Chapter 7

Summary (English)

‘Waarom moeilijk doen als het samen kan?’
[Why complicate when we can collaborate?]
Loesje*

* Loesje International is a free speech organisation that posts satirical critiques in the public domain; see http://www.loesje.org/.
Introduction

Achieving optimum quality of care requires different healthcare professionals (HCPs) to collaborate with each other (IPC). Interprofessional education (IPE) is used to train healthcare students in this regard. Worldwide, an abundance of interprofessional educational activities are being organised. For educators in healthcare, information about the facilitators of IPE could provide valuable information to help them develop and implement IPE efficiently. For students, successful IPE would be motivating them to learn with, from and about the roles and responsibilities of other professions, to improve collaboration and the quality of care. This thesis aims to enhance our understanding of the factors that can influence the motivation of students for IPE. Both qualitative and quantitative research methods were employed in the investigations. The main research questions that informed this thesis were: What are facilitators of and barriers to IPE? How can IPE impact on the value system of students and result in (intentions for) interprofessional collaboration?

Chapter 1

Within the interprofessional health paradigm, a substantial body of research has sought to clarify the conceptual basis for IPC and IPE. Underlying this is the notion that working and learning impact not only the participants directly, but also what happens between participants and organisations. Furthermore, there are reciprocal influences of working on learning. Traditionally, HCPs in the field play an important role in the education and training of healthcare students. Conversely, the guidance of students can have an impact on practitioners, such as highlighting the need for innovative approaches to practice. To capture the interdependence between IPE and IPC, the framework for IECPCP3 is used. Three components of this framework are addressed in this thesis: the learner, the teaching factors, and several aspects of the learning outcomes.

Chapter 2

A literature review investigated the factors that facilitate interprofessional learning (IPL) and factors that form a barrier to the learning of residents and medical/nursing students involved in IPE with students from other professions. Perceptions and attitudes of residents and students could be categorised into ‘Readiness for IPE’, ‘Barriers to IPE’, and ‘Facilitators of IPE’. In all three categories, these perceptions operate at the individual level, at the process or curricular level, and at the organisational or cultural level.

Readiness for IPE at the individual level is higher among females, irrespective of prior healthcare experience. At the process level, readiness for IPE fluctuates during medical school. At the cultural level, collaboration is jeopardised when groups interact poorly. Examples of barriers to IPE are: at the individual level, feeling intimidated by doctors; at the process level, lack of formal assessment; and at the cultural level, nurses excluding medical students from their daily interaction on the ward. Examples of IPE facilitators are: at the individual level, affective crisis and patient care crisis situations that create feelings of urgency; at the process level, small-group learning activities in an authentic context; and at the cultural level, getting acquainted informally. These results are

related to a model for learning and teaching (the LOT$^4$ model), to illustrate the implications for the design of IPE.

From this review, it became apparent that the perceptions typically explored in the literature were at the cultural and curricular levels; perceptions at the individual level were less widely studied. When IPE is successful, students exhibit positive attitudes towards learning with, from, and about other professions. Of the 65 studies included in the literature review, 10 measured the attitudes of students with the ‘Readiness for Interprofessional Learning Scale’ (RIPLS), a concept introduced in 1999. The RIPLS contains 19 items that ask students to indicate their attitude towards team working and team learning, the significance they give to acquiring their professional identity, the power of their professional culture, and their view of professional boundaries or overlap in roles and responsibilities.

Chapter 3

To evaluate the effect of an IPE activity on students’ attitudes, educators often use the RIPLS as a pre- and post-training survey. Students self-report this effect, on a 5-point Likert scale. In a quantitative study, we explored how the concept of readiness for IPL could be associated with well-recognised concepts in medical education – such as empathy, academic motivation, and professional identity – by means of a cross-sectional survey among the medical students in all 6 years of our school. The cognitive component of empathy, ‘Taking the patient’s perspective’ and ‘Motivation for medical school’, explained 16% of the variance in the RIPLS subscale ‘Teamwork and collaboration’. Being female, and in the first year of medical school, explained around 14% of the variance in the positive and negative RIPLS subscales for ‘Professional identity’, where we found no association with ‘Motivation for medical school’. This study suggests that students’ readiness for IPE may benefit from a combination with the cognitive component of empathy (‘Perspective taking’) and elements in the curriculum that promote autonomous motivation. Combining IPE with these elements in the curriculum might help to engage students who might be asking, ‘Why learn IPC?’ and ‘What do you learn in IPE?’.

One of the facilitators of IPE is ‘authenticity’. Motivation for IPE and future interprofessional collaboration can be enhanced through activities where students as an interprofessional team must devise a care plan for patients – be it on paper, with the patient as a preceptor, or on a ward.

Chapter 4

Using the Self-Determination Theory (SDT) as a theoretical framework, we investigated elements from an IPE ward experience that can influence student motivation. Furthermore, we explored which elements of the IPE ward hold value for students, so that their motivation for IPE may lead to future IPC.

