Teamwork among Chinese Students
Chinese Bachelor Students' experience of teamwork in the context of a Sino-Finnish product development course

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Abstract

This study examines the teamwork experiences of Chinese bachelor students in a product development course in the context of education transfer between Finland and China. A qualitative and primary inductive research approach is chosen to explore how students experience teamwork processes and development based on three cases studies. In terms of teamwork processes, the taxonomy of Marks et al. (2001) facilitates and supports the research result that most impactful experiences during the actual teamwork were gathered during the transition processes. These processes include the planning of taskwork, information sharing and decision making. Furthermore, the students experienced challenges in conflict management and task rotation. Both challenging and beneficial experiences result in leadership and psychological safety. Regarding the long-term perspective of teamwork, students mainly stated positive experiences which are reasoned by friendly relationships and open communication inside interdisciplinary teams. The team development model by Tuckman (1965) supports the identification that the forming and norming phase are the most concise phases regarding experiences in team development. These stages are experienced to develop interpersonal relations and team norms which are essential to enable teamwork efficiency. Nevertheless, students finally experienced difficulties to lift friendship and cohesion to a top level. In addition, the study discusses observation that external factors like the Chinese culture and the educational framework influenced the student’s behavior, hence teamwork experience. Lastly, the author suggests practical implications for students and teachers in future applications of teamwork in the same context.
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01 Introduction

1.1 Motivation
1.2 Sino-Finnish Cooperation
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1.4 Thesis Structure
1 Introduction

1.1 Motivation

Teamwork is a common workplace arrangement to master complex projects and service models under increasing pressure of project magnitude and time (Donia, O’Neill, & Brutus, 2018; Duhigg, 2016). This has been leveraged by the scientific consensus that teamwork can be more effective than the sum of individual work (Salas, Reyes, & McDaniel, 2018). However, as complex the task is the team has to accomplish, as complex is the constellation and execution of teamwork itself. Various parameters inside and outside the teamwork are strongly interconnected and influence it (Ramos-Villagrasa, Marques-Quinteiro, Navarro, & Rico, 2018). These facts, amongst others, express the importance of team effort and its training. In order to prepare students for later industry projects and to support learnings by the application of knowledge, project based teamwork is considered as an effective learning method in higher education in Finland (Björklund, Laakso, Kirjavainen, & Ekman, 2017). Driven by globalization universities strive for internationalization and therefore create international cooperations among universities to enable transfer of knowledge, expertise and resources. The Sino-Finnish cooperation between the institutions Aalto University (Finland) and Tongji University (China) serves as a great example for an international educational cooperation which enables this kind of transfer (Vainio, 2014). Still, cultural differences in international cooperations may have an impact on the experience of transferred knowledge like methods or tools (Samovar, Porter, & McDaniel, 2010). Consequently, methods may need to be adapted to the other cultural environment. The latest product of the Sino-Finnish cooperation, a joint product development program, serves a research setting to explore how Chinese Bachelor students experience teamwork and related exercises which are instructed according to Finnish teaching model.

1.2 Sino-Finnish Cooperation

The Sino-Finnish cooperation between Aalto University in Finland and Tongji University in China has been established in 2010 (Vainio, 2014). The aim of this cooperation is to enable synergies to become world-class universities, support sustainable development of the
universities’ societies, foster growth of the innovation competence in key areas (Aalto University Press Release 25.05.2010). The cooperation started with the agreement on a Sino-Finnish Double Degree Program and now offers additional courses, workshops and seminars, and other student activities at the Sino-Finnish Centre (Vainio, 2014). Furthermore and important for this study, the educational cooperation aims at “shedding the light on the cultures and societies of China, Finland and other countries worldwide, providing the insights into related subjects and team spirits as well as building their global competence” (Sino-Finnish Centre, 2018).

In 2017, the latest product of this cooperation, the Shanghai International College of Design and Innovation has been established (Aalto University, 2017). Apart from three double degree programs, a product development program was set up. The program consists of three courses, which were held during the academic year of 2017/18. During the first course of the program, it was realized that the educational export is difficult and further knowledge and studies are necessary for improvement. Therefore, the responsible instructors from Aalto University have raised the interest in better understanding the environment where the education is exported to. The instructor’s need of a better understanding, the personal interest in teamwork of the author of this thesis, and the exchange of the author to Tongji University in Spring 2018 have been the driving reasons for the topic of this thesis. Consequently, this research is conducted in cooperation with the Design Factory of Aalto University and supports their educational work. The data of this empirical study has been conducted during the second course of the product development program.

1.3 Thesis Objectives and Research Questions

The overall objective of this research is to examine how the educational export is experienced by Chinese bachelor students. The identified teamwork experience may then point out potential aspects of improvement for future education export. The outcome of this study can be evaluated by the depth and amount of suggestions and its internal generalization for future cases in the same context. While exploring the teamwork experience, the study focuses on the teamwork process rather than its inputs or outcomes. This focus is supported by the research interest of the instructing universities and by the fact that teamwork processes have
a strong influence on the team’s outcomes such as performance and team satisfaction (Cohen & Bailey, 1997; LePine, Piccolo, Jackson, Mathieu, & Saul, 2008; Sundstrom, McIntyre, Halfhill, & Richards, 2000). To investigate the experience of bachelor students, it is essential to understand the process design of teamwork, the team development, and the experienced challenges and benefits on these aspects. Therefore, the research objective is divided into different research goals.

The first two goals are to understand the processes of teamwork and the team development. The third goal is to identify challenges and benefits related to the team processes and development. Although the academic objective of this study is not a theoretical generalization, the expected findings may help both students and teachers to understand better the application of teamwork as a teaching method in Chinese higher education. More precise, the findings may have an influence on course structure including content and applied teaching methods that are organized in cooperation between Aalto University and Tongji University. The following research questions need to be answered in order to reach the three mentioned objectives:

**Q1: How do the teams design the teamwork processes in the course?**

This question leads to the understanding of what are the concrete process steps of teamwork and how these steps are executed. As this question is leading to the teamwork experiences, it is considered as supportive part of the thesis. Existing theory helps to answer this question by providing a structure to categorize the empirical findings. Data regarding this research questions is mainly collected by individual interviews. The data collection is explained in chapter 3.4.2 and its analysis in 3.5.3.

**Q2: How do the teams develop during the course?**

This question explores the interpersonal development of the team members along the project. Findings demonstrate what characterizes a certain stage of development and how the students act in this stage. Alike the first research question, it leads to teamwork experiences and it is considered as a supportive part of the thesis. Existing theory is presented in the following chapter which will help to answer this question by providing a structure to categorize the empirical findings. Suitable data is collected by
the observation of a teamwork exercise (chapter 3.4.1) and by individual interviews at the end of the course (chapter 3.4.2). The applied analysis of the collected data is explained in chapter 3.5.2 and 3.5.3.

**Q3: What challenges and benefits do the students experience during the processes and development?**

This question aims to explore the experienced situations that hinder or support the teamwork processes or development. It thereby builds on the previous two questions. The findings represent the core of this research. The findings involve collective thoughts and opinions of students on their chosen process. The team experiences can be considered as happenings which serve as a basis of knowledge; they do not equal learnings. Asking for a comparison to previous teamwork as well as experienced learnings further help to identify experienced challenges and benefits. Data regarding this question is collected by observations and individual interviews. The data analysis is explained in chapter 3.5.2 and 3.5.3.

These are the questions this study answers with the help of existing theory and empirical research. As this study focuses on the experience of the students, some other aspects within the context of teamwork experience are excluded of this study as for instance the teacher’s experience and perspective. This is due to the small number of participating teachers in the case study, which would lead to the risk of subjective perception. Furthermore, the aspect of interdisciplinary teamwork as emphasized at Aalto University (Aalto University, 2016) cannot be taken into account in this study as the participating students are mainly from the field of arts and design. As the course participants are only Chinese, the multicultural aspect also cannot be considered.

**1.4 Thesis Structure**

The structure of the thesis is divided into five main parts that help the reader to get through this study in a logical order. The structure will be in following order:

1. Introduction
2. Literature Review
3. Research Design and Methods
4. Findings
5. Discussion and Conclusion

The literature review helps the reader to get familiar with relevant theoretical frameworks and preceding empirical studies in this field and context. Based on this understanding, the research questions, design, and methods of this empirical study are explained in detail. In the fourth chapter, answers to the research questions are presented. Afterwards, the findings are compared to the preceding study and theories in the discussion chapter. At this point, the role of the cultural context is discussed. Theoretical and practical implications are a part of the discussion before suggestions for future research and the conclusions which end this study.
02 Literature Review

2.1 Teamwork as Research Target
2.2 Cultural Context
2.3 Empirical Research on Teamwork in Chinese Education
2.4 Theoretical Framework
2 Literature Review

The literature review consists of three main parts targeting certain aspects of this study. The first two parts looking into teamwork and culture, provide a fundamental understanding including relevant theories while the third part targets empirical studies on the interface of teamwork in the Chinese context.

The first part is more detailed, as teamwork is the core concept in this study. It is divided into different chapters: team definition, teamwork models and team processes and development, the latter being particularly relevant for this study. The second part is about the cultural context. It presents existing theories and approaches of researchers to characterize the Chinese culture in particular. The cultural understanding has a supporting role in this study and thereby it is discussed only shortly. The third part of the literature review focuses on the empirical studies on teamwork in the context of China.

2.1 Teamwork as Research Target

This chapter provides a holistic understanding of the field of teamwork. It starts with the definitions of team and teamwork, presents fundamental theories before specific models are explained which support the analysis of this study. In the end of the literature review, empirical studies on teamwork in China will be summarized.

2.1.1 Team definition

In order to understand team processes and development, a common understanding of the main object of this study is needed: the team. This study adopts a profound definition of team by Kozlowski & Ilgen (2006, p.79):

*Teams can be defined as (a) two or more individuals who (b) socially interact (face-to-face or increasingly, virtually); (c) possess one or more common goals; (d) are brought together to perform organizationally relevant tasks; (e) exhibit interdependence with respect to workflow, goals, and outcomes; (f) have different roles and responsibilities;*
and (g) are together embedded in an encompassing organizational system, with boundaries and linkages to the broader system context and task environment.

The core of this definition is that teams share common goals, which they work on together keeping a certain degree of independence. Team members’ roles can be either clearly defined and designated in the beginning or evolve over time yielding informal positions (Mathieu, Tannenbaum, Donsbach, & Alliger, 2014). Most recent research considers teams as complex adaptive systems (Arrow, McGrath, & Berdahl, 2000; Ilgen, Hollenbeck, Johnson, & Jundt, 2005; Mathieu et al., 2014; Salas et al., 2018) and attracts many scholars to write in this field. Furthermore, many studies focus on the constellations of teams to enhance the productivity and efficiency (Kozlowski & Ilgen, 2006), more recent studies investigate how to leverage creativity and co-creation (Olszak, Bartu, & Lorek, 2018), and others examine team constellations in a cultural context of a growing globalization (Bandura, 2002; Pieterse, Knippenberg, & Dierendonck, 2013). In general, team research has been ongoing for more than 60 years and still is considered to go through its most exciting moments (Kozlowski, Chao, Chang, & Fernandez, 2016; Mathieu et al., 2014). The long time of research in this field has created a broad and advanced fundament of team science which we can build on in practice (Driskell, Salas, & Driskell, 2018; Ilgen et al., 2005).

2.1.2 Teamwork models

As teamwork is a complex construct consisting of many variables, precise definitions of teamwork are difficult to find because scholars find it difficult to agree on common variables. This study adopts the following simplified definition of teamwork by Salas, Sims, & Shawn Burke (2005, p.562):

Teamwork is a set of interrelated thoughts, actions, and feelings of each team member that are needed to function as a team and that combine to facilitate coordinated, adaptive performance and task objectives resulting in value-added outcomes.

In addition to this definition, teamwork needs to be distinguished from taskwork: While taskwork focuses on the content of work, what needs to be done, teamwork deals with how
the taskwork needs to be done (Marks et al., 2001). Mathieu, Hollenbeck, and Ilgen (2017) further classify the taskwork by scope and complexity.

As mentioned in the previous chapter, research on teams and hence teamwork is a well-explored field consisting of a profound theoretical fundament of frameworks, models and theories (Driskell et al., 2018; Ilgen et al., 2005; Ramos-Villagrasa et al., 2018). The variety and diversity of teamwork research has generated multiple different measures and it is noted that there is not a standard set of criteria measures (Mathieu et al., 2017). The evolution of teamwork theory will be explained in the following two chapters.

2.1.2.1 Classic fundament of teamwork theory

Teamwork again can be part of systems or processes. In commonly acknowledged works of Hackman (1987), McGrath (1984), and Steiner (1972), teamwork has been considered as the middle part of a three-stage system: A team consists of resources (input), which contribute to an internal process (throughput) until it produces a specific result (output). This classic system has been modelled to the input-process-output (IPO) model (Hackman, 1987; McGrath, 1984; Steiner, 1972). This model has influenced many empirical studies in the past decades (Marks et al., 2001).

In another common perspective to cluster the field of teamwork, there are different levels which influence teamwork of organizational, team and individual function (Brannick & Prince, 1997; Hackman, 1990). The organizational level can be considered as the setting of the teamwork, like country, company, department. Whereas the team level concerns the team composition, team interaction and outcome. On the individual level, personality, knowledge and attitudes are considered. These three levels are interconnected and it is important to understand their linkages and the system context in order to align the teamwork processes according to the teams’ demands (Kozlowski & Ilgen, 2006).

Considering the two classic models of teamwork, this study focusses on the team and process levels, while the organizational structure and the individual contribution is considered less important (Figure 1). The focus on team processes is supported by the stated positive
influence on team outcomes such as performance and members’ satisfaction (Cohen & Bailey, 1997; LePine et al., 2008; Sundstrom et al., 2000).

**Figure 1: Research focus according to classic models**

### 2.1.2.2 Development of teamwork frameworks

These classic models have guided the teamwork theory for many years but are considered outdated today as they follow a linear, static approach with limited effects on outcomes. Recent theories adapt to the perception of teams as complex and adaptive systems. Furthermore, these teams exist in a larger context of people, tasks, technologies, and settings (Kozlowski & Ilgen, 2006; Mathieu et al., 2017). These theories and models are thereby closer to the reality of teamwork, where members have diverse background and or nationalities, tasks and team constellations change during the process (Kozlowski & Chao, 2018; Mathieu et al., 2017), and technology is involved (Luciano, Mathieu, Park, & Tannenbaum, 2018; Maruping & Agarwal, 2004). Nevertheless, empirical studies are stated to be “far less cohesive or coherent in its entirety than is theory and method” (Kozlowski & Ilgen, 2006).

Recent models have been developed to reflect these dynamics and complexity. McGrath et al. (2000) have developed a theory clustering dynamic causal interactions in three different system levels of local, global, and contextual dynamics. Ilgen et al. (2005) introduced an IMOI (input-mediator-output-input) model, which integrates a wide range of variables and emphasizes a cyclical process. Also addressing the iterative approach but focusing more on temporarily processes is the taxonomy of team processes by Marks et al. (2001). Their
framework is widely picked up in other studies and also serves as the basis for the analysis of this study. The framework is presented in the following chapter.

2.1.3 Team processes framework

The taxonomy of Marks et al. (2001) has been developed to adapt to dynamics and complexity in teamwork. The authors claim that parts of former models on teamwork processes are actually not a process but emergent and affective states. This led them to define their temporally based framework and taxonomy of team processes. Kozlowski and Ilgen (2006) agree with this observation and add that processes are clearly dynamic but over time they become a routine and develop to a structure. This structure then can be considered as a whole – the team process.

