



Project proposal

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2. Title of Research Project

Nederlands
Factoren die effectiviteit van intercultureel groepswerk in het hoger onderwijs bevorderen.
English
Factors that promote effectiveness of intercultural group work in a higher education setting.

2.1 Summary

Abstract
<p>In an increasingly globalizing world, an international and intercultural learning environment is becoming a reality for many higher education students and teachers. Intercultural group work is considered an effective way to prepare students to participate in this world by teaching them intercultural collaboration skills. It also can deepen their learning as exposure to diverse experiences and engaging with different perspectives will shape their thinking. However, the presence of multiple cultures does not automatically lead to intercultural collaboration. Working in a multicultural group can cause misunderstanding and frustration due to different communication styles and study habits. When given a choice students tend to choose to work with same culture peers and withdraw from intercultural interaction.</p> <p>Previous research proposes several factors that might explain this reluctance to engage in intercultural group work. Relevant student characteristics that emerge from the literature are</p>

2.1 Summary

language proficiency and intercultural competence, previous experiences with intercultural collaboration, and motivation. Factors in the learning environment that seem to promote students' engagement in intercultural group work are conditions for effective group work in general, group formation and composition, and preparation for and guidance during intercultural group work.

This research project aims to provide further insight into the role of these student characteristics and factors in the learning environment, and the extent to which they contribute to students' active and effective engagement in intercultural group work. Interventions with the purpose of influencing the main contributors to students' active and effective engagement will be designed and implemented. Based on the results and effectiveness of these interventions, recommendations for educators and curriculum design in higher education will be formulated.

3. Anticipated Project Period

Duration (Years)	4
Start Date	01/09/2016
End Date	31/08/2020

4. This project has previously been reviewed and approved No

5. Description of the Project

5.1 Problem Analysis

5.1.1 Problem Statement

Higher education in a globalizing world

The globalization of the world is an ongoing process leading to an increased mobility of people and knowledge. The interconnections between nations and peoples of the world are growing, and societies become more diverse (Leask, 2009). Universities are an integral part of this globalizing world as they prepare their students to participate effectively in this world and as an institution, universities operate in and facilitate a diverse, intercultural, international learning and research environment (Leask, 2009). The answer of universities to this globalization is internationalization of higher education, which can be defined as:

The intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society (De Wit, Hunter, Howard, & Eggen-Polak, 2015, p. 29).

Internationalization entails many different activities such as cross-cultural mobility of staff and students, international learning outcomes as part of the curriculum, and international learning through online forums.

Facilitating home students to study abroad through programs such as Erasmus, and active recruitment of international students has resulted in a growing international student body (EP-Nuffic, 2015). Between 2000 and 2011, the number of international students worldwide has more than doubled. In 2013, almost 4.5 million tertiary students were enrolled outside their country of citizenship, which represents 2.5% of the total number of higher education students (OECD, 2013). The same trend can be seen in the Netherlands where the international student population shows an annual increase both in number and in proportion to the home student population (Richters & Kolster, 2013). In 2015, almost 13 % of the total student population in the Netherlands were international students (EP-Nuffic, 2015).

Intercultural collaboration in an international learning environment

The international learning environment has great potential to aid students in developing intercultural competence and skills to collaborate with a diverse group of people; capabilities highly valued by the professional world as work places also become more international (Denson & Zhang, 2010; Leask, 2009). Besides equipping students with valuable skills for the future, this kind of environment can also greatly enhance depth of learning as students are exposed to diverse (cultural) perspectives and behaviors.

One particular way that the students can benefit from a diverse learning environment is by participating in intercultural group work. Intercultural group work (ICG) can be defined as three or more students from different cultural backgrounds working collaboratively on set tasks, in or outside of the classroom. Group work is recognized in higher education as an effective tool in promoting learning (Strauss, U, & Young, 2011; Teo et al., 2012). It also has been shown to increase social-emotional outcomes such as social skills, self-esteem and attitudes toward others (Lei, Kuestermeyer, & Westmeyer, 2010). In small groups, students actively engage in critical discussions, collaborate in problem solving, and help each other learn (Frambach, Driessen, Beh, & van der Vleuten, 2014; Lei et al., 2010). The diverse cultural backgrounds of students will bring a variety of perspectives and approaches to the group, which can contribute to the quality of learning and decision-making. Research shows that working in a multicultural/heterogeneous group ultimately leads to increased performance compared to working in a homogenous group (Strauss et al., 2011). Multicultural teams have a positive impact on problem solving, are more creative, innovative and effective in understanding diverse needs than single-culture teams (Denson & Zhang, 2010).

However, research has shown that the presence of multiple cultures does not automatically result in intercultural collaboration (Lee, Poch, Shaw, & Williams, 2012; Reid & Garson, 2016). When students are given the option who to collaborate with, they tend to choose working with same culture students, even if they had successful intercultural interactions in the past (Moore & Hampton, 2015; Peacock & Harrison, 2009; Strauss et al., 2011; Volet & Ang, 2012). Previous research identifies several reasons that might explain this reluctance to engage in IGW. Relevant student characteristics that emerge from the literature are language proficiency and intercultural competence, previous experiences with intercultural collaboration, and motivation. Factors in the learning environment that seem to promote students' engagement in IGW are conditions for effective group work in general, group formation and composition, and preparation for and guidance during IGW.

