INPRO
INTERPROFESSIONALISM IN ACTION

ALIGNING INTERPROFESSIONAL EDUCATION AND COLLABORATION IN PRACTICE

using promising regional experiences for international exchange

INPRO PROCESS GUIDE FOR LECTURERS IN HIGHER EDUCATION INSTITUTIONS

plan and implement interprofessional learning

This is a guide for lecturers in higher education who train students and/or professionals in continuing education.
Health and social care professionals are targeted and the ICF framework is referred to as a common language.

The aim of this process guide is to support you when designing interprofessional, person-centred education.
This guide can serve you if you are looking for inspiration.
But also, if you already have a plan in mind, but want to learn more.

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Introduction

The pressure on the European healthcare system is constantly increasing: more elderly people and patients with chronic diseases in need of care, a diminishing work force, and healthcare costs which continue to rise. Several measures are proposed, such as reducing the length of stay in hospitals or rehabilitation centres by improving **interprofessional and person-centred collaboration** of health and social care professionals (Martin et al., 2010).

There is international agreement that students should experience **Interprofessional Education** (IPE) in their programmes. This could prepare them for advocating collaboration in their future field of work, to teamwork between disciplines, and enhance the quality of patient care.

Universities are **challenged** to create and maintain authentic IPE activities that are inclusive of all cohorts (van Diggele et al., 2020). Working hours and costs for involved lecturers, alignment of curricula of involved study programmes, and the provision of suitable locations are **considerations**, just to name a few (Handgraaf et al., 2016; Moran et al., 2015; O'Carroll et al., 2016; Olson & Bialocerkowski, 2014; Reeves et al., 2012; Sottas et al., 2013).

This **guide** cannot reduce barriers that may occur in the attempt to implement interprofessional education in study programmes. But by **sharing** recent **research, approaches, and materials, educators** shall be directed **through the process** to overcome possible barriers more easily.

Educational design research was conducted within the INPRO project to develop this guide. A scientific publication on the methodological details is prepared. Further information on the project, inspiring examples, results or reports can be found at: www.inproproject.eu

How to use this guide…

The chapters are designed in such a way that they can be read independently.

Are you looking for **inspiration on interprofessional education**?
→ Read the whole guide, starting **from the beginning**.

Do you already have a **plan in mind**,
but are not sure which **methods** to use? → Start with **chapter 5.**

Or have you already established interprofessional education,
but are unsure about the **impact** it has on the people involved?

→ **Chapter 8** will help you to implement
an **evaluation process** for your next intervention.

For further information about the **usage** of this guide, please watch the **introduction.**

Video: https://youtu.be/Zj70_IdvhD4

Prezi: INPRO Process Guide presentation

It **visualises** how you may use the roadmap to designing your educational journey.

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Definitions

- **Interprofessional Education (IPE)** can be defined as: "Occasions when members or students of two or more professions learn about, with and from each other, to improve collaboration, and the quality of care and services" (CAIPE) in (Khalili, H., Gilbert, J., Lising, D., MacMillan, K. M., Xyrichis, A., 2021; p6).

> ➢ **Interprofessional Education requires collaboration of students and educators**

There is common agreement that IPE interventions should facilitate **explicit interprofessional interactions** between participants. This interactivity promotes the development of competencies required for **effective collaboration** (Reeves et al., 2012).

- **Collaborative learning** can be defined as: "The process of two or more students working together to solve the group task by sharing their knowledge and thus building common ground and joint knowledge" (Roschelle, 1992).

Buring et al. (2009) expanded the definition of Interprofessional Education (IPE) given above with more details involving the **necessary collaboration** of the learners as well as educators:

- "**Interprofessional education** involves educators and learners from 2 or more health professions and their foundational disciplines **who jointly create and foster a collaborative learning environment."** (Buring et al., 2009, p. 2)

> ➢ **Interprofessional Education always aims to have an impact on interprofessional collaboration in practice and – by this – to improve the clients' health outcomes.**

- **Interprofessional Collaborative Practice (IPCP):** "IPCP in healthcare occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers, and communities to deliver the highest quality of care across settings" (WHO, 2010).

The two terms combined describe the whole scientific field of study (the guide's focus is IPE):

- **Interprofessional education and collaborative practice (IPECP):** "A term used to describe the total scientific field of study encompassing interprofessional education (IPE) and Interprofessional Collaborative Practice (IPCP)" (Khalili, H., Gilbert, J., Lising, D., MacMillan, K. M., Xyrichis, A., 2021; p. 6).

IPECP is acknowledged as an approach to optimise the quality and safety of healthcare across the world. The World Health Organization advocates for promoting, integrating, and sustaining collaborative person-centred care into healthcare education and practice (WHO, 2010).

> ➢ **Interprofessional education closely linked to the concept of person-centred care**

There is **no single agreed definition** of "person-centred care". The concept was introduced in the 1960s as an empathic approach when moving from a medical to a biopsychosocial model of health. It considers the whole care process and aims for healthcare quality. In the new century, a focus on

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partnership, enablement, and empowerment increased the importance of **sharing responsibility** and decisions in person-centred activities (Health Foundation, 2016).

Many definitions, operational models, and frameworks for patient/person-centred care and/or patient/person-centredness have been published over the past decades, with variations and different emphasis of four principles (Figure 1).

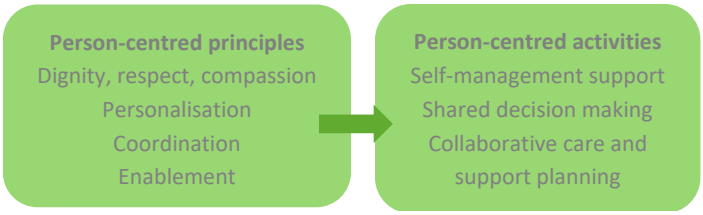

Figure 1: The relationship between person-centred principles and activities (adapted Collins, 2014)

Further definitions arise from considerations of the social context in alignment with the person's preferences or goals (Mills, 2017). In this context, interprofessional collaborative learning also includes the concept of reasoning:

- **Interprofessional collaborative reasoning**: "Health service users and providers from different professions transfer and transform knowledge to assess, judge and treat clinical data in a consensual approach." (Blondon et al., 2017; Edwards et al., 2004).

Summary:

Person-centred future healthcare requires interprofessional collaboration of health and social care professions. IPE aims to prepare health and social care students for future interprofessional collaborative practice.

IPE requires an educational strategy that facilitates the collaboration of students.

Persons' experiences of care are increasingly recognised as a dimension of quality.

➢ **The International Classification of Functioning, Disability and Health (ICF) can serve as a catalyst for interprofessional collaboration and education**

The International Classification of Functioning and Disability (ICF) of the WHO serves across disciplines and countries as a uniform and standardised language for describing a person's functional health status, disability, social impairment, and relevant environmental factors. With the ICF, the bio-psycho-social aspects of disease consequences can be systematically recorded, taking contextual factors into account. In contrast to the classification system of the ICD 10, the ICF does not provide a framework to define disease, but to define factors influencing the functioning and disabilities of a person – with or without diagnosis – in daily activities and participation in society.

Based on the Bio-Psycho-Social Model (Figure 2), the ICF provides a framework and standardised terminology (including a coding system) to collect and structure information of a person and its environment to allow health professionals to get a holistic view of the person. The connecting arrows in the model indicate the interlinkages between the health determining factors.

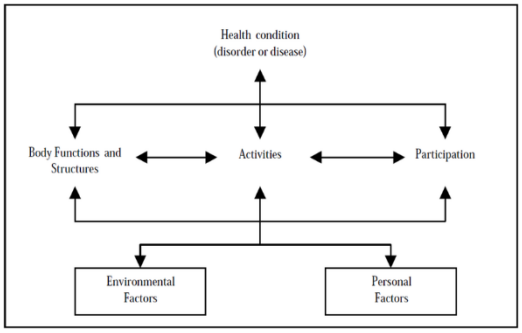

Figure 2: Bio-Psycho-Social Model (WHO, 2001) (https://www.who.int/publications/m/item/how-to-use-the-icf---a-practical-manual-for-using-the-international-classification-of-functioning-disability-and-health, p18)

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1. Needs

1.1. Need for Interprofessional Education (IPE)

In a review on health education conducted by the Lancet Global Independent Commission in 2010, the commission concluded that the training and education of health professionals is producing graduates who are not sufficiently prepared to deal with current healthcare requirements (Frenk et al., 2010). The problems identified included, amongst others, poor teamwork and the tendency of the various professions to act independently from each other. In addition, a lack of continuity of care was identified as impacting negatively on the health of patients. In order to enhance **collaborative** and **non-hierarchical relationships** in **effective teams**, the Commission identified the **need for implementing interprofessional education** in the **curricula** of health professionals (Frenk et al., 2010).