The temporally based framework and taxonomy of team processes by Marks et al. (2001) provide a clear and detailed base for the analysis of teamwork (Figure 2, Figure 3). In their framework, they explain that the general teamwork process consists of many smaller periods in which team members interact and work simultaneously to achieve a common goal. They define team process as “members' interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioral activities directed toward organizing taskwork to achieve collective goals” (Marks et al., 2001, p.357). They further distinguish variables between processes and emergent states. Emergent states do not describe an interaction process but properties such as attributes, values, cognitions, and motivations. Such states can be on individual level (e.g. commitment, motivation, satisfaction) or on collective level (e.g. morale, affective tone, conflict) (Mathieu et al., 2017). Both processes and emergent state help to analyze the teamwork by tracking team member’s actions and factors related to it, as well as the alignment of the actions to the task, hence common goal. The process towards one goal is subdivided into smaller parts called action and transition phases. These phases are consecutive and consist each of an input, processes and output (Figure 2).
In the transition phase, the team focuses on the evaluation and planning activities towards their goal accomplishment. Thereby the taxonomy includes the processes mission analysis, goal specification and strategy formulation and planning. All three processes involve decision making, discussion on expectations, exchange of task related information, prioritization, role assignment, and lastly the concluding communication to all team members (LePine et al., 2008; Stout, Cannon-Bowers, Salas, & Milanovich, 1999). As a side effect, these processes reduce ambiguity by giving the team a shared understanding of both the task’s and team’s objectives. Thereby, the team establishes shared mental models which means to put all team members on the same page (Salas et al., 2018). The mission analysis concerns the evaluation of past and upcoming teamwork. Backward evaluation or reflections after action processes which again are transition processes lead to learning and subsequent performance increase (Cannon-Bowers, Tannenbaum, Salas, & Volpe, 1995; Marks et al., 2001; Mathieu & Rapp, 2009; Villado & Arthur, 2013). During this process, members should also discuss a shared vision of the teams’ purpose and objective. During the goal specification, teams need to specify and prioritize sub goals to reach their defined mission. Poorly defined goals lead to less effective strategies or misunderstandings of mission (Marks et al., 2001). The taxonomy
provides a further classification of planning and strategy by differentiating between principal, alternative and reactive planning (Marks et al., 2001). Other researchers highlight that thoughtful and concrete planning facilitate the action processes, hence team performance. As results of more complex systems and tasks, Mathieu et al. (2017) note task decomposition in relation to teamwork strategies, which describes the system of separated taskwork towards a common outcome.

During the action phase, the focus lies on coordination, supportive behavior, and monitoring of progress, system, and team itself. Coordination is the process of organizing different individuals’ skills, behaviors and knowledge during the taskwork to achieve the predefined objectives (Salas et al., 2018). Thereby, communication plays a significant role. Monitoring includes the evaluation of current status, interpretation of influencing variables, and providing feedback, and potentially self-regulation (Marks et al., 2001). The subdivisions of the taxonomy’s action processes are further supported of positive correlation with the teamwork outcome by different scholars (Mathieu et al., 2017). In addition to the taxonomy, information exchange and integration is suggested to be further empathized in relation to action processes (Mesmer-Magnus & Dechurch, 2012). Furthermore, adaptability is noted to be essential for the application of suggestions based on reflection, feedback and debriefings (Driskell et al., 2018). In terms of team coordination, team members with little experience prefer more explicit coordination processes and relate more to each other than experienced members (Bourbousson, R’Kiouak, & Eccles, 2015).

Comparing the two phases, the transition phase involves more network density and reciprocity than the action phase (Barth, Schraagen, & Schmettow, 2015). This means there is more exchange of information, cooperation and intensity of teamwork. Thereby communication plays a significant role, though quality is more important than frequency of communication (Marlow, Lacerenza, Paoletti, Burke, & Salas, 2017). The iterations, length and predictability of the two mentioned phases depend on variables like leadership, team objectives, environment, team norms and expertise.

In addition to the action and transition phase, the study outlines interpersonal processes, which are applied by teams to manage interpersonal relationships. These processes occur
throughout the entire teamwork meaning parallel to both the action and transition phase (Figure 3). Marks et al. note three sub-processes such as conflict management, motivating, and affect management. The authors classify conflict management further in preemptive and reactive manner (Marks et al., 2001). Related indicators are norms, rules, compromising, openness and flexibility, problem solving, willingness to accept different ideas. In terms of motivating, the authors list techniques like communicating the team’s ability, competences and positive feedback after successful accomplishment of a task. Resulting relevant variables are task cohesion, competences, feedback, and performance. Affect management combines all activities which regulate member’s emotions during the goal accomplishment (Marks et al., 2001). Implicated variables to this process are social cohesion, frustration and excitement. Further literature provides strategies and suggestions to enhance interpersonal processes though technology and techniques like to manage conflicts (Luciano et al., 2018; Maruping & Agarwal, 2004).

The taxonomy has been adopted by many researchers and is widely spread in research on teamwork. A meta-analysis of process correlations has been conducted and finds support for the processes interrelation, and correlation to team outcomes (LePine et al., 2008). In turn, Fisher (2014) distinguishes between taskwork and teamwork planning processes and connects them with subsequent action and interpersonal processes.
2.1.4 Team development

While Marks et al. (2001) focus in their study mainly on task cycles consisting of team processes to accomplish a specific goal, Bruce W. Tuckman (1965) describes a linear development of indeterminate duration across the team’s life-cycle. In other words, the first one focusses on the short-term perspective of teamwork, while the later one focuses on the long-term perspective.
2.1.4.1 Team development theory

The classic and commonly used team development theory is recognized as a groundbreaking study in the field of organizational literature (Bonebright, 2010; Levasseur, 2011). In particular, in education the group development model remains as the most cited one (Cassidy, 2007). It provides a framework consisting originally of four stages - forming, storming, norming, performing. Mary Ann Jensen (2001) has refined this theory by adding a fifth stage called adjourning. All stages are separated into two dimensions, a social (Group Structure) and a content (Task Activity) related dimension. The social dimension emphasizes the development of the interpersonal relationships while the content dimension focuses on the team activities related to the task.

Tuckman distinguishes between different team sizes and settings of teamwork (Tuckman & Jensen, 1977), whereby two different settings are suitable for this study. On the one hand, in a natural-group setting, the group’s aim is to perform a social or professional function. On the other hand, the human relations training group setting investigates an educational environment, members are indeed brought together for self-improvement. Considering these two groups, the stages are described as follows:

In the first stage of Tuckman’s theory (1965), forming, people come together for a certain purpose and spend a specific time for adjusting the team and orientating towards the defined purpose. Due to resistance to group influence and task requirements towards the teams’ goals, the second stage, storming, is characterized by emerging differences and conflicts among members. Levasseur (2011) highlights the importance of this stage for the development process. During the third stage, norming, the team tries to overcome the differences by adjusting behavior, changing roles, developing new norms. This again leads to the fourth stage of performing, when members work efficiently in synergy towards the common goals. The last stage, adjourning, defines the ending of the teamwork when members reflect, give feedback and demonstrate emotions to others.

The theory has its limitations as the team development is considered complex which cannot be explained in linear process (Miller, 2009; Sundstrom, De Meuse, & Futrell, 1990). This includes the claim that there can be multiple sequences or iterative cycles of development for
instance when a new member joins the team and causes the team to move back to an earlier stage. Also, the theory considers small teams as closed systems although there might be external factors (Gersick, 1988; Rickards & Moger, 2000). Changing settings and external support are examples for external factors on the team development. Furthermore, scholars argue that stages are not clearly described and difficult to apply for non-therapeutic people (Cassidy, 2007; Rickards & Moger, 2000).

Some scholars have developed new frameworks solving these limits like Ilgen et al. (2005) in their IMOI (input-mediator-output-input) framework. Their framework considers many aspects of different preceding theories (including team process and team development), but increasing complexity of the framework is compensated by a higher generalization, like compressing five stages to three in the case of team development.

2.1.4.2 Important factors influencing the development

It is important to include the aspect of team development in this study as cognitive constructs like group norms and role expectations influence interpersonal interaction among team members, thus have a direct impact on the teamwork experiences directly (Kozlowski 2006). Norms for instance have the purpose to commonly agree on undesirable and desirable behaviors inside the team in the remaining project (Björklund et al., 2017). This again can provide stability and prevent conflicts (Jehn & Mannix, 2017).

The leadership function in teams is closely related to vision and norms. This role can be formal, meaning assigned, or informal. In informal situation multiple factors, like personality, competence, values are relevant to let a leader emerge (K. J. Klein, Saltz, & Mayer, 2004; Palazzolo, 2005). Depending on the mentioned factors and leadership philosophy, it can be of different styles adequate for different situations, like training or innovation (Sarker, Sarker, Kirkeby, & Chakraborty, 2011).

The mentioned factors are both forming and managing psychological safety inside a team (Allen, Reiter-Palmon, Crowe, & Scott, 2018). Psychological safety is a trusting behavior and based on shared belief that is safe to take risks without fear of backlash (Edmondson, 1999;
Ilgen et al., 2005). Furthermore, culture has a great influence on psychological safety (Feitosa, Grossman, & Salazar, 2018). In order to develop such an environment, it is recommended to spend more time on creating a common ground to work together (Björklund et al., 2017). This common ground includes to understand each other’s capabilities and working styles, to create a supportive atmosphere, to agree on behavioral norms in teamwork, and additionally to apply a systematic framework for positive and constructive feedback (Björklund et al., 2017).

Based on the common ground and the psychological safety, team cohesion can develop over time and further influence the teamwork experience. G.-M. Chen (2002) examined that “team spirit”, the analogue achievement motivation, is positively correlated with collective efficacy. Team cohesion further depends on the information allocation among team members and on individual’s expertise and information sharing engagement during the task performance (Aubke, Wöber, Scott, & Baggio, 2014).

Adaptability, commitment and flexibility are also important for the development of the team (Ramos-Villagrasa et al., 2018; Salas et al., 2005) but are not of prior interest in this study as it is rather of individual manner.

2.2 Cultural Context

Although this study focusses on the teamwork processes and not the individual or organizational frame, the teamwork resonates with its context (Kozlowski & Ilgen, 2006; Ramos-Villagrasa et al., 2018) and must be understood to explain behavior and experiences.

In this study, the context is formed by actors of the Sino-Finnish Cooperation - an international joint venture carrying believes, values and norms from two nationalities (Barger, 2007; Hofstede, 1991). Meri Vainio (2014) claims in her study about the organizational culture of a Sino-Finnish Cooperation that the cultural gap between both cultures is present and that the Chinese culture is strongly embedded in society and organizations. She warns, “if the cultural differences are not understood and managed, misunderstandings could escalate, having strong emotional impact, which might turn this tension into destructive rather than
constructive behavior” (Vainio, 2014, 75). This demonstrates the need to understand the cultural context of this study.

“Culture provides the rules for playing the game of life.”

There exist many different definitions, like above (Samovar et al., 2010), of culture. Most contemporary definitions of culture mention shared common values, attitudes, beliefs, norms, material objects, and symbolic resources (Gardiner & Kosmitzki, 2010; Lustig & Koester, 2009; Neuliep, 2018; Oetzel, 2009; Samovar et al., 2010). As the modern definitions above already state, culture has a strong influence on people’s thinking and behavior. It may provide people’s rules for living and functioning in society, create sense of belonging to groups, and avoid or create uncertainty (Samovar et al., 2010; Schein, 1984). Thinking of characteristics, culture is learned, symbolic, dynamic, intergenerational and ethnocentric (Samovar et al., 2010). Culture is usually reserved for societies of ethical or regional order, like a national culture, but it can also be applied to smaller groups like organizations, families, or teams. In literature, theories on culture are categorized in national or organizational cultures. Organizational culture is based on shared experiences and applied in groups, which are difficult to separate (Alvesson, 2013). This does not fit well to the context of this study as participants are mostly new to each other and come from different universities. Consequently, organizational culture is not further considered in this study. Furthermore, cross-cultural research, focusing on mixed groups of different culture, is neither relevant for this study as the participants are all Chinese.

2.2.1 National culture

The world is divided into political units, called nations, to which each human being is supposed to belong. Nations have been formed during the last century and should not be equated to societies. Although a nation can include multiple different societies and minorities, it can historically develop to a whole and consequently be connected to a culture – the national culture. The national culture has a broader perspective on culture and suits better to this study as the participants are from different universities but all Chinese citizens.
The Chinese national culture itself is based on different, competing, old and young ideologies, like Confucianism, communism, market-socialism (Dong & Liu, 2010) and most recently network capitalism (Tung & Worm, 2010). Traditional culture is still very present and emphasizing hierarchical interpersonal relationships, or leaderships which care for followers, respect traditions, and demonstrate morality. Researchers agree that Confucian values, for instance, are significant for modern socio-cultural attitudes affecting learning and communication practices (Jin & Cortazzi, 2006). More recent philosophies like communism and socialism emphasize egalitarianism under a strict leadership (Dong & Liu, 2010).

Geert Hofstede (2001) did ground breaking research in anthropology by using statistical methods to discern the cultural traits of social groups. His theory is explained and exemplified by China in the next chapter.

2.2.2 Dimensions of the Chinese culture by Hofstede

The model Cultural Dimensions (Hofstede, 1991) by Geert Hofstede is one of the most commonly used systematic frameworks for assessing and differentiating national cultures. The original framework consists of four dimensions to measure cultures: Power Distance (PDI), Individualism (IDV), Masculinity (MAS), and Uncertainty Avoidance (UAI). The framework has been further extended by the dimension Long-Term Orientation (LTO) and Indulgence (IVR), which are based on Michael Bond’s (1991) and Michael Minkov (2001) research (Hofstede, Hofstede, & Minkov, 2010).

2.2.2.1 Power distance (PDI)

This index is defined to express the “extent of which less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally” (Hofstede et al., 2010, p. 61). Low power distance is considered democratic and high power distance as authoritarian. China has high power distance ranking (rank 10-12 of 76 countries) with a score of 80.

In high scoring countries, students believe it is important to have few desires, following the middle way, and keeping oneself disinterested and pure. In relation to teachers, students have a need for dependency. Teachers are treated with respect or even fear and the educational
approach is teacher centered. Consequently, the quality of learning is usually depending on the teacher. In turn, students in low scoring countries are supposed to ask questions if they don’t understand. Furthermore, students challenge teachers by expressing disagreements and criticism in public. The educational system is designed to leverage the student’s interdependence and to support students to find their own intellectual paths.

2.2.2.2 Individualism (IDV)

In the second index, national cultures are characterized by the level individualism versus collectivism. In individualistic cultures, everybody needs to look after him or herself. On its contrast, collectivism pertains to “societies in which people form birth onward are integrated into strong, cohesive in-groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty” (Hofstede et al., 2010, p. 92). China’s score of 20 tends to collectivism (equals rank 58-63 of 76 countries).

In cultures tending towards collectivism, children learn to think of “we” instead of “I”. Furthermore, people tend to avoid confrontations in order to maintain harmony. It is noted that direct confrontations are considered to be rude and undesirable. Furthermore, honesty, direct feedback is less likely to be taken constructively compared to individualistic societies. The word “No” is barely used as it is understood to be a confrontation. Instead people will choose a polite saying to put down a request like for instance “you may be right” and “we will think about it”. In comparison to individualist cultures, many things considered as self-evident are not mentioned, hence there is common understanding of how people should behave for instance in teamwork. In collectivism, people experience shame and loosing face in case of wrongdoing as it will be known to other in-group members. In regard of school and student’s behavior, students don’t speak up in public - only if forces by their group. The education purpose is rather how to do something than how to learn something.

2.2.2.3 Masculinity (MAS)

Masculinity is the opposite of Femininity and represents a society in which “emotional gender roles are clearly distinct: men are supposed to be assertive, tough and focused on material success, whereas women are supposed to be more modest, tender and concerned with the quality of life” (Hofstede, Hofstede, & Minkov, 2010, p.140). In a feminine society, gender roles overlap as both men and women are modest, tender and concerned with quality of life.
The Chinese society is rather masculine scoring a moderate high value of 66 (equals ranking 11-13 of 76 countries).

In masculine societies, students tend to strive for excellence in a competitive environment. Students tend to overrate their performance. A culture of dealing with failure and failure being a natural part is not present in education and major choices are stronger correlated to gender. Regarding the work environment, masculine culture has a stronger correlation with decisive and aggressive management. Furthermore, conflicts are concluded by letting the strongest win rather through negotiations or through compromises.

2.2.2.4 Uncertainty avoidance (UAI)

This index is defined “as the extent to which the members of a culture feel threatened by ambiguous or unknown situations” (Hofstede et al., 2010, p. 191). China scores are low score of 30 (rank 70-71 of 76 countries) indicating that Chinese are less threatened by ambiguous and unknown situations.

In terms of family and norms, uncertainty is a normal feature in life. This is connected to low stress and anxiety levels. Aggressions and emotions are likely not to be shown in public. On a personal level, these cultures demonstrate higher scores on agreeableness. Risks are more likely to be taken and rules are rather lenient. In education, a lower score in uncertainty avoidance implicates that students are more comfortable with open-ended learning situations and concerned with good discussions. Concerning the implications on work and organizations, the low score of China should indicate that work life is more relaxed. There is a tolerance for ambiguity and chaos, there should be no more rules than necessary.

2.2.2.5 Long-term orientation (LTO)

The fifth dimension has been added to the theory and focuses on the national societies orientation on tenses like past, present, and future. Long-term orientation stands for “the fostering of virtues oriented toward future rewards – in particular severance and thrift. On the opposite pole, short-term orientation, stands for the fostering of virtues related to the past and present – in particular, preservation of “face”, and fulfilling of social obligations” (Hofstede et al., 2010, p. 239). In the recent updated index, China ranks one of the highest scores with 87 (rank 4 of 93 countries) demonstrating long-term orientation.
In terms of family and norms, long-term orientated cultures people do pragmatic arrangements, strive for long term goals, respect circumstances, agree changing norms and personally adapt to them. People tend to be humble and do not strive for positive personal feedback. In relation to business, core working values include learning, honesty, adaptiveness, accountability and self-discipline. People in such societies, do not rank leisure time as important and feel that disagreements do not hurt. In ways of thinking, on the long term, problem solving is based on common sense and decisions are usually made by choosing the middle way. In terms of education, students of long term societies attribute success to effort and failure to lack of it. Students also tend to underrate their work effort.

