly flowing, well-structured discourse with an effective logical structure which helps the recipient to notice and remember significant points related to climate change goals. (Includes descriptors for adequate presentation) Can give clear, detailed descriptions and presentations on complex subjects within climate change goals, integrating sub-themes, developing particular points and rounding off with an appropriate conclusion. *0.5 points*

The COIL experience proved to be a valuable experience that enabled us to engage students in different conceptualizations of sustainability, giving them a better professional perspective that will help them to solve challenges posed in their professional future. All in all, the course achieved important methodological changes that can be summarized as follows:

- From disciplinary teaching to interdisciplinary teaching (from a single perspective to multiple perspectives)

- From problem-solving tasks to challenge-based tasks

- From classroom/topic-based teaching and learning to real-life sustainability challenges

- From academic discipline based on field topics to social orientation and responsible, informed instruction leading to future actions, in some cases to immediate action

4   CONCLUSIONS

The COIL experience was a full collaborative study experience which can be easily transferred to work environments since employers demand the skills COIL projects put into practice. Participants had the opportunity to establish an international work/study relationship with other students belonging to different cultures and had the chance to practice negotiation skills as well as attentive listening to reach the shared goal of their projects.

This interdisciplinary experience fostered collaborative work between participating academics (instructors) and enhanced their knowledge of and possible approaches to SDG 13. Students had a good opportunity to put sustainable development goals in a framework related to their future work and were able to learn about and increase their knowledge and competencies since criminology students expanded their knowledge of environmental issues from the sociology student's perspective and vice-versa.

By working on the challenges proposed for each module, students finally achieved the desired learning outcomes. At the end of the course, students were able to identify the relationships between ecological, economic, political and social problems and how these develop for underrepresented groups within colonialism, comparatively between Canada and Spain. Reaching this goal was possible due to the interdisciplinary nature of the project. Since each group follows different methods and ways to interpret contents in each of the participating degrees (Criminology and Sociology), awareness raising of the interconnection between different areas of sustainability and how to approach challenges from different perspectives is possible. Students were also able to identify indigenous/decolonizing/critical theories and practices that inform understanding and interactions between humans and nature, primarily environmental racism and justice. Finally, the different groups managed to propose their own short-term "applied project" related to community participation in the context of the United Nations Sustainable Development Goals.

The institutional benefits (internationalization) were also evident. Engaging in such a complex project also had its shortcomings, such as technical problems lack of support to create a shared virtual classroom, or lack of formative help when needed (the possibility to discuss COIL methodology-related issues with experts in COIL). Facing problems involved finding a joint way of solving them. But it is also an opportunity to see different ways to deal with them. In this sense, the different university services were engaged in the experience and work has begun on the solution to the shortcomings identified. New ways to create a more active internationalization plan have been made possible thanks to the COIL experience, involving academics, students and university services beyond agreements into personal and international collaboration.

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