



NANYANG
TECHNOLOGICAL
UNIVERSITY
SINGAPORE

An Anatomy of Collaborative Online International Learning (COIL)

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Overview

The Science – Scoping Review

The Practice – Connections with Overseas IHE

COIL: The Science

A Scoping Review



What is COIL?

Collaborative Online International Learning

Online

1. An **internet-mediated teaching and learning environment** where instructors and students collaborate with their peers from other geographical regions.

Collaborative Learning

2. Collaboration takes the form of the design and delivery of classes, **a/synchronously** via a web-based medium.

Collaborative International

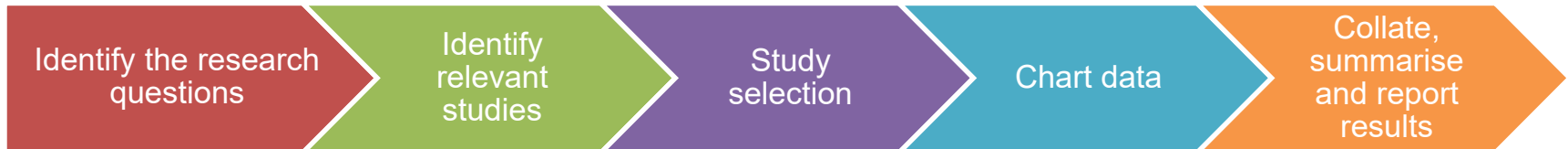
3. Typically, students consume content and participate in activities virtually with their culturally diverse international counterparts and are often required to produce a **collaborative team product**.



Scoping Review

Arksey and O'Malley's (2005) five-stage framework for scoping reviews

1. Identify the research questions
2. Identify relevant studies
3. Study selection
4. Chart data
5. Collate, summarise and report results





RQ1: What is the nature and scope of COIL interventions in higher education?

RQ2: What are the challenges of COIL in higher education?

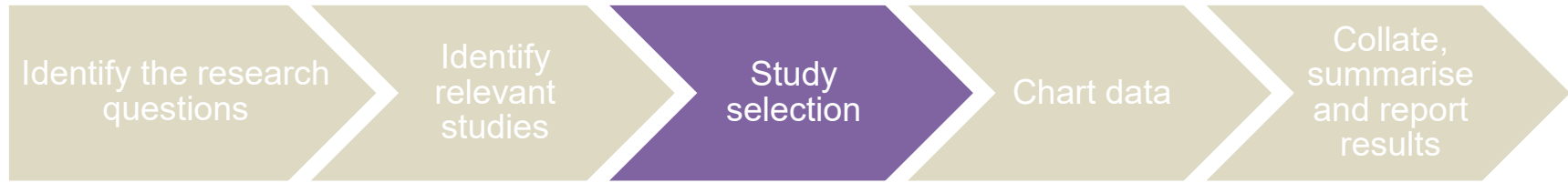
RQ3: What are some promising directions for future research and practice?



Search was performed in May 2023

Search term : “Collaborative Online International Learning” and “Higher Education”
Date : No restriction
Language : English
Country : No restriction

Databases : ABI/INFORM Collection, Academic Search Complete, Education Source, Factiva, Gale Academic OneFile, Gale General OneFile, IEEE/IET Electronic Library, IngentaConnect Journals, Journals@Ovid Ovid Autoload, LexisNexis Advance, LexisNexis Scholastic Edition, SAGE Complete A-Z List, SAGE Journals Premier 2023, Single Journals, Scopus, Taylor and Francis Current Content Access, Taylor and Francis, Taylor and Francis Online, Social Sciences Citation Index (Web of Science), and Web of Science Core Collection



Software : Covidence

Reviewers : 2 (authors)

Inclusion criteria: students, higher education,
collaborative online international learning

Exclusion criteria: not higher education, not empirical,
theoretical and conceptual papers