Reported effects of Interprofessional Education (IPE):

- Improvement of attitudes/perceptions of participating health professions towards each other (Reeves et al., 2016)
- acquisition of knowledge/skills necessary for collaborative practice (Reeves et al., 2016)
- enhancement of collaboration, cohesion and communication in pursuit of ideal client results (Ojelabi et al., 2022)
- reduction of rigid professional perspectives (Ojelabi et al., 2022)

1.2. Need for Guidance on IPE Implementation in Higher Education Institutions

Implementing IPE in Higher Education Institutions (HEI) can be challenging in various aspects:

On an organisational level:

- large numbers of students and unequal distribution (e.g. high numbers of nursing or medical students and small numbers of occupational therapy students)
- availability of suitable locations
- different professional accreditation requirements
- inflexible curricula
- approval from each of the participating profession's regulatory bodies and provision of (motivated) lecturers
- agreement over financial arrangements concerning different professional or departmental budgets
- hierarchies and needs for coordinating lecturers to take over a leading/organising role

On teaching/facilitating level:

- lack of communication skills (especially in international online settings)
- differing professional cultures and teaching cultures
- traditional hierarchies and dominating groups (i.e. by number and/or profession)
- 'role blurring', confusion over boundaries and responsibilities (of teachers and/or students) concerning the role shift of lecturers/tutors from teaching to coaching (a video discussion)

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Literature recommendations on definitions, trends, effects, and advantages of IPECP:

Khalili, H., Gilbert, J., Lising, D., MacMillan, K., Maxwell, B., Xyrichis, A. (2019). *Proposed lexicon for the interprofessional field.* A joint publication by Interprofessional Research.Global, & Interprofessional.Global. Retrieved from https://interprofessionalresearch.global/wp-content/uploads/2021/10/InterprofessionalResearch.Global-IPECP-Lexicon-2021-Reprint.pdf

Buring, S. M., Bhushan, A., Broeseker, A., Conway, S., Duncan-Hewitt, W., Hansen, L., & Westberg, S. (2009). Interprofessional Education: Definitions, Student Competencies, and Guidelines for Implementation. *American Journal of Pharmaceutical Education*, 73(4):59. https://doi.org/10.5688/aj730459

Abu-Rish, E., Kim, S., Choe, L., Varpio, L., Malik, E., White, A. A., Craddick, K., Blondon, K., Robins, L., Nagasawa, P., Thigpen, A., Chen, L. L., Rich, J., Zierler, B. (2012). Current trends in interprofessional education of health sciences students: a literature review. *J Interprof Care,* 26(6):444-51. doi: 10.3109/13561820.2012.715604

Reeves, S., Perrier, L., Goldman, J., Freeth, D., Zwarenstein, M. (2013). Interprofessional education: effects on professional practice and healthcare outcomes (update). *Cochrane Database Syst Rev*, 2013(3):CD002213. doi: 10.1002/14651858.CD002213.pub3

Reeves, S., Zwarenstein, M., Goldman, J., Barr, H., Freeth, D., Koppel, I., Hammick, M. (2010). The effectiveness of interprofessional education: key findings from a new systematic review. *Journal of Interprofessional Care,* 24, 230–241. doi: 10.3109/13561820903163405

Olson, R., Bialocerkowski, A. (2014). Interprofessional education in allied health: A systematic review. *Medical Education*, 48(3), 236–246. https://doi.org/10.1111/medu.12290

van Diggele C, Roberts C, Burgess A, Mellis C. (2020). Interprofessional education: tips for design and implementation. *BMC Med Educ*, 3;20(Suppl 2):455. doi: 10.1186/s12909-020-02286-z

D'Amour, D., Ferrada-Videla, M., San Martin Rodriguez, L., Beaulieu, M. D. (2005). The conceptual basis for interprofessional collaboration: core concepts and theoretical frameworks. *Journal of Interprofessional Care*, 19(Suppl 1):116-31. doi: 10.1080/13561820500082529

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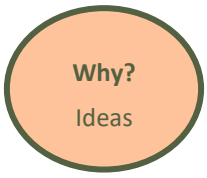

2. Ideas

Find here approaches for education on person/patient-centred. More extensive programmes (i.e. over several months within preclinical community-based or service-learning initiatives) are also often described in literature but are not featured in this guide. For more intensive programmes, a guide on how to implement and organise an interprofessional students learning ward is provided by INPRO too.

2.1. Examples of IPECP in INPRO

Several types of IPECP activities were conducted and identified within the INPRO project.

All are shown as inspiring didactics under www.inproproject.eu. This guide focuses on IPE **courses** while other INPRO guides focus on IPCP and the linkage between IPE and IPCP (learning ward).

2.1.1. IPE in Higher Education Institutions (National, Face-to-Face Setting)

Example:

JAMK case days

PROMISE / IPROL St. Pölten UAS

Possible benefits of a national setting

- No language barrier, no differences in the healthcare system.
  Deeper understanding of other team members' process is possible.
- Main focus on interprofessional collaboration within the healthcare system known to all students (chance to reflect on it from an interprofessional point of view).
- Chance to get into deep discussions about opportunities and needs for interprofessional collaboration in future work settings.
- Learn and apply new teaching approaches.
- Chance to co-teach with other lecturers.

2.1.2. IPE in Cooperation with a Practice/Workplace Partner

Working closely with a workplace partner on an international level might be challenging (yet possible) if you do not already have well established connections.

Therefore, we see this type of learning intervention more on a national level.

Examples:
INPRO Prevention with school children- example for working interprofessionally with real persons

INPRO practice rehabilitation in Moorheilbad Harbach - Example for cooperating with the interprofessional workplace

Possible benefits of workplace settings:

- Establishing connections between HEI and workplace,
  aiming to overcome the theory-practice gap between workplace and HEI

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- Chance of a practical learning experience for students and lecturers
- Chance to get a realistic picture of interprofessional collaboration from the field
- Chance for students and lecturers to interact with clients

2.1.3. IPE with International Higher Education Institutions (online)

Example:
INPRO International and interprofessional education with the INPRO projects partners in an online setting

Possible benefits of international settings:

- Contributes to internationalisation of study programmes and HEIs
- Chance to learn and apply teaching approaches inspired by partner universities
- Co-teach with other lecturers (from different countries and professions)
- Establish partnerships with international universities
- Chance to compare (inter-)professional approaches in different countries
- Chance to reflect on different healthcare systems
- Chance to improve language skills, contribute to internationalisation

This example involved client actors and the ICF classification was utilised. Details on the planning and implementation are provided in the next chapters. Aspects of international education, online, and student-driven interaction also apply (Ruiz et al., 2013).

➢ **Use the INPRO didactics as inspiration to design your IPE activity.**

2.2. Educational Strategies for IPE

Interprofessional educational strategies that enable interactivity and collaboration to a variable extent can be structured as indicated below (Barr, 1996; Sottas, Kissmann, Brügger, 2016):

- **Activity-based learning** (collaborative project work, problem-based learning, case-based learning, collaborative research)
- **Exchange-based learning** (debates, games, case discussion, problem-solving, impromptu role play)
- **Practice-based learning** (practical interprofessional training in a realistic future field of work)
- **Observation-based learning** (job shadowing, observation of interprofessional activities in the field of work)
- **Simulation-based learning** (complex prepared role play, skill training, simulation with actors or dummies)
- **Theory-based learning** (basic lectures on concepts and evidence of interprofessional work and education, preliminary exercise on normative dimension)

Different learning methods can be used based on these strategies. A very frequently used approach is small group discussion and problem-based learning in guided interprofessional student groups (Abu-Rish et al., 2012), which is also mainly featured in this guide. By collaboratively addressing patient scenarios, this setting offers students the opportunity to learn collaboratively and interprofessionally. This method could be categorised as activity- or exchanged-based learning.

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Learning strategies might as well be combined, like *simulation-based learning* with preparational *theory-based learning* or *observation-based learning*. Check out chapter 5 for more inspiration.

2.3. Educational Strategies for Person-Centred Care

Educational approaches to teach person/patient-centered care, usually also involve case or problem-based learning strategies making use of standardised or simulated patient cases. Often these approaches are associated with communications skills training including role plays, group discussions, and/or patient encounters (Morgan et al., 2019).

Collaborative interprofessional learning provides opportunities for students to overcome professional boundaries by repeatedly shifting the focus of the therapy planning on the person's needs. By taking the perspectives of other professions into consideration, a more holistic approach to the person's needs is possible. Students (and educators) have the opportunity to transition from a predominantly profession-centric perspective on healthcare to a transformative practice shift of working in an interprofessional team with a patient. To make this "broadening of perspectives" possible, a learning environment is required, where students – just like the patients they are being trained to take care of - receive emotional support, feel appreciated, and recognised as individuals (Morgan et al., 2019).

A necessity to provide this learning environment, and therefore a key component of successful patient-centered educational endeavors, is to provide opportunities for reflection. Critical reflection may relate to the content of role-plays, to the content of patient care taped recordings, or to content of direct observations on the part of coaches (Lévesque et al., 2013).