Student characteristics that affect students' engagement in intercultural group work

Language proficiency and intercultural competence

Communication and interaction between group members is key for effective group collaboration (Frambach et al., 2014). However, in a multicultural environment, these processes might be hindered due to limited language proficiency and cultural differences in communication styles (Trahar & Hyland, 2011). Ferris (1998) reported that English as a Second Language students indicated that they found it difficult to participate in small group discussions. Frambach et al. (2014) concluded that discussion was inhibited if group work was conducted in a second language and if the group members did not all sufficiently master that language. Both international and home students have indicated that language and intercultural communication difficulties were the major reasons for disliking IGW (Moore & Hampton, 2015; Trahar & Hyland, 2011). Frambach et al. (2014) and Kim (2011) described several factors that might affect the participation of second-language students in group discussions; their language proficiency is a barrier in expressing their thoughts, they remain quiet to avoid losing face or looking incompetent or they might pretend to understand the discussion. Students' limited language proficiency may contribute to anxiety, causing them to be less willing to participate in second-language group work (Fushino, 2010; Holmes, 2005; MacIntyre & Noels, 1997).

Previous experiences with intercultural collaboration

The general picture that emerges from research is that students prefer same culture collaboration over intercultural collaboration because in their experience mono-cultural group work is more comfortable and takes less effort to achieve a certain academic standard (De Vita, 2005; Moore & Hampton, 2015). In a mono-cultural group they have a common language, share a similar communication style and sense of humor, experience less anxiety and stress, and there is less chance for conflicts and misunderstandings (Moore & Hampton, 2015; Volet & Ang, 2012). Due to these negative experiences with intercultural interactions and existing stereotypes of the cultural others, spontaneous intercultural interactions will be very limited (Peacock & Harrison, 2009; Volet & Ang, 2012).

Motivation for intercultural group work

Group work is a student-centered learning approach in which staff enables student learning, and encourages independent research and study (Sia, 2015). In such a setting, student self-motivation to obtain academic knowledge and skills is a key contributor to study success. However, the fact that students often prefer working with same culture peers, even if they had successful intercultural experiences in the past (Moore & Hampton, 2015; Peacock & Harrison, 2009; Strauss et al., 2011; Volet & Ang, 2012), points towards a possible lack of motivation to learn in context of IGW.

The expectancy-value theory of achievement motivation proposes that individuals' choices, their level of persistence when they face barriers, and actual level of performance can be explained by their beliefs about how well they will do on the activity (their expectancies) and the extent to which they value the activity (Wigfield & Eccles, 2000). According to this theory, feelings of not being

equipped for IGW and a lack of valuing the outcomes can cause students to withdraw from engaging and persevering in intercultural group work and to perform badly on the task (Wigfield & Eccles, 2000).

Expectancies – am I able to do this task?

Expectancies are shaped by ability beliefs and perceived task difficulty (Eccles, 1983; Wigfield & Eccles, 2000). They determine whether students consider themselves able to do a certain task and therefore play a significant role in students' academic choices (Eccles, 1983; Schunk, Meece, & Pintrich, 2014). Self-efficacy is one way to measure expectancies. Bandura (1997, p. 3) defines self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments." It is not an actual measure of the skills one has, but a belief about what one can do under different sets of conditions with whatever skill one possesses, a measure of perceived control one can exercise in certain circumstances (Bandura, 1997). This construct does not view ability beliefs and perceived task difficulties as two different aspects, but looks at how an individual weighs the one against the other. As the study at hand will address the specific situation of IGW, expectancies will be defined as *self-efficacy for intercultural group work*; the confidence a student has in his/her own power and capabilities to produce given levels of attainment in context of IGW. It does not only address individual actions, but the extent to which a person deems him/herself capable of influencing his/her peers and the group process.

Language proficiency, intercultural competence and previous experiences may affect self-efficacy beliefs. Feelings of insufficient language proficiency may weaken self-efficacy beliefs, whereas confidence in language abilities may strengthen them. Students' self-perceived ability to effectively interact with people from other cultures in general, will most likely affect how equipped they feel for successful interaction in the specific context of IGW. Students' previous experiences with intercultural collaboration will serve as indicators of their capabilities for intercultural group work. These experiences provide authentic evidence that one has been able to perform a certain task and will therefore affect students' self-efficacy beliefs (Bandura, 1997; Klassen, 2004).

Values – Do I want to do this task?

When students consider themselves able to do a certain task, it does not automatically lead to committing to that task. If they do not value the outcomes of the task, they might still decide not to engage (Wigfield & Cambria, 2010). Values address the question "Do I want to do this task?" (Schunk et al., 2014). The overall perceived value of a task consists of benefits and cost. Eccles (1983) distinguishes three major components of the benefits of a task: (1) attainment value, (2) intrinsic value and (3) utility value. *Attainment value* is the importance of doing well on a task. If an activity allows a person to express or confirm his/her identity, the value increases (Wigfield, Tonks, & Eccles, 2004). IGW could, for example, confirm students' identity as global, open-minded citizens. *Intrinsic value* refers to the enjoyment one gains from doing the task (Eccles, 1983; Wigfield et al., 2004). Regardless of the specific goal of IGW, students might enjoy intercultural interaction. *Utility value* refers to the usefulness of the task and how it can contribute to a future goal (Eccles, 1983; Wigfield et al., 2004). Working in intercultural teams can fit with students future goals as it makes them more employable and increases career opportunities in the global workforce (Denson & Zhang, 2010; Leask, 2009).