Identify the research questions

Identify relevant studies

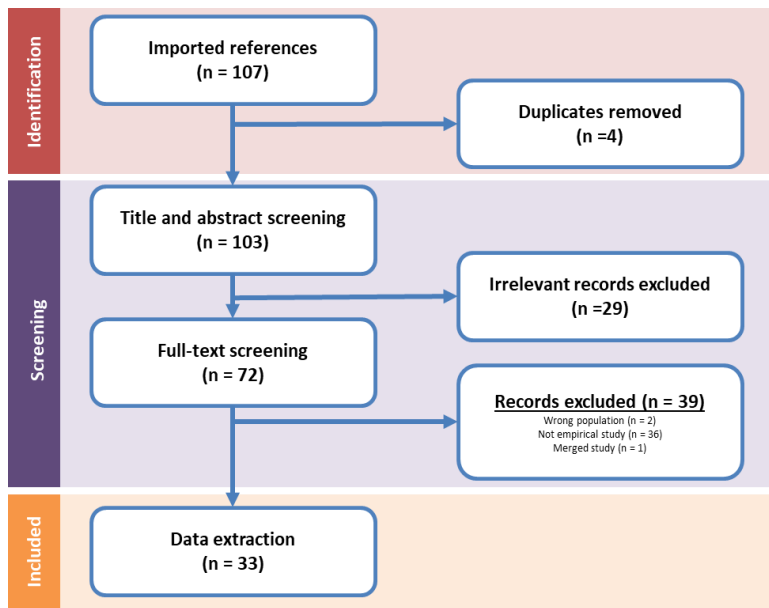
Study selection

Chart data

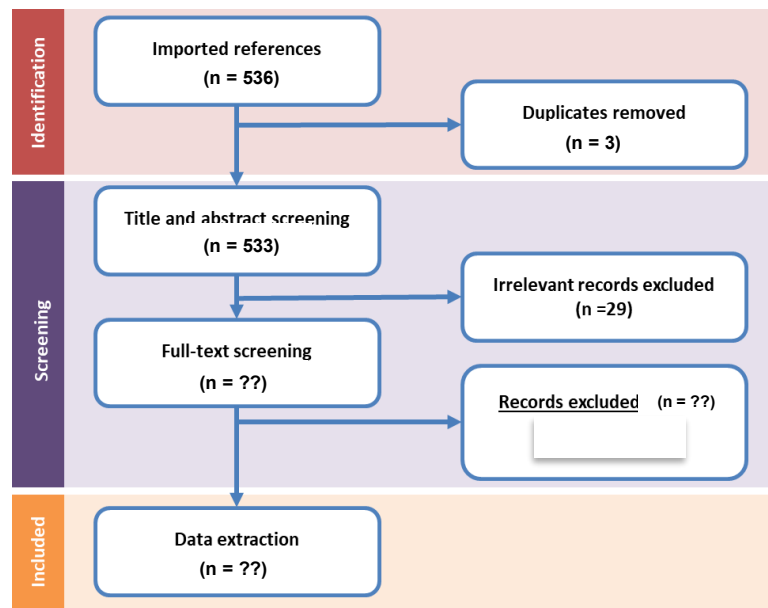
Collate, summarise and report results

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)