In INPRO a person/patient-centred approach was realised by

1. involving real patients in the design process for the learning interventions,
2. providing the interprofessional student teams with case examples combined with the main task to interprofessionally focus on the person's needs as well as the additional opportunity to meet the person (actor) and practice shared decision making in an interprofessional setting. (example Pre-Pilot 21 and pilot 2022),
3. letting interprofessional student teams meet real persons and – by applying adequate communication strategies and language (for children) – support them to strengthen their health-related resources (example meeting pupils).
4. Reflection opportunities were provided to students as well as lecturers.

Literature recommendations on person/patient-centred care:

Mead, N., Bower, P. (2000). Patient-centredness: a conceptual framework and review of the empirical literature. *Soc Sci Med*, 51(7):1087-110. https://doi.org/10.1016/s0277-9536(00)00098-8

Mitchell, K. R., Brassil, K. J., Rodriguez, S. A., Tsai, E., Fujimoto, K., Krause, K. J., Shay, L.A., Springer, A. E. (2020). Operationalizing patient-centered cancer care: A systematic review and synthesis of the qualitative literature on cancer patients' needs, values, and preferences. *Psychooncology*, 29(11):1723-33. https://doi.org/10.1002/pon.5500

Scholl, I., Zill, J. M., Härter, M., Dirmaier, J. (2014) An Integrative Model of Patient-Centeredness – A Systematic Review and Concept Analysis. *PLoS ONE*, 9(9):e107828. https://doi.org/10.1371/journal.pone.0107828

Rathert, C., Wyrwich, M. D., Boren, S. A. (2013). Patient-centered care and outcomes: a systematic review of the literature. *Med Care Res Rev*, 70(4):351-79. https://doi.org/10.1177/1077558712465774

Street, R. I. (2017). The many "Disguises" of patient-centered communication: Problems of conceptualization and measurement. *Patient Education and Counselling*, 100(11):2131-4. https://doi.org/10.1016/j.pec.2017.05.008

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Grover, S., Fitzpatrick, A., Azim, F. T., Ariza-Vega, P., Bellwood, P., Burns, J., Burton, E., Fleig, L., Clemson, L., Hoppmann, C. A., Madden, K. M., Price, M., Langford, D., Ashe, M. C. (2022). Defining and implementing patient-centered care: An umbrella review. *Patient Education and Counseling*, 105(7):1679-1688. https://doi.org/10.1016/j.pec.2021.11.004

Eijkelboom, C., Brouwers, M., Frenkel, J., van Gurp, P., Jaarsma, D., de Jonge, R., Koksma, J., Mulder, D., Schaafsma, E., Sehlbach, C., Warmenhoven, F., Willemen, A., de la Croix, A. (2023). Twelve tips for patient involvement in health professions education. *Patient Education and Counseling*, 106:92-7. https://doi.org/10.1016/j.pec.2022.09.016

2.4. Educational Strategies to Use ICF as a Catalyst for Interprofessional Education and Collaborative Practice

ICF can facilitate IPECP because its application requires learners to:

- To get a holistic view of the patient
- Live up to this holistic approach by involving other professions (clients' needs will often not fit the scope of only one profession)
- Act (more) person-centered by embracing the complexity of circumstances affecting the person's health related functioning
- Apply the ICF structure and terminology as an interprofessional language avoiding (uni)professional jargon
- Aim for interprofessional therapy goals based on persons' needs and requirements for functioning

ICF-based materials facilitate interprofessional collaborative reasoning of data, e.g. during assessment, goal setting, planning or documentation, even if not all are familiar with ICF.

INPRO example: The ICF Assessment Template based on the Bio-Psycho-Social Model was used for interprofessional collaborative reasoning. For collaborative goals / shared decisions, a more comprehensive ICF Form based on the ICF Discharge and Referral Sheet was used.

From our experience, the use of the bio-psycho-social model is a low-threshold-tool. Lecturers and students who were less experienced with ICF received materials to prepare. However, it must be considered, that professions not familiar with the use of ICF will not be able reach the same understanding of ICF with the provided self-learning materials as professions, who use ICF in their daily practice. To prevent possible domination of those professions in the interprofessional collaboration, make sure to use ICF based materials that can be used without elaborate understanding of the ICF structure.

- There are various online ICF materials. An ICF e-learning course is provided by the WHO in many languages and helps to get a good basic understanding (~1 ECTS).
- A basic course and further advanced ICF materials were identified and developed in INPRO
- More comprehensive materials exist on the Website of the ICF Research-Branch

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2.5. Educational Strategies for the Appropriate Timing

Duration and Dose

There is no general recommendation on duration and dose, as this depends on the goals of the intervention. IPE activities that last only several hours are considered as too brief (Olson & Bialocerkowski, 2014). It is not likely that students collaborate in such a limited timeframe.

Research indicates that most IPE activities last between one and five days (Reeves et al., 2012). Several inspiring IPE didactics identified in INPRO take place over one whole semester (3-5 months), while most examples award 1 to 3 ECTS to students (example).

There are increasing examples of intense and long period IPE activities in collaboration with workplace institutions like the student-run interprofessional learning ward. These are very promising for IPE but require other organisational efforts. Check out the implementation guide.

For this Process Guide, we focus on IPE activities that **last 2-4 days, with 1-3 ECTS** awarded to students because interventions of this size can be implemented more easily in the curriculum of a study programme than longer and more intense interventions, as for example IPCIHC (Tsakitzidis, 2015).

When to deliver IPE to students?

There is also no general recommendation on the most advantageous educational status of students participating in IPE interventions as this also depends on the learning outcomes aimed for. Reeves at al. (2012) suggest an initial start of IPE interventions in early stages of studies to prepare students for collaborative practice, while in later stages early learning experiences could be reinforced to further support interprofessional collaboration in practice within specific contexts of care. Olson and Bialocerkowski (2014) list “students with limited experience or understanding of their professional role” as one of several barriers to successful IPE.

In the INPRO examples, only students in their last year of studies with experience in patient interaction participated.

Literature recommendations:

Olson, R., Bialocerkowski, A. (2014). Interprofessional education in allied health: a systematic review. *Medical Education*, 48(3):236-46. https://doi.org/10.1111/medu.12290

Stadick, J. L. (2020). The relationship between interprofessional education and health care professional's attitudes towards teamwork and interprofessional collaborative competencies. *Journal of Interprofessional Education & Practice*, 19(100320)1-7. https://doi.org/10.1016/j.xjep.2020.100320

Reeves, S., Tassone, M., Parker, K., Wagner, S. J., Simmons, B. (2012). Interprofessional education: an overview of key developments in the past three decades. *Work*, 41(3):233-45. https://doi.org/10.3233/WOR-2

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2.6. Educational Strategies to Build Interprofessional Student Teams

As mentioned before, the learning experience for students participating in an IPE intervention will improve when students from participating professions have the chance to collaborate in small groups. Therefore, decide on a group size you prefer within the framework of the planning process. This will depend on your didactical choice and on institutional factors such as the number of available lecturers and students from each participating study programme.

What to consider:

- Number: In general, IPE programmes report group sizes between five and 10 learners. For effective learning, Reeves et al. (2012) recommend a group size of eight to ten members. INPRO educators most frequently named eight members as the ideal group size.
- "Balance" of professions through an equal mix of professions: a group skewed too heavily in favour of one profession can inhibit interaction, as the larger professional group can dominate. This is not only connected with the number of students from each profession but it can also be connected with professions as such, as perceived differences in power, status, and poor participation rates among certain health professions have been reported as challenges in IPE Interventions (Olson & Bialocerkowski, 2014).

An argument in favour of this situation is, that in their future working environment, students will face a similar situation. Generally, in healthcare institutions, social workers, and dietitians – if at all – are represented in much smaller numbers than nurses.

However, it can be intimidating for students from those professions to be the only ones in their interprofessional group. For the learning process of students, it is beneficial to also have the chance to exchange with students from the same profession.

Therefore, inspired by IPCIHC (Tsakitzidis, 2015), monoprofessional exchange sessions were offered in the INPRO learning interventions where students had the opportunity to discuss with other students and educators from their own profession.

Link: **Find here some advice and ideas on group(size) calculation**

Reflect on the following questions:

- What is your personal goal implementing IPE at your university?
- Should IPE be implemented in one module or horizontally in study curricula?
- Who (university, programme, health care institution...) do you aim to collaborate with?
- How many students/professions would you like to collaborate with?
- What future skills / strategies for education of your university influence your aim?

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3. Planning Group – Who Needs to be Involved and How?

Here you find information on professions and persons whose involvement should be considered in the organising/planning process of IPE.

This also includes exemplary calculation of working hours.

Who?
Planning IPE in Higher

3.1. Challenges of IPE Interventions

Interprofessional Education by nature will include more than one profession and thus more than one lecturer. Therefore, in your first planning activities think thoroughly who could / should and needs to be involved in organising your learning intervention.

Certainly, the first development and implementation of an IPE activity will take most time and effort. Working hours will decrease with the experience gained throughout the years.