2.2.2.6 Indulgence (IVR)

This dimension has been added to the theory at a later point and aims to classify national societies by the perception of free or restrained actions influencing feelings like happiness. Thereby, a high score, representing indulgence, “stands for the tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun” (Hofstede et al., 2010, p. 281). On the opposite side, a low score classifying restraint, reflects a conviction that such gratification needs to be cured and regulated by strict norms. In this index, China scores a relatively low score of 24 (rank 75 of 93 countries) signalizing a rather restrained society.

Characteristics of low scoring countries on general norms are the perception that individual doing has little influence on happenings, lower importance of leisure and having friends, tight societies and moral disciplines. In general, such societies have a lower percentage of happy people and more pessimism.

2.3 Empirical Research on Teamwork in Chinese Education

This chapter complements the previous two chapters as it presents empirical studies of the interface of teamwork and the cultural context. Studies of teamwork in organizations and education in the Chinese context examine how the Chinese cultural context potentially influences the teamwork.
According to research in education, Chinese culture has a direct impact on the students' experiences of teamwork. Researchers agree for instance that Confucian values are significant for modern socio-cultural attitudes affecting communication and learning practices (Bond, 1991; Gao & Ting-Toomey, 1998; Watkins & Biggs, 1996; Yao, 2000). The Confucian values expect a strong hierarchical order between teachers and students, which is still visible in nowadays education. Thereby students demonstrate respect and obedience towards the teachers. The authors claim that this approach misses reflective thinking, independence interpretation, internationalization of understanding, and application of learnings in practice (Jin & Cortazzi, 2006). On the other hand, based on this relation, Chinese students believe to learn from teachers rather from their fellow students. In regard of teamwork, this conception may filter out any learning through peer discussion (Jin & Cortazzi, 2006). This may be also relevant for peer evaluation or content knowledge transfer. For further research targeting for student’s learning in China, they emphasize to consider aspects of questioning, risk-taking and uncertainty, the development of deeper interaction in groupwork, and internationalization (Jin & Cortazzi, 2006).

When using teamwork as a teaching technique in China, researchers recommend that students need to train team skills and teachers need to receive guidance on how to train the students and how to structure group assessments (Oakley, Felder, & Brent, 2004). Other researchers advise against applying collaborative learning in China as cultural norms make them inappropriate (Earley, 1997; Hofstede, 2003). Dimensions such as power distance and uncertainty avoidance may hinder Chinese students to work in on equal and collaborative context. Nguyen, Terlouw, and Pilot (2006) suggest likewise that educational methods adopted from one culture and applied into another one should be adapted with full consideration of cultural preferences.

Shifting from education to organizational behavior in China, the cultural value of harmony has further implications on teamwork. Harmony and collectivism play a significant role in the Chinese society (Hofstede et al., 2010; Leung, Brew, Zhang, & Yan Zhang, 2011; Samovar et al., 2010). Based on Chen’s model (2001), harmony leads to the desire to avoid or minimize conflict. Researchers go even further and state that open arguments involving a disagreement
are expected to be avoided or muted (Leung et al., 2011). Nevertheless, empirical studies demonstrate contradicting findings (G.-M. Chen & Starosta, 1997). These lead to further research which conclude that constructive conflicts and arguments are possible if Chinese values like social face and relationships are taken into account (Tjosvold & Sun, 2000).

In terms of communication, researchers state that Chinese prefer to communicate and express feelings in a more indirect way (Gudykunst & Ting-Toomey, 1988). In terms of feedback, Chinese individuals tend to prefer responding more on collective than individual matter (Van De Vliert, Shi, Sanders, Wang, & Huang, 2004). This is aligned with the finding that Chinese have difficulties to receive direct and public feedback in particular if it is negative (Dong & Liu, 2010). It is further warned, that forcing communication in situations intending to solve interpersonal differences may even increase tensions (Von Glinow, Shapiro, & Brett, 2004). In similar sensible cases, like conflicts in cross-cultural teams, scholars recommend the usage of visual and perceptual supported communication (Von Glinow et al., 2004).

Lastly, and also relevant for this study, students experience difficulty in speaking English spontaneously in front of other people (Jin & Cortazzi, 2006). This phenomenon is traced to a lack of practice and confidence in speaking English. Students may feel to need preparation before “making speeches”. Otherwise they risk errors and this again is compounded by fear of losing face.

2.4 Theoretical Framework

The literature review is divided into three parts: teamwork, cultural context, and empirical studies on teamwork in the Chinese context. All three are supporting the analysis of teamwork experiences in the given context and together form a theoretical framework of this study. Though the literature and theories are used in different manners at different points in this study.

The literature on teamwork represents the core part of this study. It shows that the long presence of team research and the development of updated model and framework have led, on the one hand, to a profound scope and coverage of this complex research field. But, on
the other side, the quantity of different studies has led to many different and overlapping variables and terminology (e.g. Cannon-Bowers, Tannenbaum, Salas, & Volpe, 1995; Ilgen et al., 2005; Ramos-Villagrasa et al., 2018). In fact, uniform variables across theories, methods, empirical studies and application are needed in this field (Mathieu et al., 2017). These two insights and the fact that no concrete model to examine teamwork experiences has been found in literature, justify the application of existing theory to facilitate answering the research questions.

In concrete terms, the two models of team processes (Marks et al., 2001) and team development (Tuckman & Jensen, 1977) are selected to present teamwork processes and development in a structured manner. The two theories are applied in a complementary way. While the team processes model focusses on the short-term happenings, the team development model helps to elaborate the long-term perspective of the teamwork. Respectively, the team process model helps to answer the first research question while the team development model structures the findings to the second research question. Compared to other models, these two models are considered to be the best complementary fit in combination. Based on the findings on processes and development, the author can trace benefitting and challenging experiences. These experiences define the core findings of this study. Based on literature, it is expected that external factors like the cultural context, educational framework and the individual characters influence the teamwork experiences. Nevertheless, the external factors are not directly considered in the analysis and findings but are part of the interpretation in the discussion chapter. This means that theory concerning the cultural context is first applied in the discussion and not in the findings. How theories and findings contribute to the research questions and external factors may influence the findings is visualized in Figure 4. The visualization may further be considered as a model to analyze teamwork experiences in the future.
Figure 4: Theoretical Framework
03 Research Design and Methods

3.1 Research Design
3.2 Research Methodology
3.3 Cases and Subjects
3.4 Data Collection
3.5 Data Analysis
3 Research Design and Methods

The previous chapter explains how theories, models and frameworks are used to support the empirical part of this study. In this chapter, the research design and methods for the empirical study are explained and justified.

For the empirical research on teamwork experiences, a qualitative research approach has been selected. As no theory had been found to analyze teamwork experiences, an inductive manner was selected which got supported by existing theory along the iterative process (Figure 5). The research follows a variation of the grounded theory approach explained by Eisenhardt (1989), which emphasizes a specification of an a-priori research problem area which supports the following analysis and creation of assumptions. The study is carried out based on an exploratory case-study research method. Three student teams working within the same educational frame represent the cases of this study. Inside this framework, data was collected by observations and interviews. The collection and analysis of the data was adaptive and iterative. Each case had been analyzed individually before cross-case patterns were drawn.

3.1 Research Design

Research about the subjective experience and learning process of students on teamwork in a cultural context is complex. Furthermore, it is a contemporary phenomenon as both college and program have been established only recently in 2017. In order to get a comprehensive understanding of such a complex and contemporary phenomenon, this study adopts a qualitative research approach conducted in a primarily inductive manner. The qualitative research approach is adequate as rich data facilitate a holistic understanding of this complex phenomenon. Furthermore, this approach is recommended if no concrete theory to analyze the phenomenon has been found (Eisenhardt & Graebner, 2007) and if new theory is supposed to be built (Eisenhardt, 1989). Furthermore, the inductive approach is recommended by acknowledged scholars of the field of teamwork (Edmondson & Mcmanus, 2007; Mathieu et al., 2017). However, unlike in grounded theory approach (Glaser & Strauss, 1968) which builds the theory strictly from data without any predefined categories, this research follows a variation explained by Eisenhardt (1989). Instead of having no predefined
categories, Eisenhardt (1989) proposes that researchers should do an a-priori specification of the research problem area including the selection of some potentially important categories with some reference to existing literature. This variation increases the likelihood to generate new findings without working to close on existing theories and literatures (Gioia, Corley, & Hamilton, 2013). During the iterative process, existing teamwork theories were used to build a theory-supported fundament for the analysis of teamwork experiences. Thereby the inductively outlined teamwork experiences could be assigned to certain teamwork processes and teamwork stages. The execution of both data collection and analysis is explained in the following chapters.

Figure 5: Research design and process
3.2  Research Methodology

Given to the little number of empirical studies on Chinese students’ experience on teamwork, case studies are the most suitable research method to exhibit the data as it provides rich and empirical descriptions of the phenomenon whereby the investigator has little control over events (Eisenhardt & Graebner, 2007; McCutcheon & Meredith, 1993). According to Yin (2014), the research method is well suited for complex and contemporary phenomena. Based on the literature review, teamwork and culture are both complex constructs. It is contemporary, as the course is part of a recent developed program. This means it is the second course of the program but still the first time that a study investigates the teamwork experience in this context. In general, case studies fit well for social phenomena (Yin, 2016) like teamwork is by nature. It fits particularly well to this study as boundaries between phenomenon and context may not be clearly evident (Yin, 2016). At this point, it needs to be mentioned that it is assumed that the teamwork experience is depending on the cultural context. In contrast to action research, where investigators are actively involved as a participant or director of events, a researcher has little or no influence on guiding events in a case study research method (McCutcheon & Meredith, 1993). This is important for this study to ensure that there is no influence by the investigator on the experience of the students. The case study can be defined as exploratory as it focusses on how students design and experience teamwork, why they do so (Yin, 2016).

Regarding the quality of case study analysis, it is beneficial that all cases take place in the same educational framework. This increases external validity (Yin, 2016) by minimizing the likelihood that external variables influence data which again would decrease the significance of the data (Flick, 2011). Internal validity is supported by the fact that the cases take place in a natural setting, meaning the investigator has no influence or control on the teamwork (Benbasat, Goldstein, & Mead, 1987).

3.3  Cases and Subjects

In the following subchapters, the setting of the three cases and its participants are described in detail.
3.3.1 Setting of case studies

The Sino-Finnish cooperation between Aalto University in Finland and Tongji University in China has been established in 2010 (Vainio, 2014) (Figure 6). In 2017, the two universities together have established the new Shanghai College of Design and Innovation (Aalto University, 2017). Under this educational umbrella, a product development program has been set up and represents the latest product of the universities cooperation. The program is an extracurricular program and students take part voluntarily. The application is open for all students located Shanghai and the program itself consists of three courses, which were held during the academic year of 2017/18. One of the three courses was Product Analysis held in spring 2018. The three month long course expected participating students to analyze products in teams.

The course lasted for 12 weeks and consisted of two eight-hour sessions every second weekend. Students followed a predefined course structure, which included relevant topics of product analysis, such as pricing, material, safety, manufacturing etc. Sessions were instructed by different teachers and the session structure usually included lecture, group work and final presentation of each groups work on the specific topic. Besides teaching the content on product analysis students, the course aimed to train students to work in teams. Teamwork exercises were integrated three times into the course structure: at the beginning, midterm and end of the course.

The course provided the framework of the teamwork and was consequently the closer setting of this study in the broader context of national culture. The teams within this framework have been the different cases of this study. The setting is known to effect the findings (McCutcheon & Meredith, 1993) which caused that potential surrounding conditions had been assessed to build plausible explanations or to discover causable relations to external factors (Benbasat et al., 1987). Therefore, it is important to describe and understand the setting of the cases.
3.3.2 Participants

The participants of this study were 15 Chinese bachelor students from universities in Shanghai. The students were in their second or third year of bachelor degree and all aged around 20 years. Of the 15 students, 10 (66%) were female and 5 (33%) male. The students have been from different universities and different majors but had known each other already from one preceding course in this program. An overview of background and university is visualized in Figure 7.

An initial survey had been addressed to the students in order to investigate their previous teamwork experiences. Out of 15 students, 12 (80%) answered this survey. Results demonstrate that everybody has experienced teamwork and the majority already gained a lot of teamwork experiences. Most of these experiences, about 75%, were rated satisfactory or very positive. Nobody stated their previous experience as ‘not satisfied’ nor ‘very negative’. When it comes to challenges in teamwork, they considered ‘coping with different viewpoints’,
‘finding a way to proceed when individual opinions contradict’ and ‘coping with different ways of working’ the most challenging compared to other options. The majority considered the following options as easy or very easy: ‘bring up your own opinion’, ‘learn skills from teammates’, ‘improving core expertise’, ‘having a shared vision with the team’, ‘committing to team objectives’, and ‘building trust among teammates’.

Prior to the course, three teams had been formed which served as single cases inside this case study. The group size and constellation were preselected by the course instructors. The sizes of the group, between four and five students, had been chosen on purpose to leverage learning in teamwork, as larger teams face greater motivation and coordination challenges (Fleishman, 1980), and may have greater difficulties to develop and maintain role structures (Gersick & Hackman, 1990; LePine, 2003). Regarding the team constellation, course instructors had taken three factors into account: novelty of team constellation, meaning shuffling the team members compared to the previous course teamwork; diversity in majoring fields, so that teams can fall back on diverse knowledge; and gender diversity. The resulting three teams had randomly received a preselected product, which they have analyzed during the course.

Background Students

Figure 7: Academic background and host university of participants
3.4 Data Collection

Observations and semi-structured interviews were used in this study and will be explained in detail in the following subchapters. The combination of different data collection methods provides stronger substantiation of construct and propositions (Eisenhardt & Graebner, 2007). Gathering evidence from multiple data sources addresses possible problems of construct validity as the different sources “provide for multiple measures of the same phenomenon” (Yin, 2009). The empirical data has been collected at significant times during the project: midterm and after the course. To support reliability and construct validity of the data, case study reports have been created and shared with course assistants (McCutcheon & Meredith, 1993; Yin, 2009). As the data collection took place in one single course, the setting for all three cases was the same. This is an essential part to guarantee external validity, in particular in the use of case study research (Yin, 2016).

3.4.1 Observation of teamwork exercise I Like I Wish

The goal of the observation of the teamwork exercise ‘I like I Wish’ has been to collect empirical data on the impressions and experiences in the midterm of the teamwork (Appendix 1). At this point, students had done sufficient teamwork sessions to evaluate them and still enough time to change and optimize their teamwork. Therefore, the findings are mainly contributing to the third research question but also partly to the first two ones as processes and roles were mentioned.

Each team had a separate session of around two hours with the same mediator. The mediator was a teacher of the course but unknown to the students at this point. The exercise intended that each student prepares individually both positive (I like) and constructive (I wish) feedback on an individual level as well as on a team level. Afterwards the mediator asked the students to share the feedback openly inside the group. The recipient of the feedback could consequently reply on the feedback. This exercise lined out challenges and benefits on individual and team level. The primary focus of data collection had been on the team level feedback. Nevertheless, individual feedback was also considered valuable as it pointed out roles and processes of teamwork. The investigator of this study was only observing the sessions, thus had no influence on the outcomes of the data (McCutcheon & Meredith, 1993).
The investigator had been desisting from video-recording as this may have increased the pressure on the students in a potentially emotional situation. Instead, the data was collected through observation and notes.

After the sessions, the research investigator created summaries of each team in order to facilitate the generation of insights while coping with the amount of data. These summaries got shared with the meditator in order to enhance an objective observation of the exercise. The instruction of the teamwork exercise can be found in the Appendix 1 or online via https://ilikeiwish.org/.

### 3.4.2 Semi-structured individual interviews

The semi-structured interviews (Appendix 2) with the students were conducted on voluntary basis in the end of the project and the data represent the core source of the study’s findings. In total, eleven out of 15 students, with an average interview duration of 32 minutes (5:56h in total), shared deep insights to all relevant aspects of this study. Consequently, the data is of great value and contributes to each research question.