Besides these three factors that comprise the benefit of an activity, there are also three factors contributing to the cost of an activity: (1) the amount of effort needed to succeed, (2) the loss of time that could be used to engage in other valued activities and (3) the psychological cost of failure (Eccles, 1983). If students are not sure whether they will be successful, they might choose to put in less effort. In case of failure they can attribute it to lack of effort instead of lack of ability, which is psychologically less costly (Eccles, 1983). Research identifies some of the costs that students attribute to IGW. Home students complained that they had to rewrite the work of international students to compensate for their lack of language ability and knowledge of academic requirements (Moore & Hampton, 2015; Peacock & Harrison, 2009). Students have indicated that they are reluctant to participate in IGW because they fear that international students will bring down the mark of the group (Peacock & Harrison, 2009).

The weighing of costs and benefits is illustrated by a study about collaboration between Chinese and UK students. Hou & McDowell (2014) found that when students are assessed by group work, the desire to be part of a mixed-culture group is given lower priority than academic performance.

Language proficiency, intercultural competence and previous experiences may affect the overall value students attribute to IGW. Students' perceived lack of language proficiency contributes to anxiety, causing them to be less willing to participate in second language group work (Fushino, 2010; Holmes, 2005; MacIntyre & Noels, 1997). The anticipation of this anxiety may increase the cost and thus decrease the value students attribute to intercultural group work. A perceived lack of intercultural competence might increase the anticipated costs, whereas confidence in their competence will contribute to the joy they experience from the task. If students experienced in the past that intercultural collaboration requires substantial time and effort, but has hardly any positive rewards, it will decrease the overall value and students will not be very motivated to participate. If they feel they failed in the past, they might want to avoid these feelings of failure and not participate when given a choice. If they experienced the added value of intercultural group work, their motivation to put in the effort will increase.

Factors in the learning environment that affect students' engagement in intercultural group work

Conditions for effective intercultural group work in general

In order to facilitate students' learning, group activities and assignments, whether specifically multicultural or not, need to be carefully planned (Volet & Ang, 2012). Factors that promote the effectiveness of group work in general apply to IGW as well. These factors are: setting a clear goal for the group work assignment, forming heterogeneous groups in regard to different skills and abilities that are relevant for the assignment, creating interdependence, including both group and individual assessment, including both formative and summative evaluation, and assigning roles to group members and rotate them regularly (Brame & Biel, 2015).

For IGW, defining a clear common goal will increase a sense of belonging to the group, which will counteract the 'us and them' mentality commonly present in multicultural groups (Moore & Hampton, 2015). Designing an assignment in such a way that the students are truly interdependent and need each other's cultural input encourages intercultural interaction (Strauss et al., 2011). As students gravitate towards a homogeneous group when group work is assessed, creating low-stakes assessment environments will most likely encourage students to 'take the risk' of engaging in intercultural interaction and enable students to perceive the strength of working in a multicultural group (Hou & McDowell, 2014).

Group formation and composition

Self-selected or teacher-selected groups

Some research suggests that group formation through self-selection is preferred as it has a positive effect on student attitudes and outcomes. Chapman, Meuter, Toy, & Wright (2006) found that students in self-selected groups assessed the group process as more valuable, useful, and effective than students in randomly selected groups. Students in self-selected groups took more pride in their individual contribution and the work produced by the group, they enjoyed working with the group, and were more likely to say they would work with the group again.

Several suggestions to encourage students to engage voluntarily in intercultural group work have been made. Strauss et al. (2011) point out that, if group projects are initiated before students have a chance to assess their peers, it will lead to homogeneous group formation. They suggest giving students time to get acquainted before they select their group members. This would reduce feelings of uncertainty and anxiety.

Although there are some benefits to voluntary participation in intercultural group work, literature consistently shows that, when given a choice, students gravitate towards same-culture groups. One solution would be for the teacher to form the groups. Rienties, Beausaert, Grohnert,

Niemantsverdriet, & Kommers (2012) conclude that mandatory participation can lead to strong mixed-nationality team learning relations. Over a period of 14 weeks, students collaborated on several authentic and complex team products. During that time, the students seem to be able to overcome some of the initial cultural barriers that prevent students to learn together in an intercultural context. Several researchers point out that imposed diversity without proper conditions and proper guidance can lead to entrenched stereotypes, perpetuation of inequality, and increase divisiveness instead of collaboration (Reid & Garson, 2016). Therefore, careful preparation of the IGW-assignment and guidance during the assignment are of great importance.