Therefore, if you do plan for regular interventions as part of the study programmes' curriculum, and not only for a single event, invest time in design thinking, and involve all stakeholders.

Challenges that have to be considered in general:

Financing	IPE activities require additional coordination and planning time as well as multiple lecturers teaching in the IPE intervention at the same time. It is important that there is mutual agreement between all partcipating superior authorities that additional expenditures are accepted. Find out here how working hours were calculated for the INPRO Learning Interventions
Time	IPE interventions – due to the involvement of other professions, divisions, etc. - need a certain lead time. This time varies depending on the setting, but for (international) learning interventions in higher education institutions you should start your planning at least one year before the intervention takes place: Timeline for Planning and Implementing IPE
Effort	IPE interventions – just like other projects that involve the cooperation of many individuals – need to be organised and coordinated. Other Departments and Universities might have different demands than the systems you are used to, which makes coordination mor complicated. Prepare yourself for an exhausting and yet so rewarding experience!

Figure 3: Challenges to consider when implementing IPE interventions

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3.2. Who Needs to Be Involved in the Planning Process

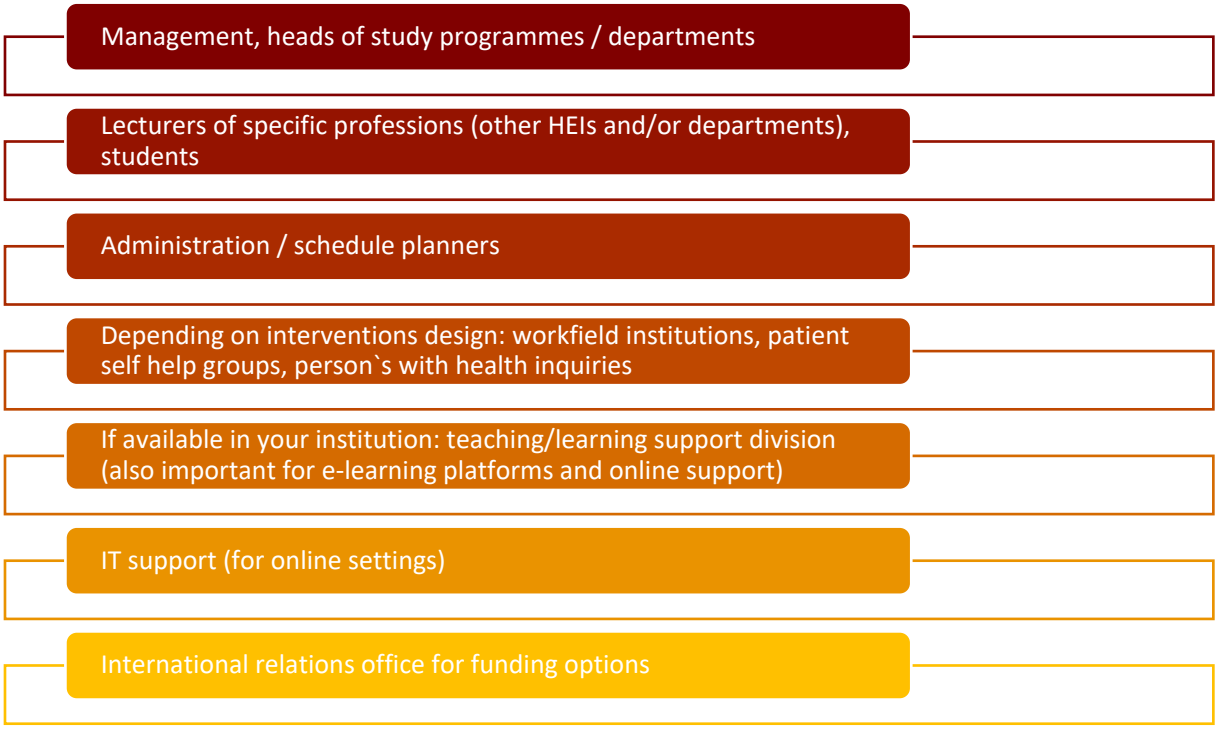

Figure 4: Stakeholders that could be involved in IPE planning

3.2.1. Management/Heads of Study Programmes: Need for Approval and Confirmation for IPE Activities

Make sure you have the approvement of your superiors for your IPE activities.

"Organizational support in the form of senior management commitment is regarded as a key component to helping planners navigate their way through this complex range of institutional inhibitors such as funding, staff, and physical resources" (Reeves et al 2007; p. 233).

How to involve your superiors in the IPE implementation? Find some ideas here.

3.2.2. Lecturers: Find Enthusiastic IPE Facilitators

Literature and our INPRO research experience show some beneficial **characteristics for lecturers** involved in IPE:

- Lecturers in IPE interventions need abilities to facilitate small group learning, manage / resolve conflict as well as knowledge of health and social care professions, the health professionals' relationships and an understanding of current professional practice issues (Holland, 2002; Reeves et al., 2007)
- **INPRO survey example: Teaching personalities are required that** have affinity to interprofessional collaboration in the workplace and / or education, *"cultural sensitivity", "flexible and creative attitude"* and an *„open mind and attitude toward other professions".*

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It seems important that lecturers are ready to embrace their role as coaches within IPE: **"***The IP-teacher is an empathic communicator … a collaborator, competent in student-based learning coaching techniques, entrepreneur (sees opportunities).”* Interprofessional experience, knowledge of IPE, interprofessional collaboration, communication models."

- For **international IPE interventions**, English skills as well as interest in international exchange by involved lecturers will be beneficial.

Include all professions: From an organisational point of view, it is beneficial to have at least one lecturer of each participating profession in the IPE intervention. Students feel more secure if a coach of their profession is present. It is desirable that IPE development, including the preparation of the assignment and patient cases, takes place in an interprofessional manner.

Form a core team for coordination: As the coordinator of an IPE intervention, you should ensure that regular work meetings with at least one lecturer of each participating study programme take place. With this **"core team"**, content, and methods applied (Chapter 5) can be planned interprofessionally and thoroughly. For large interventions that require more than one lecturer from each participating study programme, additional lecturers can be involved at a later stage (close to the intervention) who are not involved in the planning but just receive clear instruction on what is expected of them.

Provide training workshops: Guiding small groups of students in their interprofessional collaboration requires a paradigm shift from a traditional and hierarchical role understanding of the teacher being the person that solely plans and controls content, progression, and results of the learning process towards a more flexible, open coaching process, in which students have the opportunity and the requirement to participate actively as members of a team. Therefore, training meetings or workshops for all participating lecturers should be provided (see Chapter 7, Train the trainer).

INPRO example*:*

- Core team from beginning: monthly 2-hour meetings in the planning phase
- Three to two months prior to the IPE intervention, involvement of new lecturers (two to three training workshops of 2-3 hours / pairing them in their first IPE)

Literature recommendations for IPE Facilitators:

Rosengren, K., Danielsson, L., Jansson, I., Wallengren, C. (2018). Development of an Academic Course in Person-Centred Care for Students in Higher Education: Teachers' Perspectives. *Education Research International*, 9854169, 9 pages. https://doi.org/10.1155/2018/9854169

Ruiz, M. G., Ezer, H., & Purden, M. (2013). Exploring the nature of facilitating interprofessional learning: Findings from an exploratory study. *Journal of Interprofessional Care*, 27(6), 489–495. https://doi.org/10.3109/13561820.2013.811640

3.2.3. Administration and Schedule Planners:

As soon as the rough concept of the IPE activity is clear, administrational staff and schedule planners need to be involved. Highlighted barriers to IPE are organisational issues such as:

- timetabling difficulties across universities,
- groups with different curricula,
- imbalances in student numbers and
- difficulties finding suitable rooms (Reeves et al. 2007, Pirrie et al. 1998).

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One of the first steps for an IPE activity is to find a suitable timeslot in which all students are available (no exams, holidays, internships, etc.) and to obtain the approval of superiors.

Check with your administrational staff how early information is needed on:

- the timeslot when (e.g. for planning the IPE activity first / blocking a specific week),
- which students are participating (including semester and study programme),
- for how many teaching units in which lecture (and possible grading modalities).
    - Number and timeslots of lecturers needed,
    - Rooms needed/online meeting rooms,
    - Use of e-learning platform (possibly access to external students / lecturers),
    - Payment modalities for possibly needed external stakeholders,
    - Possibly the specific number and interprofessional allocation of students.

Joint meetings of planners, administrators, and coordinating educators of all involved study programmes may help, depending on the size and duration of the IPE activity. The larger, the more will planners and administration need to arrange interprofessional groups and lecturers.

Find here some ideas on how to calculate your interprofessional group size.

Note: If you cooperate with other universities or even departments at your institution, be aware that the operating schedule of the planners may differ when information is needed.
International collaboration will always require flexibility from the involved persons and you might be confronted with short-notice changes.

Bear in mind: Don't close grouping calculations early, **you can always vary the group size.** It is, however, more complicated to change the number of groups.