Interviews in general have been chosen as they are “considered the most important sources of case study evidence as studies are about human affairs and actions”(Yin, 2016). The conduct of interviews in the end of the project enables the collection on reflective insights on the entire teamwork. Three advantages are identified to select a semi–structured interview approach. At first, a semi-structured interview allows to address main topics like the teamwork processes and development before being able to elicit the interviewee’s direction and opinions on the topic. Secondly, a prepared structure of topics maintains consistency in multiple interviews, thus provides reliable, comparable qualitative data (Corbin & Strauss, 2015; Flick, 2011). Additionally, the semi-structured interviews facilitate the fluency and depth of the interviews as support in language and related terminology was possible. The last aspect was considered necessary, as students had mentioned worries of poor English speaking skills decreasing the outcome of interview. Open interviews may have led to short answers and possibly off the topic.
The interviews started with an open question: How did the teamwork start? Depending on the interviewee’s talkativeness, the interviewer listened or asked questions according to the structure. The interviewer ensured that the defined structure including the following points represented a minimum of mentioned topics within the interview: coordination, communication, conflict management, decision making, discussion, feedback, task division, cohesion, social relationship, team development, learnings, challenges and benefits, comparison to other teamwork, change culture, and other. The first seven aspects have been aiming for teamwork processes, hence contributing to the first research question. The aspects ‘cohesion’ until ‘team development’ have been aiming rather on the interpersonal development of the team, hence the second research question. The last five points were targeting a deeper understanding of the teamwork experiences, while the last point offered time to share thoughts on related content which until this point had not been talked about. The interview skeleton can be found in the appendix.

3.5 Data Analysis

This chapter explains how the data has been analyzed in order to answer the research questions of this study. The chapter includes the theoretical approach of the analysis, the analysis process (visualized in Figure 8), and applied methods to increase the analysis quality. Detailed procedures of the specific data analyses are explained in the subchapters.

3.5.1 Analysis approach

This study applies a variation of the grounded theory described by Eisenhardt (1989) based on qualitative empirical data. An a-priori specification of research problem area including some potentially important variables (Eisenhardt, 1989) are parts of the inductive data analysis strategy. In the ongoing iterative analysis process, theoretical frames are integrated to support the inductive analysis by categorizing the raw data. Based on the categorized data, proposition to the research questions are again developed inductively. During the analysis, the author follows an interpretive approach to understand the teamwork experience after analyzing the team processes and team development.
For the explicit understanding of teamwork experiences, the meaning of the term *experience* was set during the analysis. The broad application of the term leads to multiple meanings. In this study, the term experience means the direct observation of or participation in events as basis of knowledge. This basis of knowledge does include perceived feelings during the events. The basis of knowledge does not equal learnings.

### 3.5.1.1 Analysis process

The data analysis structure and process is divided into six steps (Figure 8).

1. At first, the research problem specification and literature review has supported the creation of a set of potential categories.
2. The first empirical data, collected by observation during the teamwork exercise *I Like I Wish*, got first summarized by case-by-case before a within analysis was applied. This analysis led to a focus on categories and enabled first assumptions on teamwork experiences. Based on this knowledge, gathered from theory and findings, a semi-structured interview skeleton was created. The key element of the data analysis was the iterative process (Eisenhardt & Graebner, 2007; Glaser & Strauss, 1968). This means that the preceding analyses influenced the subsequent ones and vice versa.
3. The interviews was gradually analyzed in an inductive manner to enable the creation of a preliminary set of categories consisting then of theory-based and inductively created categories. Parallel to the creation of set, all cases were summarized.
4. During the iterative analysis process, some close analogies between the preliminary set of categories and two existing theoretical models were identified. The two complementary theories, the taxonomy of team processes (Marks et al., 2001) and the theory of team development (Tuckman & Jensen, 1977), were then selected to support the analysis by refining the categories related to teamwork process and team development. The refined set of categories was then clustered in team processes, team development, experiences and external factors (Figure 9).
5. The refined set of categories served as a profound basis for the second round of data analysis. Thereby the set was applied to both observation reports and interviews. In the second round, each case was summarized in data arrays. The data arrays facilitated the an inductive cross-case analysis whereby patterns between the cases got identified.
6. These patterns, consisting of commonalities and differences, enabled the development of propositions to each defined research question. As these propositions are created within the same context, they support an internal generalization (Flick, 2011) on this topic.

![Diagram of analysis structure and process](image)

**Figure 8: Analysis structure and process**

### 3.5.1.2 Analysis quality

As a support for the analysis, the researcher developed an understanding of the surrounding conditions of the phenomenon, the course framework, in order to build plausible explanations or discover causal relationships which again have influence on the process, development and experiences (Benbasat et al., 1987). As an example, far distances between student’s home and long travel hours influenced the possibility of team activities or meeting outside the class. This again had a direct influence on the team development and cohesion.

In regard of reliability and validity, multiple measures were applied by the researcher in order to increase the value of this study. At first, the usage accepted theory increases the credibility
of study and increases the chance of objective data measuring. The documentation and the sharing of both data collection reports and interim data analysis with course instructors was chosen to increase internal validity (Yin 2014) and reliability of the study.

3.5.2 Analysis of the teamwork exercise I Like I Wish

All three teamwork exercises were analyzed separately in an inductive manner. Thereby, summaries and observation notes of each case were categorized before case-specific and then cross–case propositions were developed. In the ongoing process of analysis, a redefined set of categories was applied on the data to find further relations and findings. The final results of the observation were added to the data arrays and integrated to the findings.

The gathered notes from the observation were sorted by defined categories (Appendix 3). On the way to these defined categories, notes first got assigned to three levels: team, organizational, and individual level. These levels facilitated the focus of this analysis – the team level. The notes of the team level got further categorized. Many categories have been based on variables of related literature, such as coordination, communication, cohesion, conflict management, decision making, social relationship, and feedback. Some of the preselected variables have been modified, merged or excluded. In addition, the inductive approach of analysis created new categories. Examples for these categories deriving from the observations notes are feelings, promises, leadership, learning and atmosphere. Hereby, early thinking about relations between variables and theories has been avoided in order to prevent bias and limited findings (Eisenhardt & Graebner, 2007).

3.5.3 Analysis of interviews

As the interviews represent the biggest amount and most insightful part of the data, its analysis is important and of great value for the findings of this study. To facilitate the analysis of the interviews, all interviews were first transcribed and then analyzed with the qualitative analysis software ATLAS.ti. Thereby, a variation of the grounded theory approach explained by Eisenhardt (1989) was applied to each case separately. This approach helped the investigator to get intimately familiar with each single case and increases the chance that unique patterns emerge before moving on to a cross case analysis (Eisenhardt, 1989; Gioia et
During the first inductive round of analysis (equivalent to 1st-order analysis described by Gioia et al., 2013), a set of 49 categories evolved consisting of a-priori categories, new categories, and variations. As an example, the category ‘supportive behavior’ evolved through student statements like “if you haven’t done it (task) yet and others have already finished it and others will help you” or “if somebody find a question he cannot really tackle and then he will ask other people and we will try to help her or him with our knowledge” (Interview quotes). Some of these initially developed categories were overlapping, too broad, external or too specific and therefore got refined after the first round of analysis. As an example, the categories ‘process of taskwork’ and ‘task management’ were overlapping and in general too broad. Consequently, these categories got separated into more specific ones like ‘analyzing task’, ‘planning strategy’, or ‘coordination’. The goal of refining the category set was to create a more compact and explicit set of categories.

At this point of analysis iteration, many analogies with the theoretical frameworks by Marks et al. (2001) and Tuckman (1965) were identified. Therefore the frameworks were used to refine the set of categories and to define dimensions of team processes related categories and categories targeting interpersonal development (equivalent to 2nd-order analysis and aggregate dimension described by Gioia et al., 2013). The other categories of the set got accumulated to dimensions called ‘experiences’ and ‘external factors’.

After this refined data structure, the author went through the raw data again in order to guarantee correct code assignments to the refined categories. During and after this process, further changes on the data structure were applied. As an example, the category ‘shared vision’ got extracted from ‘task orientation and strategy’ and the category communication was considered too broad and got separated by different aspects like ways of communication, work related communication, and team related communication.

The final set of categories includes 34 categories which are differentiated in four main fields (Figure 9): Experiences, teamwork processes, team development, and external factors. Each of these fields consist of categories. As an example, the field of teamwork processes consists of the following categories: task orientation and strategy, conflict, communication work, information exchange, decision-making, task division, execution, monitoring, and task
cohesion. While the category fields of teamwork processes and team development contributed in particular to the first two research questions, the category field of experiences contribute to the third one. The external factors are excluded from the finding but integrated in the discussion chapter.
Figure 9: Set of categories
3.5.4 Cross-case analysis

In the next step of analysis, data arrays including summaries of each category by case was created. This developed an overview of all cases characterized by the content of categories. It is suggested (McCutcheon & Meredith, 1993), that this overview serves as the basis for the search of patterns across the cases. Patterns have been identified by a list of commonalities and differences between the cases in each category. As suggested by researchers, this tactic helped to go beyond initial impressions and to outline patterns to very specific aspects of teamwork upon which propositions have been developed (Eisenhardt & Graebner, 2007; McCutcheon & Meredith, 1993).

In both analysis parts, within and across, a logical approach was applied. The investigator has generated logical connections between observation and events relying on the theory of how teamwork process and cultural context affect behavior (McCutcheon & Meredith, 1993). As an example, in one team there have been different statements about leadership. While two members pointed out one leader in the group, the others said their team has no leader as there is no person who gives strict orders. In another team, the leading person has been very productive and responsible, and in the third team the leading person has been justified as the person among other things can motivate team members. Therefore, it is logical, that the teams and team members have different understandings of leadership.

As this study aimed for an internal generalization, referring to the generalizability of a conclusion within the specific setting (Flick, 2007; Maxwell, 2005), the hypotheses will serve as theoretical propositions (Yin, 2016) for future cases related to teamwork apron Chinese students in the context of Sino-Finnish education.

3.5.5 Matching inductive findings to theory based structure

This chapter explains the synthesis of the inductive analysis and the theory-based structure of the findings in the next chapter. Thereby, the author explains the selection of theory-based structure in the findings and, secondly, outlines the final flow of data findings to the theory-based structure.
In general, the theoretical research on teams, teamwork and team behaviour is advanced and provides multiple models and frameworks which serve a profound foundation to built on (Ilgen 2005). Therefore, the author has decided to take advantage of the state of the art in order to enhance the quality of this study. The theoretical models by Marks et al. (2001) and Tuckman (1977) are both acknowledged and well used models in empirical studies (Bonebright, 2010; Driskell, Salas, & Driskell, 2018; Mathieu et al., 2017; Miller, 2009). The models are considered comprehensive on its own and complementary in combination. In the data analysis the two models have supported the categorization of data concerning team processes and development and helped to map experiences respectively. For the same reasons, the models are applied to foster an extensive presentation of findings.

The transition processes (Marks et al., 2001) will be taken as an example how the content of categories contribute to the theory based structure of the findings. The matching of structure and categories is visualized in Figure 10.

The transition processes is consisting of narrower processes like mission analysis formulation and planning, goal specification, and strategy formulation. Coming from the other side, categories which have been created in an inductive manner will be matched with relevant narrower processes. These matching categories are in the case of transition processes: communication method, decision making, task division, task planning and strategy, and information placement.
Figure 10: Relation between theory and set of categories (weighted)
04 Findings

4.1 Teamwork Processes
4.2 Interpersonal Team Development
4.3 Experienced Challenges and Benefits of Teamwork
4 Findings

The findings of the study are presented in three parts. The first part will present similarities and differences of the design of teamwork processes, meaning in action processes, transition processes and interpersonal processes. In the second part of the findings, the development of each team will be divided into stages. Based on the preceding chapters, the third chapter lists challenges and benefits experienced during both team processes and development. While presenting findings of team processes and team development, theoretical frameworks of Marks et al. (2001) and Tuckman and Jensen (1977) have been selected to support the presentation of findings.

Before starting with the findings on team processes and development, an essential and relevant discovery for all following results is presented at first:

The students had no common understanding of leadership. The majority of students has experienced several team-based projects and thereby leaderships. Nevertheless, it is noticeable that team members have a very different perception of what leadership is. One the one hand, good leadership is described as the responsible guidance of a team while involving and motivating others. On the other hand, students noted their team has no leadership as they have no leader who gives strict orders. The following interview quotes state different perceptions of leadership:

- **Student 1 Team B (Student 1B):** “I think [student name] is a good leader and [student name] can guide us and to let me speak straight.”
- **Student 1C:** “I think, [student name] is the most active one and since in our team, [student name] is the only one student from this college. Maybe [student name] is more familiar with it.”
- **Student 4A:** “Our teamwork in there is a bit special, we don’t have a leader. Actually, in my school, we have a leader, and he will tell us what to do and how to do it.”
- **Student 2A:** “I’m quite used to be a powerful speaker in a team because it has something to do with my throughout my growing process. I’m always the one who can do some management in a group and express my opinions very quickly. So it may have something to do with my personality, I think.”
• **Student 2B:** “I think, first, [student name] is very passionate. So [student name] shows great interest in this subject from the very beginning and [student name] thinks a lot. [Student name] has the responsibility to like to do the most difficult task like maybe organize a whole part or maybe be the volunteer to maybe do the interview first. So first of all, [student name] just established his image in front of everybody. And the next thing, I think [student name] is capable of a lot of things and [student name] is willing to communicate and to help reach the balance between each member.”

### 4.1 Teamwork Processes

This chapter presents the answer to the first research question by outlining that each team designed their teamwork process differently within the defined educational framework. Nevertheless, the teamwork process can be generalized to an iterative process consisting of classified processes, such as transition, action and interpersonal processes (Figure 11). Among the three classified processes dimensions, the transition processes demonstrate the strongest differences between the cases. In particular, the mission analyses and strategy development differs between the teams depending on leadership and dependency. While the action processes have been almost similar in all cases, the interpersonal processes vary in particular in conflict management.

The generalized process (Figure 11) can be described as follows: The received content of the assignment defined the input and goal of the teamwork. Each team needed to understand this input before they further specified goals, planned and developed a strategy to accomplish the task. Thereby, team members had gone through sharing their knowledge, ideas, and feedback (information placement) before they made a decision and finally divided the tasks. Conflicts were avoided, but when experienced nonetheless reactive management was applied to solve it. During the action processes, the teams mainly executed task individually and partly monitored progress and system. The accomplished tasks were merged by individuals and functioned as bases for the next process iteration. Along the transition and action process, leadership, and cohesion took place as interpersonal processes.

More detailed findings to each process dimension differentiated by teams are presented in the specific subchapters.
4.1.1 Transition Processes

The transition processes include all actions related to the preparation of the actual taskwork. They include mission analysis formulation and planning, goal specification, and strategy formulation. It needs to mentioned, that the educational framework of each session is defined by a given task. The teams needed to work on this task and finally presented their results in the end of the session.

The procedure of analysis formulation and planning was different in each case, depending on common understanding and dependency. The teams did not describe the act of goal specification during the planning process. Similar to the formulation of analysis, teams chose different ways to formulate a strategy based on dependency. The separation of the main task into smaller parts for individual work was the core of each teamwork strategy. Responsibilities usually got divided by interest which were mainly based on the student’s study background. Depending on the team, the educational framework had a different influence on task prioritizations.

More specific findings on the three narrower processes, i.e., mission analysis formulation and planning, goal specification and strategy formulation, are presented in the following subchapters.
The mission analysis formulation and the planning depended on common understanding and students’ dependency. In terms of the understanding of the task, each team followed a different procedure with different levels of dependency. Team A did not mention having talked about a common understanding of the task and proceeded to the strategy part directly. The same team mentioned that they asked for teacher’s support in creating a strategy. In team B, one single person shared the person’s opinion on the understanding and evaluation (orientation) of the task before suggesting a strategy directly afterward. This single person was identified as the leading person of the team B. The team members usually agreed with the suggestion of the leading team member without having further discussions about the evaluation and planning. In team C, every member had been asked to think individually about the task and strategy before they discussed the common understanding, goals, and strategy together. However, like the other teams, the same single person shared thoughts and ideas first. This person usually was in the leading position in the team. After sharing initial thoughts, each team reacted differently. As mentioned above, team A usually agreed with the leading person, while team B had a discussion involving all members, and team C had a short discussion before moving on.

Independent goal specification was not practiced in student’s teamwork. The framework of the course included assignments by the teacher which equaled goals of each teamwork session. The assignments were clearly defined and needed to be submitted or presented at the end of the class. Nevertheless, smaller goals to fulfill the assignment could be defined by the teams. According to the interviews with the students, teams did not specifically develop goals regarding the given assignment. Only the leading member of team B stated that their team’s operational goals were to answer self-defined questions which were necessary to fulfill the main task.