Cultural distance between group members

Cultural distance refers to the extent to which cultures are similar or different (Shenkar, 2001). The larger the cultural distance between two cultures, the larger the differences in norms, values, communication styles and cultural expressions, which could make effective intercultural interaction more difficult. Volet & Ang (2012) propose that smaller cultural distance increases cultural-emotional connectedness, which helps people to have a sense of identity in a foreign environment. The smaller the cultural distance, the simpler and more rewarding the relationship will be. Larger cultural distance can bring about misunderstanding, culture shock and anxiety (Harrison & Peacock, 2010).

As described above, intercultural competence, language proficiency, expectancies and values are expected to affect students' engagement in intercultural group work. However, these effects might be influenced by the cultural distance between the group members. For example, students might have strong intercultural competences and self-efficacy beliefs, but the greater the cultural differences between group members the less able students might find themselves to display effective intercultural collaboration skills and influence the group process in an effective manner.

Cultural distance might also affect establishing trust amongst the group members. Interpersonal trust is needed for a group to work together effectively. Cultures differ in how trust is developed and expressed (Bird & Osland, 2005; Hofstede, Hofstede, & Minkov, 2010). For example, people from cultures that prefer direct communication might interpret an indirect communication style as withholding information, which can be perceived as dishonesty and untrustworthiness (Bird & Osland, 2005). As cultures differ in how trust is established, trust-building in multicultural groups will most likely be more difficult than in single-culture groups. Rockstuhl & Kok-Yee (2008) found that interpersonal trust between two people from different cultures was less than trust between two people from the same culture. This study also shows that intercultural competence, measured as Cultural Intelligence, is positively correlated to the level of interpersonal trust. Higher cognitive and metacognitive Cultural Intelligence will help a person to overcome the superficial ingroup-outgroup label, have a more nuanced judgment of the cultural other and can adjust their own thinking when identifying their own prejudices.

Preparing and guiding students to engage in intercultural group work

For students it can be quite challenging to navigate the complex process of intercultural group work successfully. Literature suggests that preparation before engaging in IGW and guidance during the process will benefit students' learning. Zimitat (2005) found a positive correlation between preparation for cross-cultural group work and the development of cross-cultural perspectives. Moore and Hampton (2015) report that students appreciated the teacher's involvement in alerting them to potential issues, and facilitating the group process by, for example, a group contract. They recommend including an orientation activity enabling students to explore their prior experiences and perceptions of IGW, and assessing the validity of their reasons for not engaging in intercultural interaction. Teachers' guidance can also encourage group cohesion, trust, respect, and belonging. These social dimensions of collaboration are often neglected by teachers (Kreijns, Kirschner, & Jochems, 2003), and can be especially challenging in an intercultural context.

Strauss et al. (2011) point out that research has mainly focused on understanding how group processes work, but guidance and instructions to aid teachers in implementing IGW is scarce.

Conclusion

Most research exploring issues around intercultural group work in higher education involve qualitative studies using focus groups and interviews (e.g. Moore & Hampton, 2015; Volet & Ang, 2012) or quantitative research using student self-report instruments (e.g. Reid & Garson, 2016; Zimitat, 2005). Few observational studies have been done (e.g. Frambach et al., 2014) to gain insight into IGW.

The literature puts forward several student characteristics and factors in the learning environment that may contribute to students' active and effective engagement in IGW. However, the extent to which these characteristics and factors contribute is unclear. Students' motivation for IGW and the extent to which different motivational factors contribute to students' engagement in IGW have not been studied before. Although preparation and guidance by the teacher is recommended in the literature, little is known about what it should entail.

This research project seeks to fill some of these gaps in intercultural group work research. It aims to identify to what extent language proficiency, intercultural competence, previous experiences with intercultural collaboration, and motivation contribute to students' active and effective engagement in IGW. Effective engagement will be measured through observations of group work gatherings. Beside these student characteristics, the role of the group work design will be further explored. Based on the findings an intervention aiming to influence the main factors that determine students' active and effective engagement in IGW, will be developed. This intervention study will provide insight into effective ways for a teacher to prepare and guide students for IGW.

Research model

The model "Effectiveness of intercultural group work in higher education" shows the different relationships as proposed.