Phase 1: May 2023



Phase 2: Sep 2025

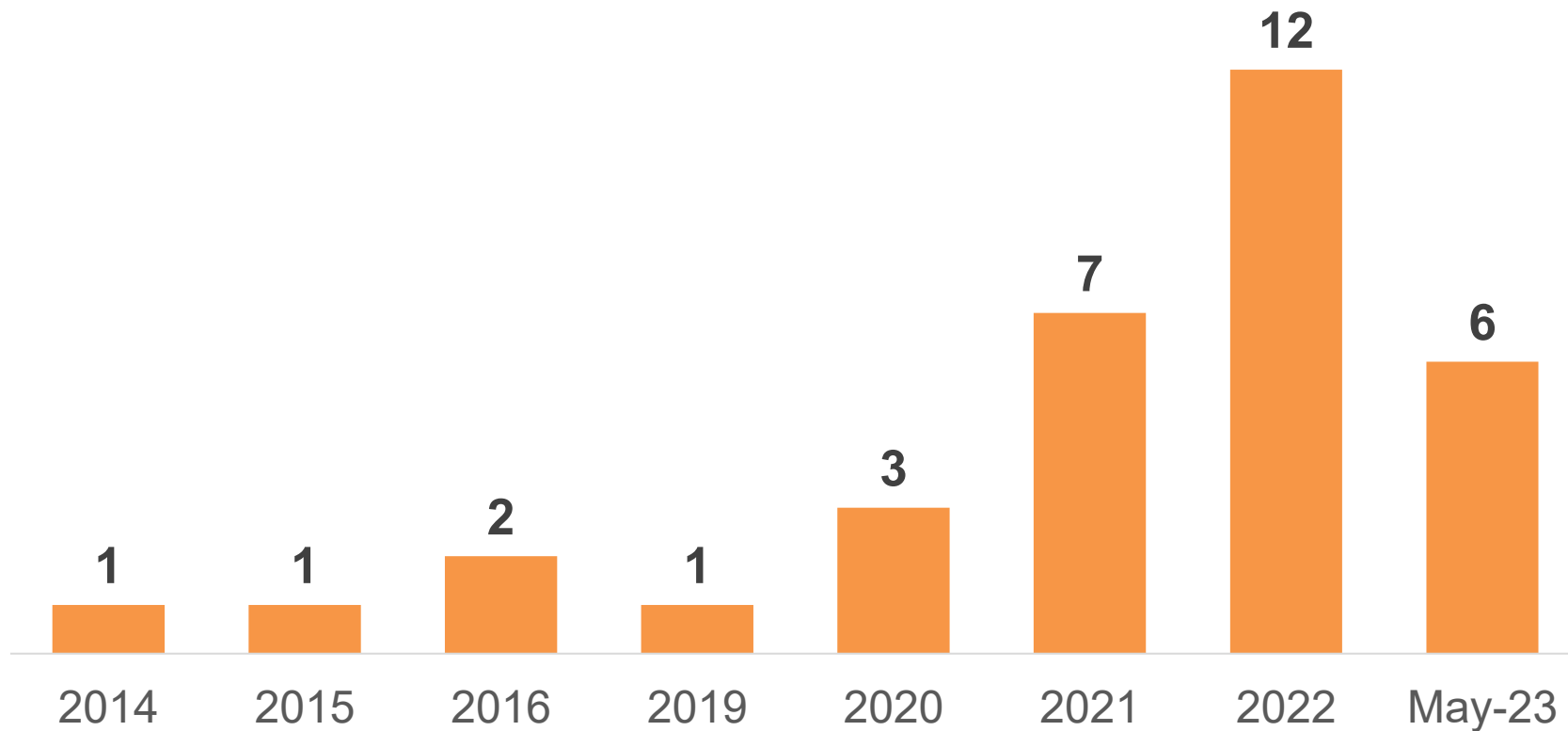




Nature and scope of COIL interventions in HE

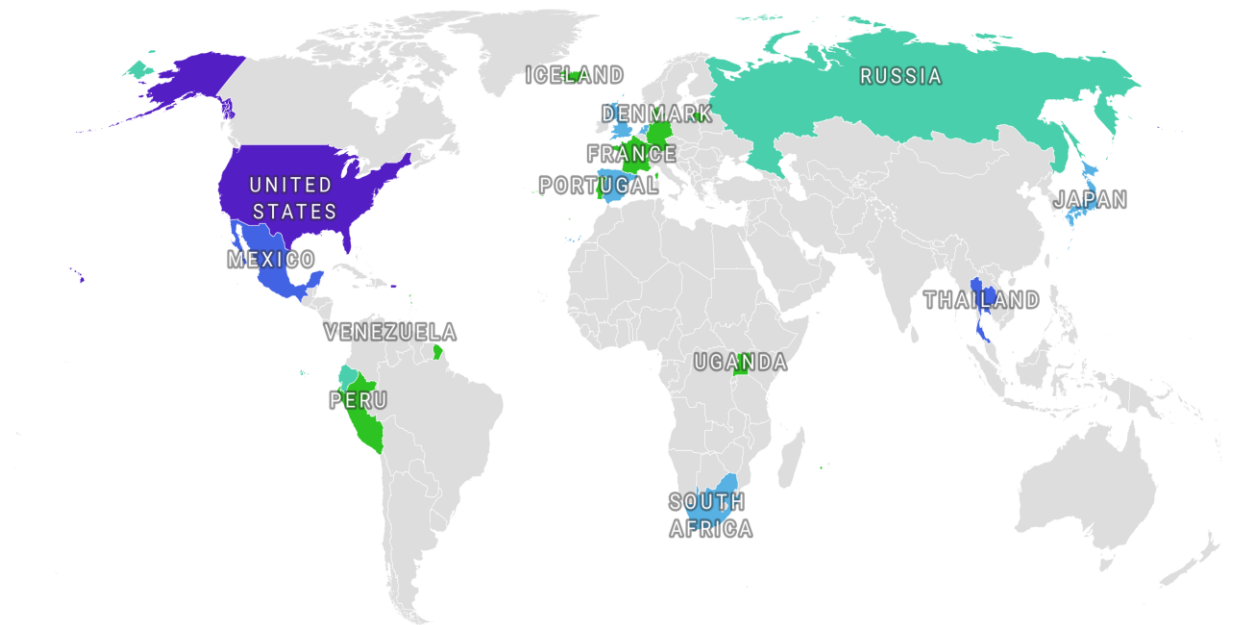
1. Year of Publications
2. Countries of COIL programmes
3. Disciplines of study
4. Student-related objectives
5. Student preparation for COIL
6. Evaluation of COIL programme
7. Use of learning theories to design and/or analyse COIL
8. Challenges