Strategy formulation was depending on the level of dependency of team members. Similar to the mission analysis, each team developed their strategy differently including a different level of dependency. On the one extreme side, team C sometimes asked for the teacher’s support to create a strategy. While team B developed the strategy altogether and discussed it thoughtfully, in team A, the leading person was the quickest one to share a strategy with the team which usually accepted without further discussion and changes. It has to be noticed that
the leading person of team A, asked actively for the team members opinion but constructive feedback was rare. Furthermore, team A described this process as “a mode” meaning that all team members awaited the leading person to provide a strategy.

**Students’ strategy was to separate the main task into smaller parts for individual work among present members.** External factors like the educational frame or individual contribution had strong general influence on the strategy. As an example concerning the educational frame, team C understood the educational framework as a ‘workshop’ whereby the focus was on providing a complete outcome. The team emphasized quick decisions and short discussions to have more time for the full implementation of the task in a short time. The external factors referring to individual contribution, like competence, self-knowledge, flexibility, and trust had a further impact on the strategy. For instance, team A did not prepare a video for the presentation when the person owning this competence was absent, and other members did not trust in managing it by themselves. External factors among other reasons led the teams to prioritize tasks within their strategy. The best example for the prioritization is the strategy adaption of team B. The team realized that their thoughtful discussions consumed too much time which they finally lacked for the implementation. Consequently, they prioritized tasks and discussions respectively and defined specific time windows.

**In general, tasks were divided according to interest and ability.** Nevertheless, the involvement in the decision on task division varied in each team. In team A, tasks got usually assigned by the leading person while in other units, students picked tasks independently. Task division was often justified by the student’s background and its effect on teamwork efficiency. Autonomous task rotation, meaning the change of task ownership in different classes without external influence, to foster individual learning was practiced only in team C. Team A and B started task rotation first after a teacher’s recommendation.

### 4.1.2 Action Processes

The action processes contain all actions related to the execution of the actual taskwork. It includes coordination, monitoring of system, progress, and teams.
The coordination in all teams was little as the task got divided and done by individuals during class. After the accomplishment of the work, usually, one team member was merging the parts to one and consequently had an essential influence on the outcome of the task. Monitoring of progress and system was handled differently in teams in the early project. In the end, all groups actively monitored time and progress and adapted strategy and task work accordingly. Team monitoring was less critical but supportive behavior was practiced in all teams. The findings are explained in detail including examples in the following subchapters.

**Coordination was facilitated by the fact that students accomplished the task during the class.** As mentioned in the previous chapter about the strategy formulation, all groups separated task into smaller parts and divided them among all members. In all teams, these parts were mainly done individually during the class. Students needed to accomplish their individual work usually during class because of two main reasons. First, the framework of the class requested the students to submit or present their common work by the end of the weekend. Second, the majority of each team studies at different universities in Shanghai, which made teamwork during the week difficult as students live far from each other and had different schedules. Students worked individually to ensure efficiency in teamwork. Cooperation, referring to two members working on the same task, was somewhat rare and started only if one person had finished the individual work. The accomplished individual work was finally merged into one common outcome.

**Student 1B:** “Mostly we divide tasks by our major but when some or someone would like to do some different things different from their own major fields. We can let him do.”

**Student 4C:** “First, everybody has their own work to do. And so at first, it was separately. And then others...after a while one has finished this work. And then they... I think, its more at first the other one will ask joined the other well ask what else can I help you. […] [But] I think [it happens] not very often because...I Think because everybody has got a lot to do. So after the time they cooperate is rather rare or the time doesn't last very long like maybe 20 minutes.”

The merging process of the individual work was practiced differently in teams. In team B, the individual work was shared and discussed in the groups before it got combined to one
collective piece. However, the actual combining activity was done by the same single person. In team A, one single person was responsible for the entire merging process. This person was usually the leading person or the person presenting the work in the end. Consequently, in two teams, one single person had a significant final influence of the collective outcome of the teamwork.

**Monitoring the progress was present in all teams but emphasized differently.** Teams were tracking the process differently. As the students were asked to do the given tasks within a specific time frame, each team had to monitor both progress and time. In team C, one member was responsible for the time management in each session. The same group had chosen to spend little time on the ideation process than the implementation. Thereby, they were aware of fast progress and complete accomplishment of the task. Thus this team adjusted their entire strategy and process on the time frame. In team B, monitoring the time became necessary as the team usually spent much time on discussions and had less time for the implementation of the idea. In the same team, one student thought that two members sometimes had lost the track during the discussions. However, the student did not intervene to guide them back but defined this situation as inefficient. In the proceeding course, team members started to remember each other on the remaining time for their individual and collective work.

**Teams needed to monitor their present personal resources.** System monitoring refers to the tracking of team resources and environmental conditions, which affect the goal accomplishment. While the stable educational frame did not require monitoring, the teams needed to monitor their personal resources. Students were arriving late or missing at the end of the sessions. This caused teams to monitor and to adapt their teamwork. Two teams were suffering under absence and needed to watch the system.

**Student 2A:** “Absence is a big problem in our team, I think. And sometimes all will be late for the class, for example, some of them will arrive in the afternoon and absent in the morning. So it will bring some trouble to the teamwork. Because in the beginning, we cannot make a good management and we are not sure when they will arrive at Tongji University.”
Supportive behavior and the educational framework facilitated monitoring team and behavior. Before and during the execution of work, students of all teams demonstrated supportive behavior. This means that students helped each other after finishing their individual work or when someone was asking for support. This behavior again was noted to affect the teamwork atmosphere, as members were not hesitating to ask questions. Furthermore, students accomplished their assignments during the class while working face to face. This facilitated monitoring team members and their behavior.

4.1.3 Interpersonal Processes

The interpersonal processes entail all actions between members, which support the actual taskwork. It includes conflict management, motivation and confidence building, and affect management.

Except in one team, conflicts were rare as members tried to avoid discussions. Conflict management became better along the process of the project as different ways of communication were chosen. In term of motivation, team leaders animated their peers to obtain new tasks. Nevertheless, positive feedback for confidence building did usually not exist but was enabled during the teamwork exercise. Students did not demonstrate active behavior to increase motivation or confidence inside the team. Personal feedback was experienced for the first time during the teamwork exercise and thereby positive feedback unlocked emotions. In general, students did not note expressing feelings about and during teamwork. More detailed information on the specific findings is listed in the subsequent chapters.

All teams demonstrated strong preemptive conflict management. All teams tried to avoid conflicts in groups, and only two teams actually had conflicts. The conflicts of the two teams were of very different intensity. While members of one team budged immediately, the other team had many continuing conflicts emerging from discussions. The latter group had difficulties to solve the conflicts. This is an extract of an interview of the team having conflicts:

Student 2B: "And he looks like a little bit upset or angry or confused. He just doesn't know what he has done wrong, and because he is so, I think he’s a little bit stubborn."
He is like that. Just insist on his own opinion. So we may afterward find somebody to guide him to come to...to persuade him that our decision is the right one. But there was a situation that when we were doing the presentation, and he will stand out and said, I want to add one thing to this. So we were like, oh okay and then just go ahead."

All teams demonstrated active behavior to avoid conflicts. One group mentioned that they made many compromises to move on to implementing the idea. Another team started to ask every member to write down their statements to enable a more rational and less emotional discussion. In the two teams which had conflicts, members practiced reactive behavior to guide back the counterparties to the topic.

Usually the leading person of the team was motivating and built confidence. In each team, there was at least one person, usually the leading person, animating other students to share their opinion or to do challenging tasks. In both cases, the intention was to facilitate learning, personal development or to increase cohesion. Nevertheless, positive feedback aiming to build confidence among team members was not actively practiced by any team. An exception was the teamwork exercise I Like I Wish in which members were pleased to share individual feedback. Students did not mention sharing believes about the project to motivate each other or to increase task cohesion.

Emotions were not strongly expressed during the teamwork, thus affect management was not essential. Students mentioned being a little bit upset but also tolerant in case others were not attending class. On the other hand, during the teamwork exercise, students were moved when members had shared positive individual feedback towards each other as they had never experienced this before.

Student 1A: “If there are some conflicts on one project that we would make decisions, discussions and try to break through this...this difficulty. And sometimes we may argue but none of us would be angry about it. I think this is really good news to me.”

Interviewer: “Did you have other experiences?”
**Student 1A:** “Yeah, maybe in my own school. My classmates sometimes would...okay, that they are not so tender and they may shout at you.”

Social cohesion was moderate in every team. One the one hand, groups, communicated in a friendly way and respectfully with each other and considered each other as friends. It has to be added that the level of friendship inside teams did not differ to the rest of the classmates. Two students of different groups mentioned that their team did not reach a higher level of friendship during the project. Another indicator for moderate social cohesion was the absence of students. Absence was a bigger issue in two teams, and furthermore, students didn't communicate their absence in advance. Students complained about the absence which caused members’ apologies, but in the end they did not change their behavior.

4.2 Interpersonal Team Development

This chapter concerns the second research question about the development of the teams along the project. The team development theory by Tuckman and Jessen (1977) is used to structure the findings in stages, such as forming, storming, norming, performing, and adjourning. The development of each team has been different and the difference is in particular traced to the storming stage as only one team had conflicts. Another main finding is that both forming and norming stage are considered concise for the team development. The mentioned findings and other are presented in detail in the following subchapters.

Before presenting the five stages of team development, the following extract of a student’s interview demonstrates how students experienced their team development and what influenced the development (Figure 12):

**Interviewer 1B:** “How would you describe the development of the relationship?”

**Student:** “Can I draw a picture?”

**Interviewer 1B:** “Yes, sure.”

**Student:** “At first, we are very curious about each other. So we always talk many things. So this is the timeline. First, we are very curious about each other, so it's high. But when you know each other better and deeper, we find some disadvantages or bad things
about each other. So our relationship is a little bad or worse. But when the time goes on, we try to understand them. So not one person is perfect. We try to accept. So maybe a little more that is and I Like I Wish is very important for me. So after that, maybe it’s more like this.”

4.2.1 Forming stage shapes teamwork

The initial stage was characterized by student’s interpersonal orientation inside the team and by the emerging roles of each member. The stage took place in the first quarter of the project. The students had known each other from class, but the majority had not worked with each other before. Positions emerged organically in each team depending on competence and personality. Students did not take time to discuss a shared vision or norms regarding the teamwork. Each of the findings are further explained and partly exemplified in the following paragraphs.

Students got to know each other carefully. All members of the class did know each other more or less from the previous course of the program. However, as decided by the course instructors, in this team constellation, most team members had not worked with each other beforehand; hence the majority did not know each other. The orientation process took place
in the initial sessions. Students were asked to share their personal and professional path in their team to get to know each other. In the interviews, students pointed out that members shared mainly superficial and basic information like study major and skills. In the following task works, students got more insights into their team members. One student described to develop members’ image by the shared ideas and the reactions to other ideas and opinions.

**Team roles emerged organically influenced by background and personality.** In this stage, each member role started to emerge organically during the first processes of task accomplishment. Students took in positions according to their personalities and their background. The personality is linked to confidence, and risk avoidance hence has an influence on the position the person takes in. The academic background was usually defined by the person's study major. As an example, a student studying media and communication would focus on the visual presentation of the content.

*Student 3C:* “My major is media and communications so maybe I will more focused on presentation. Yes, the visual part.”

**The emergence of leadership was depending on individual competence and the need of dependency.** Leading persons of each team started to emerge organically as these members began to guide teams during the planning process of the task accomplishment. How fast the person slipped into the position was depended on the other team member’s acceptance or need of dependency. In one team, members demonstrated quick acceptance and high dependency to the leading person. Consequently, the leading person emerged very quickly and developed a strong influence on the teamwork. In the other teams, it took more time for the leading person to emerge as students show more independency. In general, the understanding and reasoning of the leadership position varied a lot between the students. While some students they claimed their team had no leader, as no person was telling them what to do and to whom they have to deliver work, in another case, one student pointed out another as a great leader as this person could guide and let everybody speak straight.

**Teams did not share common expectations and vision on teamwork at the beginning of the project.** It has to been noticed that the teams neither shared visions nor expectations on
teamwork with the team members. Consequently, no format like rules upon the teamwork and related behavior was discussed or created at the beginning of the teamwork. Some students had their individual vision of the teamwork and started in the later process to penetrate it inside the team. Nevertheless, this particular vision was only mentioned by half of the interviewed team members and consequently does not indicate a strong shared vision.

4.2.2 Few conflicts during the storming stage

The second stage, *storming*, was introduced by emerging conflicts, which were based on different understandings, expectations or ways of working. This stage occurred clearly only in one team. Differences did not get solved initially, as members did not take extra time to solve it. In the other two teams, differences like conflicts did not appear as the team members avoided confrontation and tolerated individual behaviors. More detailed findings and examples are presented in the following paragraphs.

**Two teams actively avoided confrontations and conflicts.** In two teams, this stage was not clearly identified as no major conflicts were mentioned, and little constructive feedback was practiced during the teamwork exercise *I Like I Wish*. Some team members stated that their team tried to avoid confrontations. As an example, team A shared rather superficial feedback during the teamwork exercise *I Like I Wish*. In the third case, however, discussion and conflicts characterized the teamwork as opinions usually contradicted. At this time of the teamwork, the team mentioned that they had not known how to deal with it and that they had not found time to address these issues before the teamwork exercise.

**Students demonstrated high tolerance towards individual behavior.** Teams demonstrated different levels of tolerance towards each other’s individual behavior. In one case, high tolerance was practiced and individual behavior, like absence, was stated as a habit which is difficult to change. The tolerance of absence was reasoned by the course’s intense framework and the potential importance of other activities. In another case, tolerance occurred less, but differences remained undiscussed. Based on one final interview, the working styles of two students remained unclear till the end to their team member. This indicates that some differences remained undiscussed in this team. This phenomenon of remaining
misunderstanding also happened in another unit. Here, one student was wondering about the other person's intention to do the course as the person missed many classes.

**Student 3A:** "I understand that some of us have to do some homework of our major courses or have some other things to do at weekends. So we really understand it may not be a suitable time for two whole days in this minor program. Yeah, we understand that. We understand it but sometimes we will feel upset about it."

Nevertheless, it has to be mentioned in this stage, that in general, all teams stated to have friendly and respectful communication during the entire project - even the one team which had many discussions.

### 4.2.3 Teamwork exercise enables norming stage

The third stage, **norming**, is characterized by the discussion of team-related issues and the potential creation or adjustment of norms and shared mental models. In all teams, this stage was introduced by the organized teamwork exercise *I Like I Wish*, where teams were mediated to communicate untouched interpersonal topics. The exercise had a great potential to improve teamwork through interpersonal understanding and common norms for future collaboration. However, the chance was hindered by the fact that norms were not commonly agreed on and remained on a voluntary basis for the ongoing teamwork. More detailed information and examples are presented in the following paragraphs.

The teamwork exercise *I Like I Wish* had great potential to improve teamwork. As mentioned in the first stage, each team seemed not to have agreed on a shared vision or expectation on teamwork. The teamwork exercise *I Like I Wish* was a good opportunity to communicate these expectations while taking into account the teams’ first experiences. Two teams admitted that the timing of the exercise was suitable for the development of the team. During the exercise, students shared their feelings, expectations (wishes) and opinions on each member and their teamwork. This again led to mutual understanding and potential identification of points for improvement for both members and team. Monitoring the time, rationalizing discussions and communicating absence in advance were some of the communicated topics.
**Student 2A:** “I think that it’s a good way to pause to make maybe a group focus to see if there were some problems in our group. I think it’s a useful way that could make use of in our future cooperation.”

**Missing agreement on norms hindered the potential of the teamwork exercise.** Although the teams discussed such issues, they had difficulties in defining a common agreement for future teamwork. This means that ideas for improvement were shared inside the group but remained undiscussed and finally not agreed on. In the following sessions, it was experienced difficult to remind or to rebuke members on bad behavior. One student, for instance, told that their team was missing tools to deal with absence. The missing agreement and tools made it difficult for the team to leverage positive change. Two teams have affirmed that their members changed and teamwork improved. On the opposite side, one group, characterized by high tolerance and an easy-going working style, stated that almost nothing changed after the teamwork exercise.

**4.2.4 Performing stage depends on the preceding stage**

The fourth stage, *performing*, was characterized by synergy towards the achievement of defined goals. The starting point of this stage was set as the point when the teamwork significantly reached a high level of relationship and productivity. All teams recognized that the relationship among team members improved after the teamwork exercise, but only one team stated that changes improved their teamwork productivity. More details are presented in the following paragraphs.

**Teams had difficulties to apply changes to improve teamwork.** The teams stated difficulties to apply suggested changes after the teamwork exercise. Missing discipline and limited time to implement and test suggestions were mentioned as reasons. Overall, two teams admitted that their teamwork changed while another one stated no change. In one case of change, the team tried to improve the teamwork by changing roles to leverage participation and learning. Both engagement and experiences increased, though the teamwork outcome became worse than before which depressed the team members.
The teamwork exercise improved the social relationship more than social cohesion. All teams confirmed that the teamwork exercise improved their social relationship as students got to know each other better and communication became more open. Supportive behavior remained on the same high level in all teams after the exercise. This furthermore demonstrated a sense of collectiveness and psychological safety in all teams. Nevertheless, the social cohesion was limited as different factors indicate: Two teams were affected by higher absence rate and team members, in general, did not consider meeting outside the class. At this point, it has to be noted, that in particular the team having many conflicts and disagreements was not affected by the absence of team members.