Effectiveness of intercultural group work in higher education

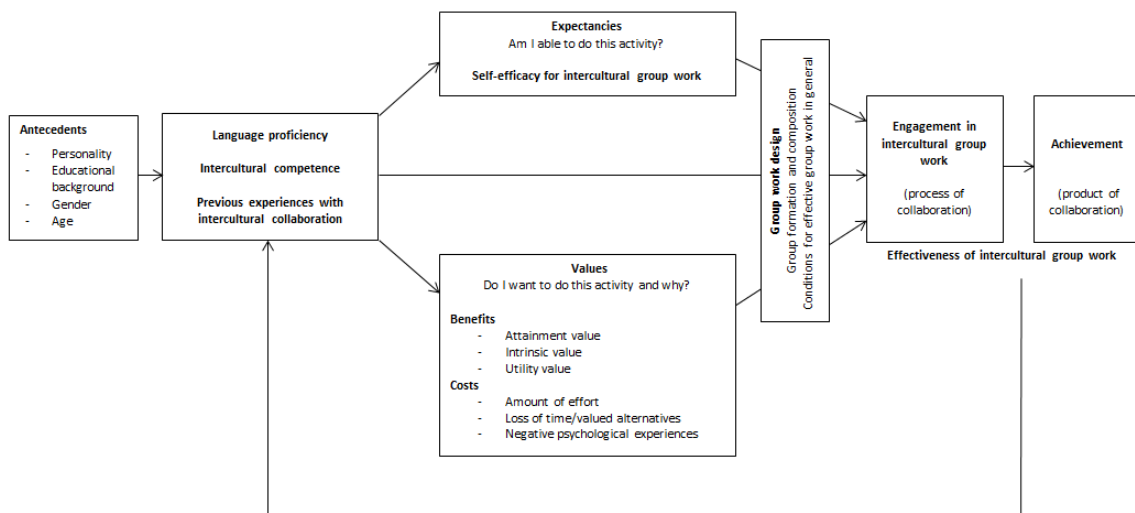


Figure 1: Schematic representation of the research model

5.1.2 Research Questions

The central research question in this project is as follows: Which factors promote the effectiveness of intercultural group work in higher education?

To answer this question the following studies will be performed, guided by the corresponding sub-questions:

Study 1

- Which benefits and costs do students attribute to engaging in intercultural group work?
- To what extent do the benefits and costs that students attribute to engaging in intercultural group work differ between nationalities, universities and disciplines?

Study 2

- To what extent do students' pre-entry characteristics (intercultural competence, language proficiency and previous experiences with intercultural collaboration) and motivation contribute to students' engagement in intercultural group work?
- To what extent does group work design contribute to students' engagement in intercultural group work?

Study 3 - intervention study

- To what extent do students' pre-entry characteristics (intercultural competence, language proficiency and previous experiences with intercultural collaboration) and motivation contribute to the effectiveness of intercultural group work?
- To what extent does group work design contribute to the effectiveness of intercultural group work?
- How can preparation of students for intercultural group work contribute to the effectiveness of intercultural group work?

Study 4

- To what extent does group diversity (cultural background, cultural distance, levels of intercultural competence, and levels of students' motivation) contribute to the effectiveness of intercultural group work?

5.2 Method

5.2.1 Design

Based on the central research question, a literature study was conducted to map out which students' characteristic and capabilities, and which factors in the learning environment may contribute to the effectiveness of intercultural group work according to previous research. This literature study provided the foundation for this research proposal.

Study 1

For the qualitative component of this study, student focus groups will be conducted to provide an in-depth exploration of the benefits and costs that students attribute to engaging in intercultural group work. A culturally diverse sample of students ($n > 80$) from two to four Dutch universities and faculties (alpha, beta, and gamma) will participate in the focus groups. Based on the outcomes of the focus groups and existing instruments, a student self-report instrument will be developed to measure the benefits and cost. For the quantitative component of this study, a culturally diverse sample of students ($n > 300$) from several Dutch universities and faculties will complete the self-report instrument. The data that will be collected from the focus groups will provide qualitative triangulation of the quantitative data from the survey. The self-report instrument will also be utilized in studies 2-4.

Study 2

A culturally diverse sample of students ($n > 500$) from internationally oriented programs of several Dutch universities will be selected. In context of a current group work assignment, students will be requested to complete a self-report and a peer evaluation for each of their team members. Through the self-report, data will be collected about personal information, personality, intercultural competence, language proficiency, previous experiences with intercultural collaboration, self-efficacy for intercultural group work, benefits and costs attributed to intercultural group work and an assessment of their own engagement in intercultural group work. Through peer evaluations, data will be collected about how engagement of a student is perceived by fellow team members.

This cross-sectional survey will provide insight into the extent certain factors contribute to students' engagement in intercultural group work. Engagement is considered a key element in achieving IGW effectiveness. The outcomes of this study will provide input for the design of the intervention in study 3.

Study 3

A culturally diverse sample of students (20 student groups with an average of 5 students per group) from international oriented programs of two Dutch universities will be selected. The student should participate in an intercultural group work project with a minimum of three students and maximum of seven students, and for the duration of at least four weeks. In this pretest-posttest design, half of the student groups will receive the intervention that aims to increase the effectiveness of intercultural group work (e.g. by increasing students intercultural competence and motivation or by changes in the design of the group work assignments). The intervention will be conducted by the researcher or other instructors that are trained for this particular intervention.

At the beginning and end of the group work assignment, students will be requested to complete the self-report and the peer evaluations as described under study 2. At least two sessions in the beginning and two sessions at the end of the project will be observed through video recordings. These recordings will be scored with a to be developed observation instrument of effective intercultural collaboration skills. The final grades will serve as an indicator of achievement.

Study 4

Data collected for study 3 will be used to determine the diversity of the group at the level of cultural background, cultural distance, intercultural competence and students' motivation.

5.2.2 Instruments

Study 1

A detailed protocol will be formulated to guide the student focus groups. The protocol will include questions for the students to identify the benefits and costs that they attribute to engaging in intercultural group work. The focus groups will be conducted in the presence of two researchers. One researcher will facilitate the focus group and the other will take notes that will be projected on a screen. Students will be asked to first answer the questions for themselves, followed by sharing, discussing, and clarifying their answers in the group. After group discussion, participants will be asked to make their own individual ranking of benefits and costs.