Year of Publications



COIL Programmes by Countries

■ < 2
 ■ 2-3
 ■ 3-5
 ■ 5-7
 ■ ≥ 7



Countries	Count
United States	25
Mexico	6
Thailand	5
Netherlands	3
Japan	3
South Africa	3
Spain	3
Ecuador	2
Scotland	2
Russia	2
United Kingdom	2
Lithuania	1
Venezuela	1
Iceland	1
Portugal	1
Germany	1
France	1
Peru	1
Denmark	1
Uganda	1

Disciplines of study

40 different courses across various disciplines

For example,

- Business
- Communications
- Language
- Health Sciences
- Natural Sciences
- Social Sciences

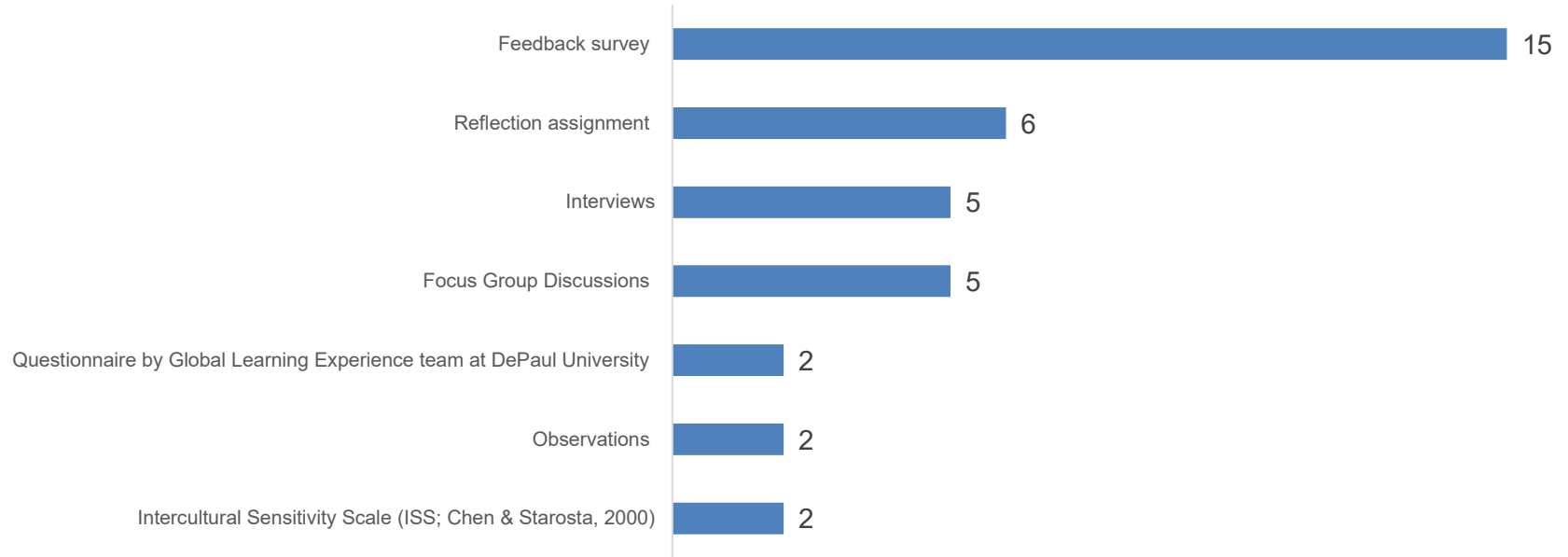
9 of 40 (22.5%) related to business/management