Literature recommendations on organisational matters:

Health Professions Accreditors Collaborative. (2019). *Guidance on developing quality interprofessional education for the health professions.* Chicago, IL: Health Professions Accreditors Collaborative. Available from: https://healthprofessionsaccreditors.org/ipe-guidance

Reeves, S., Goldman, J., & Oandasan, I. (2007). Key factors in planning and implementing interprofessional education in health care settings. *Journal of Allied Health*, 36(4), 231–235.

Vink, C., de Greef, L., Post, G., & Wenting, L. (2017). *Designing interdisciplinary education: A practical handbook for university teachers.* Amsterdam University Press.

3.2.4. IT and/or E-Learning Support

For (international) online IPE activities, an online communication/meeting tool and e-learning platform are required to provide students with all materials and online collaboration facilities.

Check which of these are required and available as well as how external persons can access. Make sure to contact IT support as soon as you have a clear idea on what you need.

Get an idea how much time IT support needs in order to work on your request. You might also ask for technical support during the intervention (especially for large groups).

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In INPRO international online IPE, MS Teams was used for online meetings and the moodle platform of the St. Pölten UAS was used as an e-learning platform (access for external partners to the moodle platform had to be requested and was processed by IT support).

Find here information on how to create online meeting rooms for parallel MS Teams groups.

Online collaboration training for educators is provided by the ERASMUS+ project EDUdig.

3.2.5. International Office

For international learning interventions that include traveling, there might be funding options for short mobility programmes (i.e. ERASMUS Blended Intensive Study Programmes).

Useful materials are provided by the finalised ERASMUS+ project COPILOT - Cooperative Online Peer-assisted Learning in Occupational Therapy, available here (Erasmus+, 2021).

3.2.6. Workfield Partners

For the students' learning experience, a more practical educational approach may be beneficial. A collaboration with workplace partners could start if professionals participate:

- as audience e.g. for final presentations of student teams
- for coaching one of the interprofessional student groups as IPE facilitator

You can also turn this around and send students to the workplace (at smaller scale) to:

- …work with real persons (INPRO practice in prevention) or roleplay by professional trainers
- …work with the interprofessional team (see INPRO practice in rehabilitation)
- ...experience an interprofessional internship or a student run learning ward

3.2.7. Persons with Health Inquiries (Patients)

Decide if and to which extent you would like to include real persons with health inquiries in your IPE intervention and/or the planning process. Consider at this point the INPRO "Journey of the person" in regard to his / her needs and expectations on interprofessional person-centred care. You can take a look at an interactive visualisation by INPRO.

Learn how persons with health inquiries were included in the INPRO IPE interventions.

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4. Learning Outcomes and Competencies – What?

In order to decide on a didactical concept and the methods to apply, it is important to think about the learning outcomes and competencies you would like your learners to achieve. Here you will find an overview of literature on learning outcomes and competencies for IPECP interventions.

Note: In general, a **competency can be defined as** a *general* statement that describes the desired knowledge, skills, and behaviours of a student graduating from a programme (or completing a course). Competencies commonly define the applied skills and knowledge that enable people to successfully perform in professional, educational, and other life contexts.
A learning **outcome is defined as a** very *specific* statement that describes exactly what a student will be able to do in some measurable way. There may be more than one measurable outcome defined for a given competency (Hartel & Foegeding, 2004).

4.1. Examples of IPECP Competency Frameworks

You can pick from frameworks on competencies and learning outcomes in the literature what you find most relevant and suitable for your IPE learning intervention. If you chose one framework, you do not have to use all competencies or learning outcomes featured in it.

- EIPEN: Key Competences framework (2020)
- CIHC: Canadian Interprofessional Health Collaborative framework (2010)
- Interprofessional capability framework (Brewer, 2011)
- IPA: Interprofessional professionalism assessment (Frost et al., 2018)
- IPCIHC: Interprofessional collaboration in health care (2018)
- IPEC: Interprofessional Education Collaborative (2016)
- RCF: WHO Rehabilitation Competency Framework (WHO, 2020)
- WHO: Framework for action on IPECP (2010)

INPRO example: Based on most of these frameworks, a competency framework for IPECP learning interventions was developed, the INPRO Competency Framework 'INPRO CF' (Aerts & De Weerdt, 2021). Take a look at the individual domains and establish for each one of them (Interprofessional Practice, InterProfessionalism, Learning and Development, Management and Leadership, Research) which learning outcomes are most relevant to you. The INPRO Competency Framework is available in English, Dutch, German and Finnish.

4.2. International Online IPE Intervention

If you organise an international and / or online IPE activity, additional learning outcomes apply. The didactical methods and learning environment will require and train other competencies. Communicating and collaborating in an online setting and in a foreign language trains more skills than IPE. For international and online collaboration competencies, an existing IOCC framework was used in the INPRO international learning intervention (Kolm et al., 2021).

Kolm, A., de Nooijer, J., Vanherle, K., et al. (2021). International Online Collaboration Competencies in Higher Education Students: A Systematic Review. Journal of Studies in International Education, published online. doi:10.1177/10283153211016272

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5. Content and Methods – How?

Now is the time to make plans regarding how your desired learning outcomes can be met with the appropriate didactical design.

Administrational and institutional aspects have impacted your IPE setting: By now you should know how many students and lecturers will be involved, who they are going to be as well as which setting to choose (online, face-to-face, etc.) in which timeframe.

5.1. Choose your Didactical Methods / Setting

Align your chosen competencies and/or learning outcomes with the appropriate didactical methods by starting a table that you can fill in step by step (as follows in Steps 1- 4).

Of course, you can also choose the didactical design first and then check which competencies and learning outcomes can be met with the chosen methods (see options below in step 2).

5.1.1. Step 1: Choose Your Learning Outcomes / Competencies

See collected information on IPE competencies and learning outcomes in Chapter 4 and as an example INPRO CF learning outcomes chosen for the INPRO International Online Learning Pilot.

Learning Outcome/Competency	Learning Method/Setting	Assignment for Students	Grading/Feedback Assessment

5.1.2. Step 2: Align Learning Outcomes / Competencies with Methods

Now align the chosen learning outcomes with didactical methods and content. Either

Learning Outcome/Competency	Learning Method/Setting	Assignment for Students	Grading/Feedback Assessment

- choose desired learning outcomes, then think of teaching methods to achieve them with (Option 1)
- or plan the teaching content first and assess in the next step which learning outcomes can be met with the chosen methods (Option 2).

You may look into didactical inspiration collected within INPRO or other pre-developed IPE materials such as IPE methods, toolkits, handbooks or research, e.g. TeamSTEPPS, the EFECT framework (Bitton et al., 2013) or the Interprofessional Team Reasoning Framework (Packard et al., 2012) .

5.1.3. Step 3: Formulate Assignment(s)

Choose exact wordings for assignment(s) to align learning outcomes and teaching methods.

Learning Outcome/Competency	Learning Method/Setting	Assignment for Students	Grading/Feedback Assessment

Example:
Aligned assignment and learning outcomes in the INPRO International Online Learning Pre-Pilot 2021

1. The students had to work with material describing a person with health inquiries (written case descriptions and videos) and to structure information and needs of the person they identified: First alone (preparational work), then in guided interprofessional groups (during the activity). Find here how the assignment was formulated (including aligned learning outcomes)

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2. In the next step(s), students exchanged in their interprofessional teams on their preparation, identified possibly needs, and concluded what to ask a patient actor in a first encounter. An ICF form served as a facilitating tool to develop interprofessional goal suggestions:
   Example of assignment and INPRO CF learning outcomes, including ICF specific outcomes
3. On day 3 of the INPRO pilot, students introduced their interprofessional goal suggestions to the actor in a shared decision-making session. The session based on the SHARE Approach and ended with giving feedback based on selected MAPPIN's SDM elements.
   More detailed assignment description and learning outcomes
4. In order to share their findings, the groups were asked to present their case and findings on the last day of the intervention: Instructions for the final presentation

Find here the Final Programme of INPRO International Online 2022 to which the assignments refer.

5.1.4. Step 4: Assessment / Grading

Learning Outcome/Competency	Learning Method/Setting	Assignment for Students	Grading/Feedback Assessment

Find an appropriate way to assess students' performance and achievement of learning goals.

Depending on the design of your IPE activity and how students participate in it (optional, obligatory, etc.) you will have to decide on a way to assess the performance of the students and, if needed, how to grade this. You can find inspiration here in handbooks or databases.

Note: The larger your IPE activity is, the more likely will participating students need different forms of participation and / or assessment records, depending on- the study programme, university, and country. Make sure you discuss this with your planning group early enough about appropriate assessment methods for your IPE activity.