Based on existing scales (Eccles & Wigfield, 1995; Wigfield & Eccles, 2000; Wigfield & Cambria, 2010) and outcomes of the focus groups, an instrument will be developed to measure the benefits and costs that students attribute to IGW. Instruments measuring benefits are available from previous research, but research has neglected the element of cost (Wigfield & Eccles, 2000). To fill this void in research, a recent study focused on developing items to measure costs (Flake, Barron, Hulleman, McCoach, & Welsh, 2015). These items will also be considered in developing a new instrument. Likert scale items for each of the components of benefits (attainment value, intrinsic value, and utility value) and costs (amount of effort, loss of time, and psychological cost of failure) will be formulated. A pilot study will be conducted to further develop the instrument.

Study 2

Data for study 2 will be collected through a student self-report questionnaire, an external evaluation of language proficiency and cultural metacognition, and peer evaluations.

The *Intercultural Group Work Questionnaire* will consist of eight sections.

- *Personal information*
Age, gender, educational background, present education, and nationality/ethnicity.
- *Personality*
Personality will be assessed with The Big Five Inventory (John, Donahue, & Kentle, 1991)
- *Intercultural competence*
Intercultural competence will be measured with the Cultural Intelligence Scale (CQS). Participants will rate their CQ on a scale from 1 (*strongly agree*) to 7 (*strongly disagree*). Ang et al. (2007) developed the 20 item self-report CQS. This relatively new, but by far the most popular instrument to measure CQ, successfully predicted a range of outcomes in intercultural contexts and has been validated in a variety of contexts (Abbe, Geller, & Everett, 2010; Thomas et al., 2015; Van Dyne et al., 2012).

Cultural Intelligence (CQ) is one of the multiple frameworks used to describe the complex construct of intercultural competence (Deardorff, 2006; Earley & Ang, 2003; Hammer, Bennett, & Wiseman, 2003; van der Zee, van Oudenhoven, & de Grijs, 2004). CQ refers to an individual's capability to function effectively in intercultural settings (Van Dyne et al., 2012). CQ is not a trait-like but a state-like construct; it refers to a "malleable capability that can be enhanced by active engagement in education, travel, international assignments and other intercultural experiences" (Ang & Van Dyne, 2008, p. 8). It is distinct from stable personality traits such as the Big Five (Ang & Van Dyne, 2008). CQ is a four-factor construct that includes metacognitive, cognitive, motivational, and behavioral dimensions (Ang & Van Dyne, 2008; Earley & Ang, 2003). These four dimensions are different types of capabilities that together form the overall capability to function and manage effectively in culturally diverse settings. These dimensions may or may not correlate with one another (Ang & Van Dyne, 2008; Earley & Ang, 2003).

- *Language proficiency*
Self-perceived language proficiency for speaking, listening, reading and writing will be measured with items taken from the Language Experience and Proficiency Questionnaire (LEAP-Q) (Marian, Blumenfeld, & Kaushanskaya, 2007). Participants will rate their proficiency on a scale from 0 (*none*) to 10 (*perfect*). The LEAP-Q does not include *writing proficiency*, but this item will be added as writing is often a significant part of group work assignments.
- *Previous experiences with intercultural collaboration*
Likert scale items will be developed to assess the exposure to and quality of previous intercultural collaboration.
- *Self-efficacy for intercultural group work*
The 21-item questionnaire developed by Alavi and McCormick (2008) measuring perceived self-efficacy for academic group work will be adapted for intercultural group work. The items are related to common group activities for performing group tasks (e.g., 'I can organize the group to complete the set tasks in the available time'), and students' self-efficacy for exchanging ideas (e.g., 'I can openly explain my opinions to other group members'), evaluating ideas (e.g., 'I can productively discuss with other group members about the weaknesses of their ideas') and integrating ideas (e.g. 'I can take every group member's ideas into consideration to make a group decision') (Alavi & McCormick, 2008; Gibson, 2001). Students will be asked to rate how confident they are that they can successfully do each of these tasks in the context of the group work assignment they were participating in at that time. The original questionnaire uses an 11-point scale ranging from 0% (*not at all confident*) to 100% (*completely confident*), a scale advised by Bandura (2006) for measuring self-efficacy as opposed to less sensitive and less reliable scales with fewer steps (Alavi & McCormick, 2008). In the context of this study a simpler response format will be used which retains the

same scale structure and descriptors but used single unit intervals ranging from 0 (*not at all confident*) to 10 (*completely confident*) (Bandura, 2006).

- *Benefits and costs of intercultural group work*
See instrument under study 1
- *Engagement in intercultural group work*
Likert scale items will be developed to assess how student perceive their own level of engagement.

Language proficiency (external evaluation) - Besides students rating their own language proficiency, an additional assessment method will be used to measure language proficiency by external evaluation. Options for external evaluations are to use already completed assessments of language proficiency, an extra test to be taken by the students or video recordings of group work meetings.

Cultural metacognition (external evaluation) – Due to the limitations of self-assessment instruments, it will be useful to have an indication to what extent self-assessed metacognitive CQ correlates with an external evaluation of cultural metacognition. We will consider the option of using verbal tracing protocol (out-loud thinking) to measure cultural metacognition for a smaller sample of students.