Preparation for intercultural interactions

1. Uploading self-introduction videos before engaging in formal tasks (3 studies)
2. Discussion of cultural dimensions, biases and ethnocentrism, cultural intelligence (CQ) module (5 studies)
3. All other COIL interventions did not prepare students for intercultural interactions before commencement of COIL.

Evaluation of COIL programmes



Other scales used in the programs include: Career Readiness Competencies (NACE, 2020); Cultural Intelligence Scale (CQS; Van Dyne et al., 2008), Multicultural Personality Questionnaire (MPQ; van der Zee & van Oudenhoven, 2000), Intercultural Competence Scale (ICS; Arasaratnam, 2009); Intercultural Development Inventory (IDI; Hammer, 2009), International Cross-cultural Experiential Learning Toolkit (Rhodes, 2010) and OECD Learning Compass 2030 Skills.



Use of Learning Theories in Studies

Only 8 out of 33 studies mentioned ...

Piaget's (1959) theory on constructivism and Vygotsky's (1978) theory on social constructivism (Gracia et al., 2023; Hackett et al., 2023; Naicker et al., 2022; Vahed, 2022)

Mezirow's (1996) transformative learning theory (Huang, 2023)

Kolb's (1984) experiential learning approaches and authentic experiences (McKinnon et al., 2015; Munoz-Escalona et al., 2022)

Garrison, Anderson and Archer's (2000) community of inquiry model (Wojenski, 2014)



Challenges

Theme	Features	Citations
Time and Scheduling	Time zone differences	(MacLeod et al., 2016; McKinnon et al., 2015; Withanachchi et al., 2022)
	Mismatch of semester time periods	(Garcia et al., 2023; Lausberg et al., 2021; Munoz-Escalona et al., 2022; Vahed & Levine, 2019)
	Difficulties in scheduling for team meetings	(Bragadóttir & Potter, 2019; Cotoman et al., 2022; Duffy et al., 2022; McKinnon et al., 2015; Mestre-Segarra & Ruiz-Garrido, 2022; Mundel, 2020; Swartz & Shrivastava, 2022; Vahed & Levine, 2019)
Technology & Logistics	Lack of institutional IT support	(Huang, 2023; McKinnon et al., 2015)
	Logistical difficulties	(Bragadóttir & Potter, 2019; Dyshko et al., 2021; Kayumova & Sadykova, 2016)
	Poor internet connectivity and/or accessibility	(Cotoman et al., 2022; Dyshko et al., 2021; Huang, 2023; Saffner & Aysbare, 2023; Swartz & Shrivastava, 2022; Wojenski, 2014)
	Technical difficulties with communication tools and/or platforms	(Huang, 2023; Kayumova & Sadykova, 2016; MacLeod et al., 2016; McKinnon et al., 2015; Munoz-Escalona et al., 2022; Naicker et al., 2022; Wojenski, 2014)
Course clarity	Lack of clarity on program and/or assignments	(Kayumova & Sadykova, 2016)
	Unable to meet deadlines	(House et al., 2022; Kayumova & Sadykova, 2016; MacLeod et al., 2016; Munoz-Escalona et al., 2022; Swartz & Shrivastava, 2022)
	Mismatch of course requirements and/or commitment required	(Bragadóttir & Potter, 2019; Duffy et al., 2022; Garcia et al., 2023; Lausberg et al., 2021; McKinnon et al., 2015; Mundel, 2020)
Teamwork	Lack of cohesion in teams	(Dyshko et al., 2021; Huang, 2023; Naicker et al., 2022; Suarez & Michalska Haduch, 2020; Vahed & Rodriguez, 2021)
	Lack of familiarity among team members	(Cotoman et al., 2022; Lausberg et al., 2021; Vahed & Rodriguez, 2021)
Participant Motivation	Lack of motivation and/or commitment	(Cotoman et al., 2022; Mestre-Segarra & Ruiz-Garrido, 2022)
	Unresponsive peers and/or lack of participation	(House et al., 2022; Kayumova & Sadykova, 2016; Lausberg et al., 2021; MacLeod et al., 2016; Mestre-Segarra & Ruiz-Garrido, 2022; Munoz-Escalona et al., 2022; Suarez & Michalska Haduch, 2020)
Culture	Cultural differences	(Bragadóttir & Potter, 2019; Cotoman et al., 2022; Duffy et al., 2022; Kayumova & Sadykova, 2016; Mundel, 2020; Swartz & Shrivastava, 2022; Vahed & Rodriguez, 2021; Withanachchi et al., 2022)
	Language barriers	(Bragadóttir & Potter, 2019; Cotoman et al., 2022; Duffy et al., 2022; Garcia et al., 2023; MacLeod et al., 2016; McKinnon et al., 2015; Naicker et al., 2022; West et al., 2022)