4.2.5 Adjourning stage hardly occurs

The fifth and last stage of team development, adjourning, includes all aspects of teamwork ending. In cases of the study, this stage was short or even not existing. Although the interpersonal development and learning was experienced as positive, students did not share their experiences in the team nor gave personal feedback. Concrete aspects will be explained in the following paragraphs.

Although students appreciated the teamwork they did not show further interest in friendship. The majority of students stated that they appreciated the experienced learning and the cooperation with their fellow members. Furthermore, students noted that the better social relationship after the teamwork exercise benefitted the cooperation. However, several students added honestly that their friendship did not grow to a higher level and it remained similar to other class members. Another student wished to have more contact with the other students in the future, as they know each other well, have similar interests, and will possibly be work colleagues in the future.

Students did not share final feedback with each other. The students stated that at the time of the interview, they did not meet or planned to meet to commonly share their teamwork experience with each other and to share personal feedback. One student noticed that personal feedback is considered as a very personal thing which happens only between very
good friends. If such level of friendship is not reached the person sees little value in sharing or asking for personal feedback.

4.3 Experienced Challenges and Benefits of Teamwork

This chapter represents the core part of the findings and answers the third research question on experienced challenges and benefits during the team processes and development. Concerning the team processes, the teams recognized most experiences both positive and negative during the transition processes, in particular in sharing information and decision making. In regard of team development, the *forming* and *norming* stages were experienced to be the most impactful phases as thereby interpersonal development was defined and adjusted.

More detailed explanations and further experiences are presented in the following subchapters. The experiences are differentiated into two parts: Experienced challenges and experienced benefits. In both sections, experiences are assigned to either team processes or team development. An overview of the experienced challenges and benefits is visualized in Figure 13 and Figure 14.

The following experience cannot be assigned to a challenge or benefactor without interpretation but is considered essential to mention. Therefore, it is placed in front of the other experiences:

*The leading persons experienced a significant influence on the course of the teamwork.* In one team, the leading person usually suggested the entire plan for accomplishing the task and was mainly responsible for decision-making. The other team members usually agreed with the plan and decisions without significant discussions. Furthermore, the same person volunteered to take over difficult tasks the other members did not dare to do. This became a mode and the leading person experienced to slip into a very dominant position - more dominant than this person actually liked. The same person asked their team members for more involvement and consequently less dominance inside the team. In another case, the leading person was responsible for the presentation of the collective work and noted to incorporate significant
influence on the structure and content of the presentation. This dominant role can be considered beneficial or challenging, depending on the point of view.

**Student 2A:** “If we get a task from a teacher, I will first do some thinking about how to finish this task and what every one of us can do to finish part of the task. So I quickly category them into many parts that they may be suitable for this part for example. [...] Oh and if I gave them the task and they won’t say some opinions about it and just did it as what I said.”

**Student 3B:** "Whatever we discussed or whatever our conclusion is, we have to present it on paper or slides, and it’s usually me writing a paper or is usually me who finish the slides so sometimes I feel like it’s me who has the final say because I can decide what I write."

**4.3.1 Experienced challenges**

The students experienced multiple challenges during the project on both processes and development. Related to teamwork processes, students experienced challenges in planning the task accomplishment together. This is related to the finding that teams realized difficulties to actively involve every member in the decision-making process. In conflict management, students left an insecure image as they either avoided any confrontations at all or had difficulties to solve contradicting opinions. Furthermore, students mentioned difficulties to learn new skills during the progress. And lastly, they have had difficulties to give and receive constructive feedback.
Concerning team development, teams had difficulties to discuss and formulate common vision and norms regarding teamwork. This again made it difficult to track or change individual behavior. Also, students noticed that the team leader had a significant influence on the learning outcome of the students. Furthermore, students found it challenging to find ways to leverage the level of friendship inside the team or generate team cohesion.

All experienced challenges are presented in the following two subchapters. Citations of the interviews provide evidence to the formulated assumptions.

### 4.3.1.1 Challenges in Team Processes

**Students experienced difficulties to commonly plan the task accomplishment.** In two of the three teams, one single person had a significant influence on the analyzation of task and planning the task accomplishment. The other students demonstrated relatively high dependency to these two students. At a certain point, the leading person actively asked for
team members involvement. In the other team, students asked for the help of the teacher in the planning phase of the task.

**Student 3C:** “Maybe we just do what the teacher said. Yes. Such as teacher said that we need to do ABC and then each of our team members needs to do the specific aspects.”

Part of the planning process of the task accomplishment is the specification of goals. Nevertheless, only one student mentioned this during the process of task accomplishment.

**Students experienced challenges to reach valid decisions by the active involvement of all team members.** It was stated that students had difficulties to bring up their own opinions in groups. Bringing up own opinions is the first step to collective decision making. In the following step of decision-making, students would discuss their opinion with each other. Resulting from the interviews, students of two teams noted to have short discussions. In one team, the majority of decision was made by the team leader and accepted by the other members. In the same case, the team leader had asked for the other member’s contribution but had little success.

**Student 2A:** “I gave them the task, and they won't say some opinions about it and just did it as what I said.”

In the other team, many compromises were made to proceed in the decision making. It was added that the progress was more important than the quality of the decision. This again demonstrates that thoughtful and collective decision making was shortened. One team had many discussions, conflicts occurred, and the team had difficulties to solve these disagreements. Although this team had tried to decide by negotiation, it happened that students presented their individual opinion during the final assignment. Consequently, this team had difficulties in agreeing on one common decision the team follows together.

**Student 2C:** “I think we need little discussion. Our team had the same thought that we needed to do more efficiently. So we don’t need to discuss. [...] So we may not stick to our mind, our decision. We need a lot... Or make a lot of compromises.”
Conflict management was experienced challenging by the students during the teamwork processes. Already in the initial survey, students had pointed out that ‘coping with different opinions’ and ‘finding a way to proceed when individual opinions contradict’ had been considered the most challenging part of preceding teamwork. During this teamwork, many teams avoided discussions to prevent potential conflicts. One student mentioned to hold back a comment in order not to hinder the progress. The one group that had many conflicts was sometimes not able to solve the conflict and usually required a person to guide back students who had become upset.

**Student 2B:** “But there were situations that when we were doing the presentation, and he will stand out and said, I want to add one thing to this. So we were like, oh okay and then just go ahead.”

Students experienced it challenging to learn new skills during the teamwork. On the one side, students tended to stick to familiar tasks, and on the other hand, students had difficulties to motivate each other to obtain different task to learn. Task rotation in planning, executing of tasks or presenting the results did almost not happen voluntarily. Various reasons were quoted regarding this phenomenon, such as time pressure, personal incompetence, and consequent risk of a lower qualitative output. Unsatisfying experiences during the teamwork decreased the motivation of further rotations. This experience is remarkable taking into account that students described the atmosphere in the course as relaxing and supportive.

Furthermore, students mentioned having difficulties to learn from each other. The educational frame was considered to be too strict to allow students to share and practice skills embodied by other students. It seems that the students’ priority was to finish their task well than using this course to learn or train new skills.

- **Student 3B:** “I try to encourage them to try. That doesn’t matter. Your English doesn’t matter that much, and you could practice blah blah blah. I try to encourage them but sometimes they just... Nobody is willing to do so.”
• **Student 1A**: “She asked us to do a different task because she says she doesn’t always try to do. So we try to make it but after we change the task the outcome is not quite good. It’s a little bit upset.”

• **Student 3A**: “We have the process for learning some other skills or also advantages. But, you know, it turns out that we cannot do things well in just one day or two days. So maybe in this aspect, we didn’t quite cooperate well. We didn’t share our skills with each other. So sometimes we are in a hurry. So we try to do it, do our job to... we always choose the things we are interested and better at.”

**Students experienced it challenging to give and receive feedback.** During the teamwork exercise, many students experienced personal feedback for the first time. While providing feedback, students tend to formulate constructive personal feedback very careful and indirect. Student experienced it more comfortable to share positive feedback than constructive feedback. Only one student shared no constructive feedback to the other team members arguing that everybody is different and this should be tolerated. On the other side, students rarely asked for further explanations regarding their personal feedback. This would have demonstrated interest to understand the personal feedback fully. In this manner, feedback was given rather short in order to escape from this uncomfortable situation. During the class, no personal feedback was shared. Students mentioned that the educational frame was too tight to allow feedback. Also, positive feedback was somewhat rare to happen.

*Interviewer*: “Did you give feedback to each after the course?”

*Student 3B*: “No.”

*Interviewer*: “Do you think; you would like to give feedback to your peers?”

*Student 3B*: “To be honest, no. The first reason is that each of us doesn’t get that much time to do it. Any other reason is that I don’t think we’ve become true friends. So that’s why like we are actually not that interested in thinking about each other and we don’t have that much interest to know each other more. So that’s why I do
not have the intention. So it's only when you feel like it will become true friends in the end that you want to spend more time to discuss."

4.3.1.2 Challenges in Team Development

Students had difficulties to agree on shared visions and norms regarding teamwork. First of all, teams did not mention an agreed common purpose inside their team. They did not share and discuss their personal vision of the teamwork. The fact of missing vision was noticed during the teamwork exercise and in some interviews as members had different and sometimes contradicting understandings of teamwork. While one student prioritized learning, the other emphasized qualitative outcome of the teamwork. These two aspects can be opposing.

Student 1C: “We circle because we think oh we don’t need to do things that we are good at. We need to improve with the other skills.”
vs.

Student 2C: “I think what makes you better, the best in class, is if you make it completely, very completely.”

Another student shared the belief of inefficient teamwork during the interview but had not raised this question inside the team.

Student 1B: “I find it is not very efficient for us in the group. I don’t know why but I think it’s a very important thing to solve.”

Interviewer: “Why would you say it was not efficient?”

Student 1B: “Because we always talk about things that are not related to the task. And maybe it is very relaxing but not efficient. Maybe the group may seem to enjoy it, but the task is not well finished.”

In another team, on student reflected on a missing baseline inside the team which will help the team as an orientation for goals and behavior.
**Student 3A:** We should tell...just sit together to say that. What is our baseline towards a teamwork? What can we tolerate and which is not tolerable? If our team members did some kind of... If he didn’t do the working, didn’t come.

A common vision can also help the students to generate norms or shared mental models. They can include for instance ways of communication, handling of absence or conflict management. At the end of the teamwork exercise *I Like I Wish*, teams had difficulties in formulating common agreements on future behavior and actions. Different, in parts contradicting, ideas were shared during the exercise, but students did not commonly agree on specific ideas. Consequently, different ideas to solve the situation could be applied by different members or ideas were not supported by others and had less effect on the teamwork.

**Student 3A:** “I still think rules are important. Rules or regulations. Something like that. But we should have, really have, concrete measures to take action if someone violates the rules. We didn’t have it because we don’t know how hard or how extreme we should make the rules.”

Besides, students admitted having difficulties to change their behavior on their own. They mentioned to forget agreements during the process or consider their behavior as a habit which is difficult to change. Other students noted to be aware of the misbehavior of these students but did not remind them as these “students are supposed to remind themselves”. In the end, change did not occur. Agreed norms may have the effect to allow students to remember each other on acceptable behavior.

- **Interviewer:** "But did they actually change?"

  **Student 2C:** "Actually they don't because there's not... This is some habit or some..."

  **Interviewer:** “Yes, habit is like certain behavior.”

  **Student 2C:** “Not just that they don’t figure out themselves, they already know. They don't attend the class most of the time. They don't need to tell them: You
have to attend the class. So they won’t change it because they already know. They just have the habit. Just for example me I stay awake overnight, I can’t attend the class in the afternoon.”

- **Interviewer**: “What has changed afterward (I Like I Wish)?”

**Student 3B**: “I think it hard to judge by words. We will try to remind ourselves with what other people have...suggestions that other people have given to us. We try to remind of other people. We tried to remind us of what we should improve and what I should pay attention to personally.”

**Interviewer**: “When you say you tried, did you also? Did you remind yourselves of the points?”

**Student 3B**: “Yeah, I reminded myself, but that doesn’t seem to be so effective. I still present my ideas by words. That’s how it was when I realized about it after we finished our work. So in the process, I forget. And I think this also comes to another member.”

**The leader had a significant influence on the learning outcome of the students.** The leading person was the primary person to set the task for the teamwork. Furthermore, the leading person was usually the person motivating and encouraging others to obtain different roles. In discussions, the leader of each group acted as the facilitator of the discussion. The more democratic approach the leader practiced, the more information exchange happened. Consequently, the students experienced to learn more content and have participated actively in the discussion. This again was identified to be inspiring and interesting.

- **Student 2A**: “I will first do some thinking about how to finish this task and what every one of us can do to finish part of the task. So I quickly category them into many parts that they may be suitable for this part for example. Maybe [student names] who are [...] very familiar with the method of research, so I will give [student name] this part and [student name] is good at making PowerPoint. So [student name] will do some... will polish our results in the end.”
• **Student 3B**: "I always try to ask them. I try to encourage them to try. That doesn't matter. Your English doesn't matter that much, and you could practice blah blah blah. I try to encourage them but sometimes they just... Nobody is willing to do so. And yeah but there are also one time or two, that I clearly said that I'm not going to present this time and you will decide who will do the presentation."

**Students had difficulties in leveraging their social relationship to the friendship level.** All students cultivated a friendly behavior towards each other including supportive behavior and friendly communication. Nevertheless, in all teams, the friendship did not develop to a higher level, and personal interest was not part of communication. Social relationship was considered to be supportive of teamwork, and one student mentioned that the best teamwork would be with best friends. Having said this, the student also noted that their team did not meet outside the class and did not communicate much about personal interests. This was a common issue in all three teams. Students mentioned that the schedule of the course and the intensity of general studies did not leave time for more social interaction. Still, two students considered a common party or dinner as a possible initiative with the aim to get to know each other better while talking about things unrelated to project and studies. Other students said they do not know what they should be talking about with other students and see no purpose in communicating outside the class.

• **Student 1B**: "I don't think our relationship has been improved to another level because we only met twice a week or once a week. You know the time is limited, and most of the time we did work. We have a little communication. And we are quite familiar with other people's characteristics. So maybe there be some lack of something to push our relationship to a higher level or closer level."

• **Student 3A**: “I think, we have to have some more life experiences like go out for restaurants or other leisure activities because the more common experience you have, you know each other better and then you know better how to cooperate based on his characteristics. Yeah, I think that's quite an important way to improve. You have some time to spend outside your work, outside your class.”

• **Student 3B**: “Maybe we should have had some kind of meetings outside the class. Because it's, I think it's quite important for the connection between the members.
But we didn’t have it. And it's really difficult for us to do that. In spite of difficulties, maybe at least one party or something else should be held to find out whether we have common hobbies, whether we can have communications after the class.”

Students experienced it challenging to develop cohesion inside the team. Cohesion can be created through the task and the team. In both aspects, students experienced challenges. The primary indicator of the lack of cohesion was the high level of absence in two groups. Students did not appear to the teamwork and did not communicate their absence in advance. This again led to an upset feeling among the present students. The absence caused students’ assumptions that the absent member prioritized other activities and had little empathy for the other working members. It has to be mentioned that the one team that had many in-depth discussions and a motivated leader, was less affected by absence. The commitment and the passion for discussing a topic were considered to be indicators for cohesion.

Student 3A: “Maybe a sense of belonging that I'm a part of this team. And as a matter of fact, I should be proud of it. I'm the team of ‘Walk with the Wind’, as our team. But actually we didn't have that kind of sense of feeling: We were proud of it.”

Student 2A: “Sometimes we feel upset, especially, not only she is absent from the team. Sometimes only two or three are doing the task. Absence is a big problem in our team, I think. And sometimes all they will be late for the class, for example, some of them will arrive. In the afternoon and absent in the morning. So it's will bring some trouble to the teamwork.”

4.3.2 Experienced Benefits

As a positive counterpart, students also experienced benefits during the project supporting either team processes or team development.

Regarding team processes, students experienced that listening to everybody’s opinion and idea was valuable for both teamwork and personal development. Feedback as a directed form of opinion was also experienced beneficial for individual and team development. Using different ways of communication, like drawing, writing or else was perceived to support cross-
functional understanding and rationalize discussions. The prioritization in task accomplishment was experienced as an essential tool to increase efficiency and teamwork.