Peer-evaluations – A peer-evaluation instrument will be developed to measure how fellow student perceive the contribution of each individual member of their group. Likert scale items will include effectiveness, activeness and appropriateness of students' engagement in intercultural group work.

Studies 3-4

Data for studies 3 and 4 will be collected with the same instruments as mentioned under study 2, observation of intercultural collaboration skills and the final grade for the group work assignment.

Observation of intercultural collaboration skills

An observation instrument will be developed based on previous research on effective intercultural interaction and effective collaboration skills.

Final grade

The final grade for the group work assignment as determined by the instructor/teacher will serve as an indicator of achievement.

Cultural distance

Cultural distance between the group members will be calculated according to the formula developed by Kogut & Singh (1988). This formula calculates cultural distance between two countries based on the Hofstede dimensions (Hofstede et al., 2010). Hofstede dimension scores will be assigned to individuals based on nationality.

5.2.3 Analysis

Study 1

The benefits and costs as indicated by the students will be categorized. Statistical testing will be used to determine the extent to which the rankings of benefits and costs of individual students differ depending on nationality, university, discipline and gender.

Based on the literature and the outcomes of the focus groups, an instrument will be developed to measure benefits and costs that students attribute to engaging in intercultural group work. The instrument will be validated through reliability analysis and structural equation modelling.

Study 2

The different elements of the intercultural group work questionnaire will be validated through reliability analysis and structural equation modelling. Multilevel analysis will be conducted to determine the contribution of student characteristics and factors in the learning environment.

Study 3

Pretest/posttest analyses will be conducted with paired t-test and ANOVA.

Study 4

Multilevel analysis will be conducted to determine to which extent group characteristics and individual student characteristics explain variance in the effectiveness of intercultural group work.

5.3 Significance

5.3.1 Scientific Significance

This research project will contribute to further validation of the expectancy-value theory. Although cost is an important component of this theory, empirical research focused on benefits and the cost component has been neglected. Hence, very little is known about the contribution of cost to student performance (Wigfield & Cambria, 2010).

To establish cross-cultural equivalence of the different scales used (that the concepts being measured have the same meaning to different cultural groups/groups of students), a multi-group confirmatory analysis will be conducted. This will provide cross-cultural validation of the CQ Scale.

A new observational instrument will be developed and validated to measure the effectiveness of intercultural collaboration skills.

5.3.2 Practical Significance

The vast majority of research on the topic of intercultural collaboration and group work in higher education is situated in English-speaking countries. As explained before, the issues around intercultural group work in the Netherlands might be different from problems that surface in English-speaking countries as the majority of the staff and students will have to communicate and learn in a second language. The results of this research project are most likely highly relevant and applicable to universities in other European countries as they face similar challenges as universities in the Netherlands.

This research project will provide insight into which student characteristics and factors in the learning environment affect students' effective and active engagement in intercultural group work. These insights provide a foundation for educators to shape the curriculum and learning environment in a way that is most beneficial for students' learning.

The interventions are designed to be implemented in a real educational situation. If these interventions prove to be effective, they can be implemented in similar higher education environments.

5.3.3 Originality / Innovativity

To my knowledge, no research has been conducted that specifically maps out the contribution of motivational factors (self-efficacy, benefits, costs) to the engagement in and the effectiveness of intercultural group work in a higher education setting.

Previous research evaluating interventions aiming to increase effectiveness of intercultural collaboration in higher education uses student self-report measures. For this research project, informant- and performance-based measures will be used; both peer-assessment and a new to be developed observation instrument will be used to measure effectiveness of intercultural collaboration.

5.4 Literature

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5.5 International Orientation

This research project has a very strong international orientation as it addresses topics of interest that are directly related to internationalization of higher education, a development that is actively pursued by universities in the Netherlands and abroad. The increasingly international and diverse learning environments of universities across the globe carry rich learning opportunities within them. This study aims to find ways to maximize these opportunities and thus contribute to the quality of international education.

The majority of research on internationalization of higher education was conducted in English-speaking countries such as Australia, Canada, the United States and the United Kingdom. In those countries, the majority of staff and students teach and learn in their mother tongue, whereas for the majority of international students English will be the second language. In the Netherlands, Dutch native speakers have to teach and learn in their second language as well, which can potentially create a very different dynamic in group work. This research can provide valuable insights for international programs in Higher Education Institutions where native staff and students also have to function in a second language.

6. Research Plan

6.1 Detailed Research Plan for Year One

March 2017

- Contact/recruit participants for student focus groups and motivation survey
- Develop protocol for student focus groups
- Develop first version of Motivation survey

April 2017

- Conduct student focus groups
- Pilot Motivation survey
- Contact faculties, programs and teachers to recruit participants for IGW pilot and survey

May 2017

- Conduct student focus groups
- Pilot Motivation survey
- Enter and analyze data from student focus groups and pilot motivation survey
- Contact faculties, programs and teachers to recruit participants for IGW pilot and survey

June 2017

- Enter and analyze data from student focus groups and pilot motivation survey
- Definite version of Motivation survey

July 2017

- Write theoretic framework and method for article 1
- Develop IGW survey

August 2017

- Write student focus group analysis for article 1
- Develop IGW survey

September 2017

- Conduct Motivation survey
- Enter data from Motivation survey
- Pilot IGW survey