COIL: The Practice

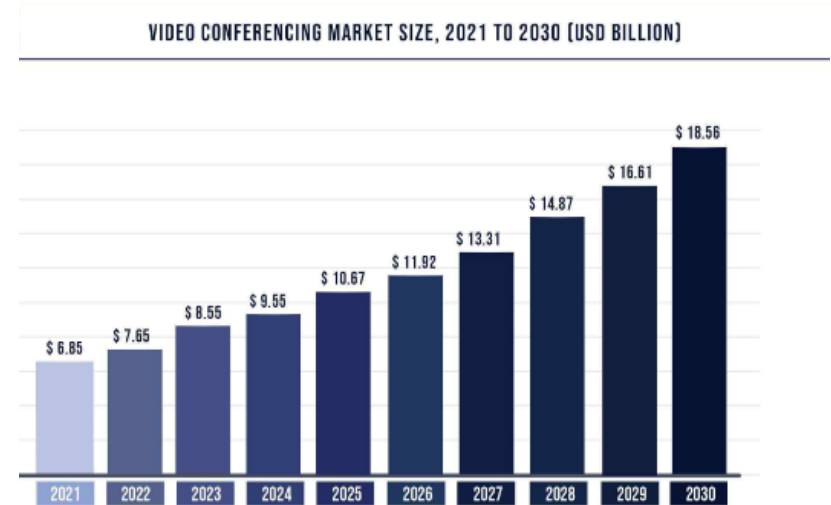
A tale of 3 cities ...

- *Nanyang Technological University, Singapore*
- *Amsterdam University of Applied Sciences, Netherlands*
- *Birla Institute of Technology and Science, India*

Rationale

1. To optimise the learning of cultural intelligence (CQ) both in theory and experientially – physical & virtual
2. To increase the opportunity for NTU students to learn with and from overseas students (vice versa).

The global conferencing market will double by 2030



Source: www.precedenceresearch.com

Deliverable: Cultural Podcast

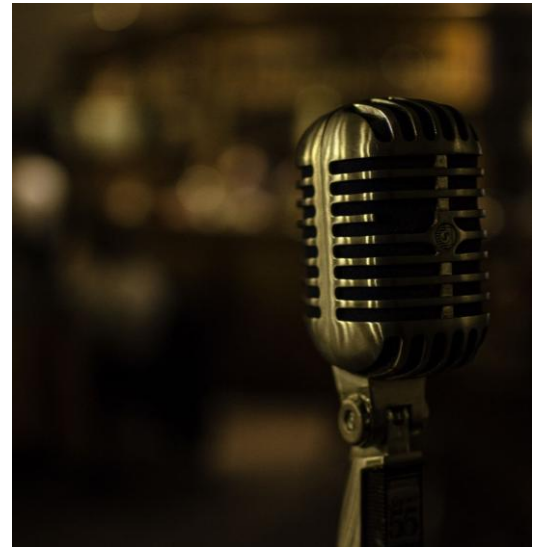
Create a podcast episode on the theme:

1. “Live, work, play in _____”.
2. Innovative Approaches Towards a Sustainable Society Across Culture

Be curious and creative.