The team development was experienced to benefit from a friendly and respectful atmosphere inside the team. It also increased the learning outcome. This is closely connected to the perception that each individual behavior can influence the entire development. Teamwork exercises, like I Like I Wish, provided time to focus on the group which had a beneficial effect on the relationship among the team members. Furthermore, spending time outside the course was considered as helpful for the interpersonal relationships.

The following two subchapters list all beneficial experiences and support them with evidence of interview citations.

4.3.2.1 Experienced benefits in team processes

Listening to every team member’s ideas and opinions was experienced beneficial for the teamwork. The students stated that the exchange of diverse ideas and opinions supported the outcome of the teamwork. Also, the students experienced to learn from each other and get inspired for the task. In particular those members of the team who had many discussions and conflicts, stated that the discussion supported their learning and understanding in multiple ways. They learned about the content of the discussion, the value of everybody’s opinion, the process of decision-making and conflict management. In all teams, it was realized that sometimes students need to be encouraged to share their ideas with the group. In one case a student experienced this encouragement as supportive and started to encourage others based on the person’s experience.

- **Student 1B**: “We needed to learn from each other. So we accept new ideas from others, and we can’t be stubborn. So when some difference or very maybe amazing ideas from others. We think that if this is right. When I find it is correct and I try to accept it and maybe I will think it in my own major profession.”

- **Student 2B**: “Like, some people are not very confident or willing to speak out their opinions, including me. We all have someone to help, or we will ask: What about
you? So, then we can say the things out. And sometimes, just like what I mentioned, conflicts. Many, quite often we had conflicts.

Interviewer: “Who was helping you in this way to bring up your opinion?”

Student 2B: “I think, at first, just [student name]. And then I joined [student name]. And I tried to maybe care more about others feelings and opinions.”

- Interviewer: "How was it personally for you - the discussions?"

Student 3B: "It sometimes helps me with enlarge my knowledge on these questions. Sometimes I also see other people's limit of their understanding on this. It helps me sometimes, and sometimes I will try to provide another perspective for our teammates."

- Student 1C: "In a class, we always have discussion and interaction with the teachers. And when we communicate with each other. I think it's very great experience. I've never been before."

Sharing feelings was a different aspect of communicating opinions. It was more emotional and related more to team development. Nevertheless, one case is worth to be mentioned at this point. In one team, a student experienced it positively to communicate disappointment and upset feelings due to the absence of some members in the class. This caused apologies and an increase of presence, hence social cohesion.

Feedback was experienced to be beneficial to leverage learning. Most of the students experienced feedback for the first time. It came with some starting challenges (see the previous chapter) but convinced the students to have a positive impact on their learning experience. They learned in multiple aspects. First, they gained confidence in things they were doing well. Some students got emotional in this situation and said they had never heard that from others. Second, by constructive feedback, the students experienced learning on how they personally could do thing different to facilitate the teamwork. One student was asked to communicate some ideas not only verbally but also visually in order to facilitate understanding. Third, on the team level, they realized that the open feedback facilitated the
communication inside the team. Members became more open to share feelings and opinions. This enhanced the sense of group unity.

- **Student 1B**: [In the teamwork exercise,] they (team members) say my own mind is not relaxing. So they hope I can be more free when we discuss or think about the new ideas. So, I try. So, I actually try to accept their ideas and think more about the new things. Not always the engineering things. That's my change.

- **Student 1C**: “Sometimes after discussion, we will have some constructive suggestions. After that.”

  **Interviewer**: How was that?

  **Student 1C**: It's great, I think. Because when people... Sometimes you can't think everything. You cannot think of everything, but your teamwork will give you a lot of suggestions so that we can make our work more...more...more entirely.

**Different communication methods were experienced as beneficial to support cross-functional understanding.** In order to facilitate internal communication about complex topics, students started to explain content with the support of drawing or other visual support sourced online from the internet. This supported the understanding as students of different majors were not aware of specific terms and processes. The visual support generated a mutual understanding and avoided misunderstandings.

One team decided to write down opinions and ideas individually before sharing them inside the group. This structured process allowed each student to organize their mind and formulate clear points. This again supported a rational and efficient discussion without the involvement of emotions. This process is considered as a conflict management tool preventing conflict to arise out of discussions.

  **Interviewer**: Did you also try other ways of communicating?

  **Student 1B**: Yeah. Drawing, pictures, maybe we could find some video on the Internet, and with video, we will try to explain more.
Interviewer: Okay, was that useful?

Student 1B: Yeah because when I say something, they don’t know the picture so they can’t understand the mechanic process. So it’s very complex.

The students experienced the value of prioritizing tasks to deal with time pressure. The framework of the course forced the teams to accomplish the task in a specific time frame. In this window, teams could structure their processes by themselves. Two teams actively emphasized task prioritization to be more efficient and to deal with the time pressure. While one team developed their processes straight away aligned to the time window, the other team reacted on experienced time pressure after some sessions. In each group, there was at least one person monitoring the progress and time during the teamwork. One team started to adapt time-wise the discussion according to the relevance of the task accomplishment. The prioritization was decided during the early part of the processes – during the planning and strategy processes.

- **Student 4C**: “The time is limited. We have to focus on what is the most needed part.”

- **Student 2B**: “After we write down and we […] just discussed the things one by one and pick out which one is the most important part during this task or which one is beyond our ability to find out the answer. And we may give it up, or we may devote less time on it. It’s like making a rank.”

Related to the described experienced learning, **the students experienced that there are different ways of decision making**. Resulting from a discussion in which everybody’s opinion was heard, a negotiation could lead to the decision. Also, voting was an option, with might take less time. These ways of decision making were noticed in contrast to authoritarian decision making. This does not mean that the students always participated actively in the decision-making process, but it states that the members were aware of these options. This democratic approach also required students to participate actively and formulate their own opinion.
**Student 4A:** “Most of the time we just reached an agreement without voting. [Though] we usually have little time. [Voting] is very timesaving and anyone can come out with a voting idea because we do this a lot in our classes.”

### 4.3.2.2 Experienced Benefits in Team Development

The students experienced a friendly course environment as beneficial for their learning and development. The course was often put in contrast to previous teamwork experiences in the student’s own major. Resulting from an initial survey, the majority of the students had many experiences in teamwork and so should have some cases to compare. The fact that all students strongly emphasized the friendly and relaxing environment in their teamwork highlights this finding as a core characteristic of both teamwork and course. The atmosphere is created by several factors such as supportive behavior, the tone of communication, and educational framework.

**Student 1C:** “In a class, we always have discussion and interaction with the teachers. And when we communicate with each other. I think it's very great experience. I've never been before.”

The students considered a higher appreciation of team members than of tasks in comparison to other teamwork. This emphasis correlated well to the leadership. In contrast to previous teamwork experiences, students mentioned that they usually were used to authoritarian leadership, but in this course, they focused on every individual member and their work.

- **Student 4A:** “Actually in my school, we have a leader, and he will tell us what to do and how to do it.”

- **Student 1C:** “[In this course,] we will pay more attention to our work individually. If we have one leader in my university, I would just do what the leaders said.”

A further contributing factor to the friendly environment was the supportive behavior of members inside each team. Students helped each other in task accomplishment in case one
student did not know how to proceed. This behavior again motivated students to share questions freely inside the team without having the fear of losing reputation. Furthermore, students encouraged others to participate actively or to take over new tasks.

**Student 2B**: “Like, some people are not very confident or willing to speak out their opinions, including me. We all have someone to help, or we will ask: What about you? So, then we can say the things out. And sometimes, just like what I mentioned, conflicts. Many, quite often we had conflicts.”

**Interviewer**: Who was helping you in this way to bring up your opinion?

**Student 2B**: I think, at first, just [student name]. And then I joined [student name]. And I tried to maybe care more about others feelings and opinions.

Resulting from this friendly environment, some students believed that the best teamwork would be among good friends, as communication occurs freely and friends cultivate supportive behavior.

**Student 1C**: I think, if the teammate is like your friend - it is perfect. [...] So I will share ideas with them and not to be nervous or shy to do this.

It has to be added that the teamwork was also considered very tolerant or to some extent too friendly. In concrete, students were tolerant towards counterproductive individual behavior such as being absent without informing the other team members. This again led to disappointment and upset feelings of present members. This tolerance, on the one hand, supported the experience of a relaxing atmosphere but on the other side, it was not supportive of the teamwork and seeded discrepancies.

**The teamwork exercise was experienced to improve the team relationship.** All members considered the teamwork exercise I Like I Wish as beneficial for the development of the team as students shared their opinions and feelings towards each other and the team openly. This sharing supported the mutual understanding of personalities and decreased the misunderstandings resulting from wrong assumptions. Furthermore, based on the dialogue,
students could agree on norms facilitating the future collaboration. As an example, in one team, members were pleased to communicate their absence one day before the class. Two members, in particular, said that the timing of the exercise in the midterm of the project was very supportive. At this time, the students had worked together for some time, and differences in working and behaviors had been identified. However, the students had not found time before the teamwork exercise to discuss their teamwork. The exercise then offered time to share opinions and feelings. At this point, it has to be mentioned, that teams experienced challenges to agree on common norms and to execute suggested behavior.

_**Interviewer:** We had this teamwork exercise together with [mediators name], two weeks ago. What changed after this? Did something change?

**Student 3C:** “Yes, I think, we were more on time to attend class.”

_**Interviewer:** Like today?

**Student 3C:** “Yes, like today. And I think, wait a minute… I think we have more cohesion. We have more teamwork spirit. I don’t know how to say it. We are more your united.”

**Students experienced learning about interpersonal behavior in teamwork.** As these teamwork experiences were entirely different from previous experiences of students, it showed students a different way of teamwork. The newly experienced way of teamwork was more friendly and relaxing than strict. The students realized that this could be traced back to the framework but also by their interpersonal behavior - something they could manage by themselves. They experienced how their behavior could influence other, hence the entire teamwork. Their behavior could be supportive or counterproductive. The following example demonstrates the experienced learning of supportive behavior: One student had experienced how supportive behavior can enable participation and thereafter started to apply such behavior to other members, too.

**Student 2B:** “Like, some people are not very confident or willing to speak out their opinions, including me. We all have someone to help, or we will ask what about you. So, then we can say the things out. […]”
Interviewer: “Who was helping you in this way to bring up your opinion?"

Student 2B: “I think, at first, just [student name]. And then I joined [student name]. And I tried to maybe care more about others feelings and opinions.”

The students experienced that offside communication taskwork can enhance the team cohesion. In particular at the beginning of the project, during the forming stage, spending time with the team member off the task was valuable to enhance mutual understanding. The understanding included interest, behavior, and values. The early recognition of team member’s personality sensitized the interaction, thus, leveraged social cohesion and relationship.

Student 3A: “I think, we have to have some more life experiences like go out for restaurants or other leisure activities because the more common experience you have, you know each other better, and then you know better how to cooperate based on his characteristics.”

Also, some students considered it valuable to arrange time in the midterm of the project to reflect on the team development. Operational work on the task often did not allow the team members to talk about the interpersonal relationship. In the midterm of the project, students knew their team members well and could identify weaknesses and strengths on both levels – individual and team level.

Student 2A: “I think that it’s a good way to pause to make maybe a group focus to see if there were some problems in our group. I think it’s a useful way that could make use of in our future cooperation.”

Students experienced that feedback can support the individual and team development. As feedback was new to almost every student, the students found it challenging to give and receive constructive feedback. However, they experienced it positively in regards to their personal and team development. On a personal level, members experienced that positive feedback can feel good and enhance confidence. Constructive feedback, in turn, can be direct
and sometimes hard. On the team level, positive feedback can increase social cohesion while constructive feedback can point out potential points of improvement in teamwork.

**Student 1A:** "I said that they are a little bit quiet in the teamwork, but now I think they perform better than before. Because after the group focus we did, I find that they are willing to speak more."

Nevertheless, it has to be added that students experienced difficulties to implement the suggested changes on the individual level.

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**Figure 14:** Overview of the student’s team development positive and negative experiences

![Team development experiences diagram](image)

- **Forming:** Difficulty to agree on common visions and norms on teamwork.
- **Storming:** Communication offside of the taskwork enhances the team cohesion.
- **Norming:** Feedback can support the individual and team development.
- **Performing:** Teamwork exercise can improve the team relationship.
- **Adjourning:** Challenge reach high level of friendship.
- **Benefit:** Challenging to develop cohesion inside the team.
- **Challenge:** Leader have major influence on the student’s learning outcome.
- **C4:** Friendly course environment is beneficial for learning and development.
05 Discussion and Conclusion

5.1 Interpretation of Findings
5.2 Development of the Theoretical Framework
5.3 External Influences on Teamwork Experiences
5.4 Practical Implications
5.5 Evaluation of the Study
5.6 Suggestions for further Studies
5.7 Conclusion
5   Discussion and Conclusions

In this chapter, the findings are interpreted and discussed based on literature. Additionally, some practical implications are presented. Furthermore, this chapter evaluates the research by reviewing the research design and pointing out its limitations. At last, suggestions for future studies are shared with the reader before the conclusion closes the study.

5.1   Interpretation of Findings

The interpretation of findings is divided into three subchapters targeting team processes, team development and the gathered experiences of both.

5.1.1   Team processes model identifies operational experiences

In general, the various findings on team processes proof the statement that every team and its interactions are different (Salas et al., 2018). It has been possible to generalize and track processes across all three cases. Thereby, it is noticeable that the transition processes incorporate most challenging and supporting experiences during the teamwork. This interpretation fits with findings in other studies, as the transition processes require more interaction and are consequently more often the focus of attention in the teamwork experiences compared to the action and interpersonal processes (Barth et al., 2015; Ramos-Villagrasa et al., 2018). Furthermore, leadership plays a significant role in the progression of processes. This fits with general research on teamwork (Salas et al., 2018) but is not especially emphasized in the team process taxonomy (Marks et al., 2001). Other processes, like the active involvement of members, information exchange or task rotation played a notable role in the cases but are neither much emphasized in the taxonomy. In the following paragraphs, each process phase will be compared to the theory.

During the transition processes, it is noticeable that task analysis, backward evaluation and goals specification did not play a significant role in the cases. This may have caused some student’s feeling of facing inefficient teamwork (Marks et al., 2001; Villado & Arthur, 2013). During the strategy formulation and in decision making in general, leading members played an important role (Salas et al., 2018) and got further leveraged by the search for dependency
inside the teams. This can be traced to the cultural context and is elaborated in the next chapter. Nevertheless, these findings are contradicting to the benefitting experience that everybody is allowed to share their opinion inside the team and receiving feedback. Lastly, task rotation as a part of the strategy is not explicitly mentioned in the taxonomy but needs to be considered in this educational environment. The fact that some students hesitated to take over new tasks can be connected to the psychological safety (Edmondson, 1999) and the cultural context (see chapter Chinese cultural context).

The action processes of coordination and monitoring were not strongly emphasized by the teams and did occur naturally as teams have worked face to face in a well-known timeframe. The soft emphasis could be a reason for the little performance feedback in the later process (Marks et al., 2001). The facts that students did not fear to ask for help, and demonstrated supportive behavior, facilitated the coordination and monitoring processes plus provides evidence of existing psychological safety inside the teams (Mathieu & Rapp, 2009). Such an atmosphere is considered essential for efficient teamwork (Duhigg, 2016; Edmondson, 1999). Nevertheless, it is noticeable that this atmosphere does not affect all members to be comfortable participating in the discussion or trying new tasks.

Regarding interpersonal processes, conflict management and confidence building was described more clearly than affect management. Regarding conflict management, the majority of students cultivated a strong preemptive way by trying to avoid confrontations in general (Jehn, 1997; Marks et al., 2001). Another group experienced it beneficial to apply different ways of communication to enable a rational discussion (Von Glinow et al., 2004) or a constructive conflict (G. Chen, Tjosvold, & Liu, 2006). In general, the preemptive approach is likely to be connected to the cultural context and is elaborated in the following chapter. Like literature states (Salas et al., 2018), motivation and confidence building was practiced mainly by the leading members of the teams. Though, it was not that effective in the three cases. Confidence building in terms of positive or constructive feedback (Druskat & Wolff, 1999) did not occur voluntarily.
5.1.2 Team development theory marks ideal learning on development

Only one team clearly passed through all stages of the team development theory. In the other cases, teams did not clearly experience the storming or performing stages. All outlined experiences, both challenging and beneficial, are related to the forming, norming and performing stages (Figure 14). Consequently, these stages are considered to be the most impactful stages for the development and potential learning. Furthermore, leadership and the cultural context have a strong impact on stage progression (Feitosa et al., 2018; Kozlowski & Ilgen, 2006). The author has further recognized that the team passing through all stages articulated more concrete aspects and experiences of teamwork. This leads to the assumption that moving through all stages increases the experienced learning outcome of teamwork. More detailed aspects of each stage are evaluated in the following paragraphs.