October 2017

- Conduct Motivation survey
- Enter and analyze data from Motivation survey
- Pilot IGW survey

November 2017

- Write Motivation survey analysis for article 1
- Contact faculties, programs and teachers to recruit participants for IGW pilot and survey

December 2017

- Finish writing article 1
- Enter and analyze data from pilot IGW survey

January 2018

- Definite version of IGW survey
- Contact faculties, programs and teachers to recruit participants for IGW intervention study
- Develop observation instrument for intercultural collaboration skills

February 2018

- Conduct IGW survey
- Contact faculties, programs and teachers to recruit participants for IGW intervention study

6.2 Outline Research Plan for the Remaining Years of the Project

March – June 2018

- Pilot observation instrument intercultural collaborations skills
- Meet with teachers intervention study

July-September 2018

- Write article 2
- Definite observation instrument intercultural collaborations skills
- Design intervention

October – December 2018

- Implement intervention (pre-post)

January – March 2019

- Enter and analyse pre-post data

April – June 2019

- Write article 3

July – September 2019

- Analyse data study 4
- Write introduction dissertation

October – December 2019

- Write article 4
- Write conclusion

January – August 2020

- Continue with articles
- Continue with and finish dissertation

6.3 Publication Plan: Prospective Title and Outline all Publications

- Article 1 – January 2018 (study 1)
Students’ motivation for actively engaging in intercultural group work
- Article 2 – October 2018 (study 2)
Contribution of student characteristics and group work design to students’ active engagement in intercultural group work
- Article 3 – July 2019 (study 3)
Promoting the effectiveness of intercultural group work in higher education
- Article 4 – January 2020 (study 4)
The contribution of group diversity to the effectiveness of intercultural group work in higher education

7. ICO Education and Supervision Plan

7.1 PhD Candidate

Full name, titles	Irene Christina Poort MSc	female
Date of birth	25 September 1968	
Previous education	Master Educational Sciences	
Start date appointment	01/09/2016	
End date appointment	31/08/2020	
Full-time equivalent (for working on PhD project)	1,0 fte	
	<input checked="" type="checkbox"/> Full time ICO PhD Member (FTE ≥ 0.6)	
	<input type="checkbox"/> Part time ICO PhD Member (FTE ≤ 0.6)	

Postal Address

University	University of Groningen	
Institute	Department of Teacher Education	
Address	Grote Kruisstraat 2/1	
Postal Code	9712 TS	City Groningen
Telephone	050-363 79 61	Fax
E-mail	i.c.poort@rug.nl	

7.2 Within which research theme of the research program of ICO is the proposal being written?

Theme	1 st theme	2 nd theme (optional)
1. Learning and instruction	<input type="checkbox"/>	<input type="checkbox"/>
2. ICT and Education	<input type="checkbox"/>	<input type="checkbox"/>
3. Workplace learning	<input type="checkbox"/>	<input type="checkbox"/>
4. Teaching and Teacher Education	<input type="checkbox"/>	<input type="checkbox"/>
5. Domain-specific instruction	<input type="checkbox"/>	<input type="checkbox"/>
6. Educational design and curriculum development	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Schools and the societal context of education	<input type="checkbox"/>	<input type="checkbox"/>
8. Assessment, evaluation and examination	<input type="checkbox"/>	<input type="checkbox"/>
9. Higher education	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Neurosciences and education	<input type="checkbox"/>	<input type="checkbox"/>

7.3 Education Plan

Planned Educational Activities within ICO:		
Course	ECTS Credits/hours	Year
1. Introductory Course	5	Spring 2017
2. Research into Higher Education	3	Spring 2017
3. Masterclass Quantitive Research	3	Spring 2018
4. ICO international fall school	3	Fall 2018
5. Educational Design & Curriculum development	3	Spring 2019
6. Masterclass Qualitative Research	3	Spring 2019
7. ICO national fall school	1	Fall 2019

Planned Educational Activities outside ICO:		
Course	ECTS Credits/hours	Year
1. Academic writing	2 (56 hrs)	January-June 2017
2. Scientific Integrity	2.5	May-June 2017
3. How to theorize (ReMa BSS)	2.5	Fall 2017
4. Advanced Statistics (ReMa BSS)	7.5	Fall 2017
5.		

7.4 Supervision Plan

7.4.1 Agreements on the nature of the supervision, and agreements on the amount and frequency of supervision (the PhD candidate has a right to at least 600 hours of supervision).



In the starting period of the PhD project regular consultations will be held with the daily supervisor/co-promoter, mostly once per week, during one to two hours. In a later stage this frequency will be decreased. Meetings with the promoter will be held approximately once a month. If additional consultation is required, both daily supervisor and promotor are available.

7.4.2 Tasks

Besides the research project (including training and other activities for professional development), will there be time spent on issues not related to the PhD research project? If so, what is the nature of these tasks, and how much time will these tasks consume?

No

7.5 Agreement

Function	Name	Signature	Date
PhD Candidate	Irene C. Poort	 _____	28 February, 2017
Promoter	Prof. Dr. W.H.A. Hofman	 _____	28 February, 2017
ICO Director		_____	
Coordinator ICO Theme Group		_____	