On an internal medicine ward, over the course of 3 weeks, students and their supervisors from four professions were responsible for four patients. Careful selection of patients and putting the student team in the lead to make the interprofessional patient care plan (albeit under close supervision), together with a structure for the patient care meeting, were important characteristics for the success of this IPE initiative. Students appeared motivated for an IPE ward, which offered them an experience of the interdependence of professional roles and responsibilities and made clear

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$^4$ Learning-Oriented Teaching model (ten Cate et al., 2004).
to students what each profession added to the care of a patient. Students indicated that a training
provided them with an insight into phases of team formation. Knowledge about the clinical reasoning
of other professions helped the students to ‘see the pieces of the puzzle’.

Interviews with the supervisors indicated the difficulties they experienced in attending the
interprofessional patient care meeting, because they had to hand over their regular tasks to
colleagues. However, the interviews also revealed what they found a helpful aspect of the IPE
initiative: supervisors could confer with each other about a student or how to guide the student
team. Furthermore, like the students, supervisors learned about the roles and responsibilities of
other professions. And some supervisors were role models for others in empowering students to
provide information in the patient care meeting. Overall in the interviews, 21 students and 11
supervisors from all professions stressed the crucial importance of learning about clinical reasoning
in IPE, which led us to include the research question regarding the place of clinical reasoning in
healthcare curricula. An answer to this question is proposed in chapter 6 of this thesis.

Several supervisors indicated their involvement in the guidance of students from a profession
other than their own. Students and supervisors alike indicated the importance of being informed
about the clinical reasoning of other professions. This raised the question of whether, and how,
supervisors might guide the learning of students in an interprofessional way – an inquiry that shaped
our study on another IPE ward.

Chapter 5

For 1 week on a maternity ward, students from medicine, nursing, and midwifery were responsible
for the care of four patients. Supervisors from the students’ professions had been trained in their
professional silos and had experienced varying levels of interprofessional collaboration in their
professional activities. Having responsibility for both quality of care and student education exposed
supervisors on the IPE ward to new challenges, highlighting the need to enhance the
interprofessional collaboration and interprofessional clinical reasoning of students. The research
question explored how supervisors guided the clinical reasoning of students from professions other
than their own. Supervisors stimulated students’ clinical reasoning by structuring patient care
meetings, direct questioning, and giving assignments. Supervisors perceived that students were able
to perform clinical reasoning and design interprofessional care plans. In the process, the supervisors
could gradually reduce their guidance of the student, eventually sharing the guidance with the
student. Conditions that facilitated this process of entrustment were 1) continuity, so that
supervisors could assess students’ capabilities and appropriately determine their next level of
responsibility; 2) a structure for patient care meetings, to allow interprofessional clinical reasoning;
and 3) a range of assignments, to activate students’ learning.

The findings from our interviews with the supervisors were related to an existing framework
for scaffolding student learning; we sought to identify the interventions and intentions that appeared
to enhance the interprofessional clinical reasoning and collaboration of students on an IPE ward. The
setup of the IPE ward encouraged the interprofessional collaboration of students: an
interprofessional pair of students was responsible for the care of two patients and had to gather and
present the information in a structured way in the daily ‘patient care meeting’. To guide their clinical
reasoning, the supervisor put questions to the presenting student and to the whole student team.
Supervisors devised various assignments for students to investigate a subject (alone or in pairs).
We compiled findings from the literature and from IPE ward experiences that can inform the development of IPE with respect to the learners, the teaching factors, and aspects of the learning outcomes, such as interprofessional patient care plans and the value that students place on IPC.

**Chapter 6**

This chapter contains a general discussion about the research findings, which identified seven key characteristics in motivating students for IPE, either directly or via an effect on the supervisors:

- Authentic learning situations in which students are involved in decision making for ‘real’ patient problems. The professional clinical reasoning of each student must be adequate to address the complexity of the patient’s problems, either in real-world practice or on paper as a case study.
- Group dynamics can be stimulated by giving students time and space to get acquainted, and by directing questions to students rather than having a supervisor answer them.
- Awareness of other perspectives is promoted through clarifying what, why, and how interprofessional learning is important; authentic learning situations are an effective way to achieve this.
- Autonomy-supportive learning environments allow students to take the lead while supervisors provide the right amount of guidance.
- Immersion in IPE and IPC allows students to experience themselves as practitioners in contact with patients; this takes place among other students, to make asking questions feel more natural, and with the supervisors as role models and resources.
- Involving the HCPs can enhance their feeling of relatedness with supervisors from other professions and inform them about the work processes of others.
- Structured clinical reasoning offers the students a format to gather and present the information necessary for interprofessional decision making. For the supervisors, the format offers a framework to help them guide the students.

These research findings clearly support the crucial place of clinical reasoning in healthcare curricula. Chapter 6 goes on to explore the practical implications of recognising the seven IPE characteristics and the importance of clinical reasoning when developing or evaluating IPE. Reflecting on the strengths and limitations of the thesis, we propose further research questions and suggest how to valorise the findings in this thesis.