Decide how you want to plan, produce, and record your episode.

Choose between audio or video .



Time commitment + milestones

Week	Description	What to prepare
1	Get to know	Plan some fun activities to get to know one another
2-3	Plan for the podcast	Topics to cover Discussion format Technology Recording date
4	Recording	Equipment
5	Prepare for final submission	Final audio/video recording Transcript Consent form

What we learnt ...

Consideration 1



SCHEDULING

Different academic calendars

- limited overlap
- different stages of learning
- coordination challenges



Hoo Hui Teng (Dr)

To:

Cc:

Dear Andreia,

Wonder if you have had the chance to check in with students in Group 14?

I think they have not started on their project yet because only one of the two students has established contact. Let me know if Jay is still active in the course or the group should proceed without him?

Thanks,
Hui-Teng

Consideration 2



ENGAGEMENT

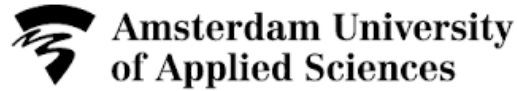
- how to motivate students to do the work
- what can they learn together that they can't learn alone

Consideration 3

Grade (weight)



ENGAGEMENT



30% of total coursework



10% of total coursework



40% of total coursework

Education Theories to Pedagogical Approaches

Experiential Learning (Kolb, 1984, 2014)

We use the Kolb's (1984, 2014) cycle of experiential learning – **concrete experience, reflective observation, abstract conceptualisation and active experimentation** as core features of learning. **COIL** is anchored on experiences which students need to **reflect upon in-action, on-action and for-action** (Schon, 1991). Students get to employ **transversal skills** to complex and real-world context.

Reflectivity Practice (Schon, 1991)

Reflective journaling is a key feature of the course and a useful tool for surfacing process-based situated learning through experiential learning model (Kolb, 1984, 2014), for reflecting in action, on action and for action (Schön, 1991). Students extract meaning from lived experiences through a mental re-visitation of the context (such as team experiences), distil insights gathered from reflection on experiences to plan and inform future actions.

Reflective Journal

(1) Pick **one critical incident** for you in learning about yourself in the multicultural team setting) that took place when interacting and working with your multicultural team.

(4) Based on the above reflection, list and elaborate **three implementation intentions** you would plan for future actions/interactions with others to better your CQ.



(2) Describe your **thoughts and feelings** during the incident and whether those thoughts and feelings are similar or different now.

(3) Delineate **key learning principles** you derive from the multicultural teamwork experience.

What our students said about COIL: Challenges + BENEFITS

"It was challenging to coordinate our schedules. I felt frustrated as I was motivated to complete this task so that I could move on to my other assignments. However, my group only required 2 meetings; first meeting involved introduction and planning while the second meeting was the recording. This made me realise that I am too focused on work and that I forget about "enjoying life". I managed to learn more about the Netherlands through their first-hand experience and I also felt that I could only acquire such knowledge through people-to-people interactions. As such, I appreciated this conversation as it offered me informative insights." (Student 1)

"As I reflect on my experiences in the COIL project, I realized that there were times when I could have handled cross-cultural situations better. However, I view these moments as opportunities for growth and improvement. By adopting a growth mindset, I can continuously improve my CQ knowledge, drive as well as strategy to become more effective in multicultural environments." (Student 2)

"This experience was eye opening. I have never been to Europe and I don't plan to go on exchange. I never knew people could be so different! Also, I didn't know Japanese students study in Amsterdam." (Student 3)



The background consists of several overlapping triangles. A large red triangle is on the left, pointing towards the bottom right. A white triangle is nested within the red one, also pointing towards the bottom right. The remaining space is filled with two shades of blue: a medium blue and a darker navy blue, which form larger triangular shapes.

Thank you