Example INPRO International used types of assessment (find used materials here):

- Observation of interprofessional group interaction by the lecturers
- Peer- and self-assessment by the students (group members)
- Score by the audience for final presentation (only in Pre-Pilot Intervention)
- Score by consulted client actor (only in Pilot Intervention)

5.2. Time for Reflection

Plan enough time for reflection with the students within the learning intervention itself. Benefits of dialogue-oriented reflection with students during & after the intervention:

- It is not always possible for lecturers to recognise group dynamics (especially in an online setting). In a reflective dialogue, all students get the chance to talk about how they feel / felt in their interprofessional team.
- Make learning moments explicit for students and support self-efficacy (Earl & Katz, 2012): Where do I want to go and how do I get there? Where to go next? (Hattie & Timperley, 2007)
- Feedback for further development: what went well and what could be improved?

Example INPRO International: Reflection Strategies

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Where?
Detailed strategy

6. Detailed Strategy

In the final phase of the planning, check thoroughly if everything you need is prepared.

Develop and provide the needed learning materials as well as information material to involved lecturers and students. You find here a checklist on what should be prepared, example templates for workbooks (= detailed description for all involved lecturers and students of the learning intervention) and materials and ideas to train the involved trainers.

6.1. Checklist

- ✓ Create an e-learning platform and provide material for all participants in a way that is easy to understand and to follow by all involved persons. Ensure access to external persons (students and lecturers).
- ✓ Complete material: Cases, assignment(s), presentations, collaborative tool links (Padlet, Miro, Mural, Jamboard, etc), assessment and evaluation tools, certificates of attendance
- ✓ If you involve persons acting as patients, make sure they are well informed.
- ✓ Decide, when students start preparing and arrange access to the e-learning platform
- ✓ Prepare a detailed workbook for all involved lecturers (see below)
- ✓ Prepare and arrange a (1.) kick-off meeting and (2.) a train the trainer workshop for lecturers that are not part of the core team and / or new to IPE (see below)
- ✓ Allocation of interprofessional student groups and lecturers (different countries, different professions, different HEIs) – now to be filled with names
- ✓ For online interventions: Prepare links for meetings and ensure access for everybody
- ✓ Provide the programme for the students

6.2. Finalise Your Detailed Planning in a Workbook

For the detailed planning, it is helpful to provide all involved persons (students and lecturers) with a detailed programme that gives an overview of everything that is going to happen in the IPE intervention. We used this: Example of INPRO International workbook

Find here a template with information that should be provided for participants:

Detailed **date and time**, including breaks	**Type of Lecture** plenary session; interprofessional group session (parallel); other	**Content** Detailed content including materials and methods; formulated assignments; assessment etc. inserted in the timeframe	**Lecturer(s)** Names and tasks	**Link/ Room**

Table 1: Suggested information in a participant's workbook

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7. Train the Trainer

In order to prepare the IPE intervention effectively and in a resource-saving manner, it was recommended in Chapter 3 to form a **core planning team** (with one representative lecturer of each profession). Since the core team is involved in the planning of the IPE interventions, it does not need additional training. This chapter was developed especially for those additional lecturers that are needed when the IPE expands and more lecturers than the core team are necessary for conducting the intervention.

In Chapter 3, certain beneficial characteristics of lecturers for IPE interventions like open-mindedness, motivation, and flexibility have been stated. Additionally, experience, knowledge of the healthcare system and the professional role are necessary. Other aspects that concern guiding the interprofessional group and facilitating IPE should be trained before the IPE intervention.

7.1. Common Meetings/Workshops

We recommend to arrange 2-3 meetings with all involved lecturers, to give them and overview of what is going to happen in the IPE intervention, what is expected of them, how they can prepare for it, and give them time to ask questions and exchange with the others on strategies how to facilitate interprofessional collaboration of students.

What?

In a 1st kick-off-meeting in the beginning of a term, when lecturers plan their resources (approx. 3 months before the event), you can provide all involved lecturers with general organisational information, e.g.:

- How many students, how many groups, meeting rooms – group allocation
- The programme/schedule – clear structure and timeframe
- Brief Introduction: Learning Outcomes and Assignment(s)
- Case descriptions
- If used: e-learning platform
- If used: Assessment materials (see chapter 5)
- Example Presentation content 1st Kick Off workshop INPRO International Online Pilot 2022

How?

In a 2nd train the trainer workshop closer to the event (approximately 2-3 weeks before), prepare for a more in-depth discussion on:

- The learning outcomes in alignment with the assignment(s) to reach them
  - What is the aim?
  - What should the students learn?
- Detailed IPE facilitating strategies (How to coach an interprofessional student group?)
- Assessment strategies
  - How can I, as coach, decide if students collaborated well / interprofessionally?
  - What should be the outcome of their collaboration?
    How can I assess / evaluate the students collaborative process and outcome?

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Experienced lecturers might not have any questions about how to coach the groups and might only look for basic information on:

- Where do I find my group?
- What is my student group's case?
- When do I have to be where?
- Is there anything I have to prepare?

Less experienced lecturers might ask for more advice or exchange on how to guide the interprofessional groups towards interprofessional collaboration. Make sure you provide enough time for questions, exchange, and discussion of lecturers.

Strategies on how to guide the student groups etc. might also come up in the discussion and not all answers have to be prepared beforehand. In general, teaching styles differ and authenticity of each lecturer should be valued, but new IPE facilitators can use teaching examples and suggested methods for inspiration/reflection.

Below you find suggestions for topics that could be addressed and discussed with your team of lecturers.

7.2. Getting to Know Each Other – Breaking the Ice

There is general agreement that attention should be paid to the initial interactive processes of group formation when a group comes together to undertake interprofessional learning for the first time. This is not only valid for IPE interventions, but also for international learning interventions and even more important when it comes to online settings (learn more about Collaborative Online International Learning-COIL).

Icebreaker Activities: To promote group cohesion right from the start of the learning intervention, Icebreaker Activities are highly recommended.

Examples:

- Before the start: Allow (interprofessional) groups to "meet" before the interventions starts via an e-learning tool (e.g. padlet) where students and lecturers can introduce themselves to their interprofessional group in one post with picture and content.
- During the intervention: For getting to know the other professions, let monoprofessional groups reflect on their own profession and prejudices towards other professions.
  Example: Getting to know the other participating professions
- First (online) meeting of an interprofessional international group:
  - Introduce yourself and your role
  - Let students introduce themselves (including their profession, their expectations, what they would like to learn etc.)
  - Small fun Icebreaker activities:
    Find here many great ideas for interprofessional icebreaker activities on Page 22-24

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7.3. Forming a Team

Facilitate the team formation and development as well as the creation of a supportive and safe learning environment for the students: e.g. by discussion of group norms/processes:

- For students' collaboration it is important that all students have the same information level and are **similarly prepared** for assignments: e.g. all students should have completed possible preparational tasks and have the same understanding of the assignment(s)
- **Give responsibility to the team.** Ask the group:
    - How would you like to collaborate?
    - What do you expect from each other?
- Suggest to the students that they assign **certain roles** within the group:
  e.g. a moderator and someone to take notes, in alternating order.
- For online activities provide students with links to free collaboration software (e.g. Miro, Padlet or Google Docs).
- Discuss with the group how much support they need / expect from you as a facilitator (how much time will you be present, how much time will they spend alone in their group).
- Let the students discuss their personal learning objectives, what they expect from each other, and how they can support each other to meet their learning objectives.
- Find inspiring advice on facilitating international online collaboration from EDUdig (free ERASMUS+ online courses and materials, but registration is needed).

7.4. Facilitating Interprofessional Collaboration

IPE activities can directly or indirectly impact on all of the following factors:

- **Shared language, common understanding:** Make students are aware that professional wording might not be understandable to everybody in the group.
  Give examples and encourage students to ask if something is unclear to them.
- **Person-centeredness:** Let the students focus on the given case and the person's needs.
    - What are the overall needs of the person?
    - How will they find out?
    - Which profession of the team is most likely to find out?
    - What type of assessment/anamnesis is needed?
    - How do I prepare the case examples?
- **Interprofessionalism vs. multiprofessionalism:** Interprofessional collaborative practice does not simply happen, but depends on internal and external factors such as
    - the active role of the client in the healthcare team,
    - individual competences and motivation of the healthcare professionals,
    - as well as interpersonal interaction, trust, and respect.
    - Working hours/employment policies, structures, administrative support etc. influence interprofessional collaboration (van Dongen et al., 2016).

IPE activities most likely impact on personal and interpersonal factors of students (and facilitators), such as attitudes and knowledge of other professions and their work in relation to the own.

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To **differentiate** between multi- and interprofessional approaches, students need to reflect on and (re)think about what they have learned. Most students are used to working multiprofessionally. Let students **reflect** on the difference between multiprofessionalism and interprofessionalism, and what it means to them. Here you can find **ideas** on possible aspects to consider when differentiating multi- and interprofessionalism

7.5. Guiding the Team - Facilitating vs. Instructing

Interaction within interprofessional groups is required to promote collaborative competencies. For the facilitator, this means that students need to be provided with the opportunity to **interact autonomously** to make **self-directed learning** possible.

Instead of instructing the group on how to complete the assignment, the IPE facilitator guides and supports the team in their collaborative process by facilitating discussion, asking questions, and by that shifting their focus on the assigned tasks. Examples to indicate the **difference between instructing and facilitating** are displayed in Table 2.

Facilitation	**Instruction**
Guides process	Presents information
Provides the right questions	Provides the right answers
Helps/makes it easy for students to learn together in a group, or to achieve something together as a group	Leads a group of students in acquiring new skills, knowledge or understanding
Helps the students to discover things themselves	Starts with the instructor's own knowledge
Encourages expression of different views	May encourage expression of different views but also presents own perspective
Fosters interaction within the group	Directs or tells
Develops relationships based on trust, respect and a desire to serve, considers as an equal	Maintains a formal relationship with students, based on the status of a teacher

Table 2: Facilitation vs. instruction by (Godden-Webster, A.; Murphy, G., 2014). p.11

INPRO example: General recommendations from INPRO International experiences

- **Do not talk too much** ☺ Let students elaborate their opinion by raising questions!
  Be ready to address own fears and prejudices, making the implicit explicit.
  It is helpful to act authentically and to recognise the **value of "I don't know"**.
  A group discussion on insecurities supports developing a trusting atmosphere.

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7.6. Dealing with Challenges

IPE facilitation, just like teaching, might not always run smoothly and lecturers might feel challenged in certain situations. Below you find a selection of challenges that you might want to discuss with your team and agree on possible approaches to react. This list is certainly not exhaustive, but serves the purpose to raise awareness for the need to discuss possible challenging situations:

Power imbalance: Some professions or some students might dominate the discussion:
What can you do as an IPE facilitator? How to engage all students of the group:
Example Video of disengaged IPE facilitators and students dominate the discussion (Download)
Example Video: What can IPE facilitators do to engage all students in the discussion? (Download)

- **Conflict in discussion:** How can you effectively manage disagreements in a discussion?
- **Not respecting opinion of certain professions:** Here is an example video of a group discussion where one opinion / profession is not respected: https://vimeo.com/188730589 (Download)
  How can you react if you witness this type of behaviour?

7.7. Reflection and Feedback to Students

If you plan a reflection meeting at the end or after the IPE activity – which is highly recommended – agree with your team of educators on how feedback is given to the students. This depends also on your assessment and evaluation methods (see also chapter 5 and 6).

Literature recommendations on IPE facilitating trainings:

A lot of training materials and guides for IPE facilitation can be found online (see examples below). It can be followed in detail or be used as inspiration.

IPE Facilitator Training Materials and Videos (University of Washington) (Brenda Zierler et al., 2017)

IPE Facilitating with many practical examples (Dalhousie University) (Godden-Webster, A.; Murphy, G., 2014)

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Is...
Evaluation

8. Evaluation

Finally, you get the opportunity to reflect on the process of your educational journey.

8.1. Assessment For and Of Learning: Where Am I Going?

Making learners aware of their goals and learning outcomes, facilitates learning. Use evaluation methods that support self-efficacy (Earl & Katz, 2012, see also Chapter 5: Step 4).

INPRO example:

Students assessed their needs based on the competencies of the INPRO CF competency framework (Aerts & De Weerdt, 2021).

Educators planning in the core team chose learning outcomes aligned to the design process and added selected international online collaboration competencies.

8.2. Process in Learning Outcomes: How Am I Doing?

Evaluate the process of your (complex) intervention on different levels (Kirkpatrick et al., 2016):

- Reaction: Testing engagement, relevance, or satisfaction
- Learning: Knowledge, skills, attitude, confidence, or commitment
- Behaviour: Monitor, reinforce, encourage, or reward "on-the-job learning"
- Results: Measuring leading indicators or desired outcomes (e.g. costs)

Examples (according to Kirkpatrick & Kirkpatrick, 2016: Kirkpatrick's Four Levels of Training Evaluation)**:**

Reactions were reflected in group discussions and written reflections during and after the course.

Learning was evaluated via standardised questionnaires (EPIS, Extended Professional Identity Scale, Reinders et al., 2018; International Online Collaboration Competencies, Kolm et al., 2021).

Students peer and self-assessed learning outcome *behaviour*, and educators observed to which extent the defined learning outcomes were observed in the small group work.

Delivery as planned vs. modifications, attendance, usage of materials were the *results*.

8.3. Feed Back and Feed Forward: What to Do Next?

Think of useful questions to empower self-reflection and learning of the group (Hattie & Timperley, 2007). Engage the dialogue between learners, learners and trainers as well as among trainers. (Let) collect any ideas for future development.

- What went well?
- What could be improved?

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8.4. Following Guidelines in Your Report

You facilitate the effectiveness of educational interventions not only by being thoughtful in the design (consider all Chapters: use relevant theories and principles, effective methods and evaluation methods which support self-directed learning and efficacy), but also by reporting the activity and evaluating its outcomes carefully, if possible by using validated instruments.

The Guideline for Reporting Evidence-based practice Educational interventions and Teaching (GREET) by Phillips et al. (2016), is an example how to help interpretation, synthetisation and replication of educational interventions.

Document as early as possible:

1. Brief and clear name of the intervention
2. Applied theory
3. Learning objectives
4. Content
5. Materials (those for learners as well as those used in training of educators)
6. Educational strategies (e.g. lectures, tutorials, online modules)
7. Incentives (e.g. paid course / participation during working hours / ECTS / diploma)
8. Educators (professional discipline, teaching experience/expertise, specific training)
9. Delivery (e.g. face-to-face, virtually or as an independent study package; ratio of learners to instructors / intervention provided individually or in a group)
10. Environment (physical learning spaces, e.g. ward, lecture theatre, online room…)
11. Schedule (including the number of sessions, their frequency, timing and duration)
12. Time learners spent in presence contact with instructors vs. self-directed activities
13. Any planned adaptations made for the learner(s) or group(s)
14. Any unplanned modifications during the intervention (What? Why? When? How?)
15. Attendance of learners, how this was assessed and by whom, facilitating strategies
16. Processes used to determine if materials and strategies were delivered as planned
17. Extent number of sessions, frequency, timing and duration delivered as scheduled

A structured reporting template **Replicability of Interprofessional Education** (RIPE) sees the following descriptions necessary to replicate IPE study design (Abu-Rish et al., 2012):

(1) theoretical framework,
(2) stated objectives of the intervention,
(3) development and design of the activity,
(4) voluntary/ required nature of IPE,
(5) level and numbers of students and health professions,
(6) frequency / duration of the IPE activity,
(7) teaching strategies,
(8) faculty development,
(9) validation of the tools used to assess / measure outcomes,
(10) cost / resource utilisation to implement the intervention,
(11) institutional leadership support,
(12) implementation barriers/facilitators,
(13) community partnerships

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References

Abu-Rish, E., Kim, S., Choe, L., Varpio, L., Malik, E., White, A. A., Craddick, K., Blondon, K., Robins, L., Nagasawa, P., Thigpen, A., Chen, L.-L., Rich, J., & Zierler, B. (2012). Current trends in interprofessional education of health sciences students: A literature review. *Journal of Interprofessional Care*, *26*(6), 444–451. https://doi.org/10.3109/13561820.2012.715604

Barr, H. (1996). Ends and means in interprofessional education: towards a typology. *Education for Health, 9*(3), 341–352.

Bitton, A., Pereira, A. G., Smith, C. S., Babbott, S. F., & Bowen, J. L. (2013). The EFECT framework for interprofessional education in the patient centered medical home. *Healthcare, 1*(3–4), 63–68, https://doi.org/10.1016/j.hjdsi.2013.08.003

Blondon, K. S., Maître, F., Muller-Juge, V., Bochatay, N., Cullati, S., Hudelson, P., Vu, N. V., Savoldelli, G. L., & Nendaz, M. R. (2017). Interprofessional collaborative reasoning by residents and nurses in internal medicine: Evidence from a simulation study. *Medical Teacher, 39*(4), 360–367. https://doi.org/10.1080/0142159X.2017.1286309

Buring, S. M., Bhushan, A., Broeseker, A., Conway, S., Duncan-Hewitt, W., Hansen, L., & Westberg, S. (2009). Interprofessional Education: Definitions, Student Competencies, and Guidelines for Implementation. *American Journal of Pharmaceutical Education*, *73*(4), 59.

Collins, A. (2014). *Measuring what really matters. Towards a coherent measurement system to support person-centred care.* https://www.health.org.uk/sites/default/files/MeasuringWhatReallyMatters.pdf

Earl, L., & Katz, S. (2012). *Getting to the Core of Learning: Using Assessment for Self-Monitoring and Self-Regulation*. https://doi.org/10.1007/978-94-007-4507-0_7

Edwards, I., Jones, M., Higgs, J., Trefe, F., & Jensen, G. (2004). What is Collaborative Reasoning? *Advances in Physiotherapy, 6*(2), 70–83. http://dx.doi.org/10.1080/14038190410018938

Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., Fineberg, H., Garcia, P., Ke, Y., Kelley, P., Kistnasamy, B., Meleis, A., Naylor, D., Pablos-Mendez, A., Reddy, S., Scrimshaw, S., Sepulveda, J., Serwadda, D., & Zurayk, H. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. *The Lancet*, *376*(9756), 1923–1958. https://doi.org/10.1016/S0140-6736(10)61854-5

Godden-Webster, A., & Murphy, G. (2014). *Interprofessional Collaboration in practice: A guide for strengthening student learning experiences.* Dalhousie University, Faculty of Health Professions.

Handgraaf, M., Dieterich, S., & Grüneberg, C. (2016). Interprofessional education – structural and didactical challenges / Interprofessionelles Lehren, Lernen und Handeln – Strukturelle und didaktische Herausforderungen. *International Journal of Health Professions*, *3*(1), 47–56. https://doi.org/10.1515/ijhp-2016-0005

Co-funded by the Erasmus+ Programme of the European Union

Health Foundation (2016). *Person-centred care made simple. What everyone should know about person-centred care*. https://www.health.org.uk/sites/default/files/PersonCentredCareMadeSimple_0.pdf

Hartel, R. w., & Foegeding, E. a. (2004). Learning: Objectives, Competencies, or Outcomes? *Journal of Food Science Education*, *3*(4), 69–70. https://doi.org/10.1111/j.1541-4329.2004.tb00047.x

Hattie, J., & Timperley, H. (2007). The Power of Feedback. *Review of Educational Research*, *77*(1), 81–112. https://doi.org/10.3102/003465430298487

Holland, K. (2002). Inter-professional education and practice: The role of the teacher/facilitator. *Nurse Education in Practice*, *2*(4), 221–222. https://doi.org/10.1016/s1471-5953(02)00087-2

Khalili, H., Gilbert, J., Lising, D., MacMillan, K. M., Xyrichis, A. (2021). *Proposed lexicon for the interprofessional field. A reprint publication by InterprofessionalResearch.Global*. https://interprofessionalresearch.global/wp-content/uploads/2021/10/InterprofessionalResearch.Global-IPECP-Lexicon-2021-Reprint.pdf

Kirkpatrick, J. D., Kirkpatrick, W. K., Kirkpatrick, D. L., & Biech, E. (2016). *Kirkpatrick's four levels of training evaluation*. ATD Press.

Lévesque, M., Hovey, R., & Bedos, C. (2013). Advancing patient-centered care through transformative educational leadership: A critical review of health care professional preparation for patient-centered care. *Journal of Healthcare Leadership*, 35. https://doi.org/10.2147/JHL.S30889

Martin, J. S., Ummenhofer, W., Manser, T., & Spirig, R. (2010). Interprofessional collaboration among nurses and physicians: Making a difference in patient outcome. *Swiss Medical Weekly*, *35*. https://doi.org/10.4414/smw.2010.13062

Mills, I. J. (2017). A Person-Centred Approach to Holistic Assessment. *Primary Dental Journal*, *6*(3), 18–23. https://doi.org/10.1308/205016817821931006

Moran, M. C., Steketee, C., Forman, D., & Dunston, R. (2015). Using a Research-Informed Interprofessional Curriculum Framework to Guide Reflection and Future Planning of Interprofessional Education in a Multi-Site Context. *Journal of Research in Interprofessional Practice and Education*, *5*(1), Article 1. https://doi.org/10.22230/jripe.2015v5n1a187

Morgan, C. J., Bowmar, A., McNaughton, S., Flood, B., & O'Brien, D. (2019). Transformative learning opportunities for students and educators during interprofessional healthcare practice experiences in higher education: Viewed through the lens of Threshold Concepts Theory. *Focus on Health Professional Education: A Multi-Professional Journal*, *20*(2), 41. https://doi.org/10.11157/fohpe.v20i2.301

O'Carroll, V., McSwiggan, L., & Campbell, M. (2016). Health and social care professionals' attitudes to interprofessional working and interprofessional education: A literature review. *Journal of Interprofessional Care*, *30*(1), 42–49. https://doi.org/10.3109/13561820.2015.1051614

Ojelabi, A. O., Ling, J., Roberts, D., & Hawkins, C. (2022). Does interprofessional education support integration of care services? A systematic review. *Journal of Interprofessional Education & Practice*, *28*, 100534. https://doi.org/10.1016/j.xjep.2022.100534

Co-funded by the Erasmus+ Programme of the European Union

Olson, R., & Bialocerkowski, A. (2014). Interprofessional education in allied health: A systematic review. *Medical Education*, *48*(3), 236–246. https://doi.org/10.1111/medu.12290

Packard, K., Chelal, H., Maio, A., Doll, J., Furze, J., Huggett, K., Jensen, G., Jorgensen, D., Wilken, M., & Qi, Y. (2012). Interprofessional team reasoning framework as a tool for case study analysis with health professions students: A randomized study. *Journal of Research in Interprofessional Practice and Education*, *2*(3), 250–263. https://doi.org/10.22230/jripe.2012v2n3a96

Phillips, A. C., Lewis, L. K., McEvoy, M. P., Galipeau, J., Glasziou, P., Moher, D., Tilson, J. K., & Williams, M. T. (2016). Development and validation of the guideline for reporting evidence-based practice educational interventions and teaching (GREET). *BMC Medical Education*, *16*(1), 237. https://doi.org/10.1186/s12909-016-0759-1

Reeves, S., Fletcher, S., Barr, H., Birch, I., Boet, S., Davies, N., McFadyen, A., Rivera, J., & Kitto, S. (2016). A BEME systematic review of the effects of interprofessional education: BEME Guide No. 39. *Medical Teacher*, *38*(7), 656–668. https://doi.org/10.3109/0142159X.2016.1173663

Reeves, S., Goldman, J., & Oandasan, I. (2007). Key factors in planning and implementing interprofessional education in health care settings. *Journal of Allied Health*, *36*(4), 231–235.

Reeves, S., Tassone, M., Parker, K., Wagner, S. J., & Simmons, B. (2012). Interprofessional education: An overview of key developments in the past three decades. *Work*, *41*(3), 233–245. https://doi.org/10.3233/WOR-2012-1298

Roschelle, J. (1992). Learning by Collaborating: Convergent Conceptual Change. *Journal of the Learning Sciences*, *2*(3), 235–276. https://doi.org/10.1207/s15327809jls0203_1

Ruiz, M. G., Ezer, H., & Purden, M. (2013). Exploring the nature of facilitating interprofessional learning: Findings from an exploratory study. *Journal of Interprofessional Care*, *27*(6), 489–495. https://doi.org/10.3109/13561820.2013.811640

Sottas, B., Brügger, S., & Meyer, P. C. (2013). *Health Universities - Konzept, Relevanz und Best Practice: Mit regionaler Versorgung und interprofessioneller Bildung zu bedarfsgerechten Gesundheitsfachleuten*. ZHAW Zürcher Hochschule für Angewandte Wissenschaften. https://doi.org/10.21256/zhaw-88

Sottas, B., Kissmann, S., & Brügger, S. (2016). *Interprofessionelle Ausbildung (IPE): Erfolgsfaktoren – Messinstrument – Best Practice Beispiele*. https://www.academia.edu/34335190/Interprofessionelle_Ausbildung_IPE_Erfolgsfaktoren_Messinstrument_Best_Practice_Beispiele

Tsakitzidis, G., Timmermans ,O., Callewaert, N., Truijen, S., Meulemans, H., & Van 842 Royen, P. (2015). Participant evaluation of an education module on 843 interprofessional collaboration for students in healthcare studies. *BMC Medical 844 Education, 15*(1), 1–8. https://doi.org/10.1186/s12909-015-0477-0

van Diggele, C., Roberts, C., Burgess, A., & Mellis, C. (2020). Interprofessional education: Tips for design and implementation. *BMC Medical Education*, *20*(Suppl 2), 455. https://doi.org/10.1186/s12909-020-02286-z

Co-funded by the Erasmus+ Programme of the European Union

van Dongen, J. J. J., Lenzen, S. A., van Bokhoven, M. A., Daniëls, R., van der Weijden, T., & Beurskens, A. (2016). Interprofessional collaboration regarding patients' care plans in primary care: A focus group study into influential factors. *BMC Family Practice*, *17*(1), 58. https://doi.org/10.1186/s12875-016-0456-5

WHO. (2001). *International classification of functioning, disability and health: ICF*. World Health Organization.

WHO. (2010). *Framework for Action on Interprofessional Education & Collaborative Practice*. 64.

Zierler, B., Ross, B., Liner, D., Blakeney, E., McDonough, K., Willgerodt, M. & Pambianco, S. (2017). *Descriptions of Facilitation Videos. UW Faculty Development: IPE Facilitation Skills Training for "IPE Facilitation Challenges" University of Washington*. UW Center for Health Sciences Interprofessional Education, Research and Practice (CHSIE); University of Washington. https://collaborate.uw.edu/wp-content/uploads/2020/08/Descriptions_of_Facilitation_Videos_7-18-17_DL.pdf

Co-funded by the Erasmus+ Programme of the European Union