Students demonstrated dependency during the forming stage which is normal in training groups (Tuckman & Jensen, 1977). Testing of interpersonal behaviors, as described in theory, occurs defensively and sensitively, meaning students’ behavior is more careful than offensive nature. This contributes to the positive experienced environment and psychological safety (Edmondson, 1999). Nevertheless, students did not share their expectations on teamwork with each other and did not clearly formulate visions or norms of teamwork. The formulation of common objectives and thereby creating shared mental models is essential for efficient teamwork (Kozlowski & Ilgen, 2006; Salas et al., 2018). The aspect of vision is only mentioned shortly inside in theory but is considered to be an essential part of this early stage (Salas et al., 2005). As stated in literature, communication outside the class was positive in particular in the early stage of teamwork (Aubke et al., 2014). Furthermore, team roles developed organically which is typical for informal groups (Tuckman & Jensen, 1977).

The storming stage was not clearly visible in two teams as the majority of students tried to avoid confrontations in general. The tolerance towards individual behavior and working styles further contributed to a vague stage of differences. Both aspects can be traced back to the cultural context and are further elaborated in the next chapter. On the other side, it has to be mentioned that the team having many discussions and conflicts shared more profound teamwork insights during the interview, noted more experienced learnings, and perceived the
team development stages clearly. This leads to the assumption that discussions improve the experienced learning outcome of teamwork.

The *norming* stage was essential for change and development in two teams. This stage has been triggered by the teamwork exercise *I Like I Wish* which was integrated into the course structure. Alike mentioned in theory, this exercise (Björklund et al., 2017; Marks, Zaccaro, & Mathieu, 2000) and this stage enhanced cohesiveness and the interpersonal relation of team members (Tuckman, 1965). Also, students perceived this stage as valuable as feedback supported their personal development and individual behavior. Nevertheless, the effect of the stage was limited as teams did not all successfully agree commonly on new norms to improve teamwork.

The *performing* stage was challenging to identify as the outcome of the *norming* stage, including aspects of how to improve performance, was unclear. This implicates that the *performing* stage is strongly depending on the outcome of the *norming* stage. Going one step further, discussions in the *storming* stage help to identify aspects of team dysfunction, which can then be solved in the *norming* stage. This is based on the finding that a team that was having considerably more conflicts in general, clearly improved along the process and reached the *performing* stage. In another case, new roles did not enhance the task activities of the group but leveraged experienced individual learning. In this stage, students perceived the challenge to increase the interpersonal development further.

The final stage of *adjourning* was not a significant concern to the teams and students, as little feedback was shared. Although students had positive experiences with personal feedback during the *norming* stage, they did not practice it at the end of the course. As stated in the literature (Druskat & Wolff, 1999; Villado & Arthur, 2013) this may leverage personal and collective development and team performance (G. Chen et al., 2006).
5.1.3 Experiences depend on leadership and psychological safety

The students' challenging and benefitting experiences are equally spread in both team processes and development. Most of the experiences related to team processes, both challenging and beneficial, were collected during the transition processes. This phenomenon can be reasoned by the interactive intensity of such processes (Barth et al., 2015; Ramos-Villagrassa et al., 2018). Regarding development, allocation of gathered experiences can be connected to the forming, norming and performing stages, hence they represent the most impactful stages for the students.

Concerning team processes, all experienced challenges can be traced back to the missing feeling of psychological safety inside the teams. This feeling again is influenced by the Chinese national culture but can be managed by the leading figures (Salas et al., 2018). Psychological safety is needed so that students can experience trust which again enables them to take risks or to share constructive ideas and opinions inside the team without being backlashed (Edmondson, 1999). This will help them to overcome challenges like planning teamwork commonly and thereby defining common vision and norms, which count for all members. This again may prevent conflicts, enable personal feedback, and facilitate new acquisitions of skills by taking over new tasks. Supportive behavior and constructive feedback will leverage confidence and personal development, hence team development (Druskat & Wolff, 1999). Additionally, the beneficial factors of listening to everybody’s opinion and on the effect of constructive feedback are also based on psychological safety.

Regarding team development, all experiences can be traced back to two aspects: Leadership and psychological safety. Leadership plays a significant role (Salas et al., 2018), though all members need to have a common understanding of leadership. Leadership is partly contributing to the development of vision and norms on teamwork. Based on these common understandings they can make decisions, support each other’s development, foster cohesion and friendship. By discussing vision, and norms, the student will share expectations, build shared mental models, and will create psychological safety (Bourbousson et al., 2015; Salas et al., 2005; Stout et al., 1999). This again fosters cohesion and friendship among team members. The teamwork exercise I Like I Wish can be considered as intense debriefing sessions, which
in the combination of leadership communication is a great tool to develop shared mental models (Marks et al., 2000) and psychological safety (Allen et al., 2018; Salas et al., 2018).

5.2 Development of the Theoretical Framework

This chapter reflects on the selection and complementary function of the selected theoretical frameworks of (Marks et al., 2001) and Tuckman (1965). At the same time, it outlines secondary findings on the theoretical frameworks.

Teamwork research is well studied and provides a theoretical fundament including frameworks and models to build on and to apply in empirical studies (Mathieu et al., 2017; Salas et al., 2018). As this study focusses on teamwork processes, the taxonomy of team processes by Marks et al. (2001) serves well to analyze the operational processes aligned to the task accomplishment on a temporal basis. The IMOI model (Ilgen et al., 2005), for instance, has a broader approach and emphasizes less the processes. Furthermore, the simplicity of the taxonomy allows an easy application for users who are new to the topic of organizational psychology. However, the taxonomy comes short to analyze the interpersonal processes on a long-term perspective. Hereby the team development theory by Tuckman can be applied to complement.

The theory of Tuckman appears to be outdated in some aspects, in particular regarding the task focus. It describes a linear team development (Miller, 2009; Sundstrom et al., 1990), and has limited factors and interrelations between them. Nevertheless, the interpersonal focus of the linear team development fits well to the study’s cases, which take place in a static environment and secondly, strengthens the long-term of interpersonal processes. The long-term aspect of the task focus of the theory is not that relevant as the educational framework of the cases consists of separate content sessions and isolated short-term assignments. External factors like cultural context and educational support have a significant influence on the development and are not considered in theory (Gersick, 1988; Rickards & Moger, 2000). Comparing the stage framework to other models, like the IMOI – model (Ilgen et al., 2005), stages are more explicit (e.g., storming, norming, performing) and consequently more accurate to analyze the development.
In conclusion, the two models of Tuckman & Jensen (1977) and Marks et al. (2001) are complementary and serve well as a theoretical basis to investigate the teamwork experiences. External factors like the cultural context, the educational framework and individual characters influence these experiences and should be considered. Nevertheless, the theoretical framework (Figure 4) can be further developed to a model filling the gap in teamwork research.

5.3 External Influences on Teamwork Experiences

This chapter examines how the context of the case studies is influencing the teamwork experiences of the Chinese students. It demonstrates how the Chinese national culture and the educational framework are related to specific behavior and experiences in teamwork.

5.3.1 Chinese cultural context

The Chinese cultural context supports the interpretation of the findings and thereby may lead to a potential explanation of teamwork experience. As stated by Hofstede et al. (2010), the Chinese society is characterized by high power distance. Concerning education, this implicates that students usually show great obedience, dependency on superiors like teachers and they prefer a concrete framework. These aspects are notable in preferred dependency on leadership, and more concrete in goal specification, formulation of shared vision and norms. Concerning leadership, research supports the findings that students expect dominant leadership and high responsibility (Hofstede et al., 2010; Lau, Kwong, Chong, & Wong, 2013). Nevertheless, the team leaders did not practice strict leadership as students had expected based on preceding experiences. This leads to the interpretation that the level of power distance is significantly different compared to other courses. The lower power distance caused the positive experience, but students were still unfamiliar with it and were shy in taking advantage of it.

The typical Chinese understanding of maintaining face and harmony (G.-M. Chen, 2002; Hofstede et al., 2010; Mannix & Brett, 2002; Samovar et al., 2010) is well noticeable in all cases. In particular, the avoidance of confrontations, hence discussions, has been the case in
two teams. This effects information exchange, conflict management, decision-making, communication and all stages of development directly. It has to be noticed that the guided open discussion during the teamwork exercise relaxed the situation and leveraged discussion and participation of students in their teams. Nevertheless, it required external influence to leverage this development.

Related to the avoidance of confrontations is the caution with direct feedback. In particular, personal constructive feedback is considered by Chinese as rude and spoiling harmony (Dong & Liu, 2009; Samovar et al., 2010). This phenomenon also resonates with the Chinese societies’ tendency to collectivism (Hofstede et al., 2010). This has been noticed during the meditated feedback session and by the fact that students did not share further feedback afterward.

According to Hofstede et al. (2010), the Chinese national culture is characterized by lower risk avoidance. This was only partly noticed in the three cases. On the one hand, this implicates that there is not a strong emphasis on rules and norms as in other countries. In societies of collectivism, a collective understanding of behavior is rather self-evident than commonly noted (Hofstede et al., 2010). Though students experienced that there is no common understanding and that a shared vision and norms would increase the common basis. On the other hand, students demonstrated caution in task rotation, which is connected to higher risk avoidance. Failing in task accomplishment can be linked to the cultural phenomenon of losing face and low effort (Hofstede et al., 2010). Even though the students acknowledged a very friendly atmosphere in the course where taking risks and different opinions were welcome.

Traditional education in China does not include the practice of feedback (Hofstede et al., 2010). Furthermore, researchers claim that students are used to learning from teachers and not from their peers (Jin & Cortazzi, 2006). Consequently, students do not value or students do not believe the other person values feedback to one another. According to Hofstede et al. (2010), Chinese society is characterized by collectivism. In such societies, direct feedback is less appreciated than in individualistic cultures.
5.3.2 Educational framework

The educational framework influenced the teamwork experience in some ways. The requirement to accomplish the given tasks during the weekend sessions has led to two effects. On the one hand, it created pressures during the session to deliver the task on time. Such stress can lead to conflicts among members and eroding motivation, confidence, and morale (Marks et al., 2001). Though, in all cases, the time pressure motivated the students to have fewer conflicts to proceed faster. In one team, the framework was interpreted as the team focused on task accomplishment rather than gaining a holistic understanding of the topic and shortcutting discussions and decision-making. On the other hand, the task accomplishment during the weekend allowed the students to focus on their individual schedule during the week, which again relaxed the teamwork.

All teams learned to develop during the progress and adapt to the framework. Team learning, skill acquisition, and development contributed to the alignment of team processes according to the task demands (Kozlowski & Ilgen, 2006)

Larger teams of five students were chosen to increase the learning outcome on teamwork as larger groups face more coordination and structure challenges (Gersick & Hackman, 1990; LePine, 2003). While coordination was not a significant challenge, the larger team size may have decreased task cohesion and commitment.

5.4 Practical Implications

Based on the findings of this research, students and instructors have a significant influence on the experiences of future teamwork in the context of education. The following subchapter list concrete suggestions for students and instructors to improve their teamwork experience.

5.4.1 Recommendations for students

It is recommended, that student share their personal teamwork expectation with their team members and create a common vision at the beginning of future teamwork. Sharing own expectations enables mutual understanding and generates an idea of the following teamwork.

It is recommended to agree on a common vision, norms, and behavior. Thereby, it is
recommended to define precise measurements and reactions on misbehavior. This process may furthermore create team cohesion, facilitate decision-making, and decrease the risk of misassumptions, hence conflicts.

Students are recommended to find extra time to meet outside the course at the beginning of the teamwork. This may improve team cohesion and interpersonal relationships (C. Klein et al., 2009). Teamwork can flourish in an environment of psychological safety. This environment is developed by social interaction outside the teamwork while talking about personal interests and hobbies.

Students are recommended to reflect briefly on teamwork processes after each session as this may improve processes for the subsequent teamwork meetings (Tannenbaum & Cerasoli, 2013). The reflection includes both positive and negative aspects of teamwork processes.

The author suggests that students consider different ways of communication to facilitate cross-cultural and cross-functional understanding in teams. Furthermore, different ways of communication can decrease emotions in communication. In concrete, noting down thoughts and ideas individually may enable more rational and structured communication.

Furthermore, it is recommended to encourage constructive personal feedback between team members. Students need to value receiving feedback from their peers in addition to superior people like teachers.

5.4.2 Recommendations for instructors

Instructors are suggested to support a discussion about the understanding of effective leadership including its characteristics. Students have different experiences and perceptions of leadership. Each type of leadership has advantages and disadvantages. Students should share experiences and discuss questions like what makes a leader great? What kind of leadership is accurate in which situation or purpose?
Furthermore, instructors are suggested to introduce the topic of intercultural communication and cross-cultural management. China is gradually opening its economy and society to the world which boosts intercultural interactions. In this intercultural context, students would benefit from the awareness of cultural differences. This includes analysis of their own as well as foreign cultures. This will train students to deal with cultural diversity, to develop cultural sensitivity and to understand the cultural context of an imported course. According to Samovar et al. (2010), the ability to work in intercultural teams and networks will become a standard requirement.

The author suggests to provide students with relevant training and knowledge of teamwork skills before the cooperative learning (Lau et al. 2013). In concrete, an interactive discussion on effective teamwork could be supported. Teamwork training will improve the teamwork competencies (Salas et al., 2008).

Based on this study, the author suggests to provide organizational support for interim teamwork exercises focusing on interpersonal issues (Björklund et al., 2017). This includes the arrangement of extra time for group focus during the course and the offering mediation. Students tend to focus on the operational tasks rather than focusing on interpersonal issues in teamwork and forget to arrange the time for such team focus. Offering mediation will help the team go through such group focus with guidance by an external person.

It is recommended that instructors explain the benefit of feedback for course, teamwork and personal development. This will sharpen the awareness of the students to give and receive feedback (Marks et al., 2000). Thereby, the instructor needs to explain what constructive feedback is. The instructor should encourage students to ask their fellow students for feedback as they might not do it independently.

Furthermore, the author suggests that the instructor should explain the value of rational discussions in cross-functional teamwork. Discussions train the formulation of thoughts and ideas. This input may be inspiring or complement to other ones and consequently, leverage personal development, knowledge and teamwork competencies.
In order to support personal development, the instructors should encourage task rotation during teamwork. In addition, instructors should gradually reduce support in monitoring time and progress of the student's teamwork to leverage the independence of teams.

5.5 Evaluation of the Study

The evaluation of this study is structured in four parts: literature, research design, data collection and analysis, and the process of making the study.

Literature in the field of teamwork is profound and very broad (Mathieu et al., 2017; Salas et al., 2018). Therefore, it is possible that not all literature could be taken into account. Furthermore, the selected theories supporting this study are acknowledged among researchers (Cassidy, 2007; Mathieu et al., 2017) but are on its own rather old and outdated in some aspects as mentioned in the previous chapter 5.2. Nevertheless, in combination they work well to analyze the cases this study as they are rather linear and stable. There is only few empirical literature on teamwork in the Chinese context and literature in the Chinese language was not reviewed in this study due to language barriers of the author.

The chosen inductive approach with theoretical support is complex and may hinder the transparency of the analysis and thereby the credibility of findings. To react to this issue, the author has emphasized the description of the data analysis (chapter 3.5). Regarding the research method, three case studies are few and allow only an internal generalization. Further case studies would increase the significance and strengthen the propositions. It has to be added that case studies in general, are likely to be subjective as they lack controls and use only a few sites (Gioia et al., 2013; Yin, 2016).

Concerning data collection, further observations of real teamwork interaction would have supported the authenticity and significance of the findings. It has to be mentioned at this point that the primary language in teamwork has been Chinese and thereby foreign to the author. Considering the semi-structured interviews, the structure may have influenced the direction of findings compared to an open interview. This approach was chosen due to the interview focus and the language skills of the interviewees. The interviews were conducted in English,
which is the second language of both students and interviewer. This may have further caused misunderstandings and limited depth. It has to be added that contradicting statements on teamwork within the same team were noticed. In particular, one student who was absent regularly shared contradicting statements compared to the other team members. This decreased the significance of relevant aspects.

Concerning the analysis, it has to be mentioned that the author has no psychological background, this may have led to the limitation in the interpretation of behavior and cognitive constructs. Furthermore, the fact that the author is not Chinese and has been living in China only for half a year may have influenced the data collection and analysis subliminally. The author of the study was analyzing the data alone which may have led to subjective results and interpretation.

5.6 Suggestions for further Studies

There are two significant aspects, which trigger the interest to conduct further research in the broad field of Chinese education. First, Chinese society is and has been developing immensely in the past two decades (Guthrie, 2012), and second, the Chinese education system seems to undergo major reforms in the upcoming years (Kapur & Perry, 2015).

More related to this topic of teamwork in the educational context of China, this study provides a hint that the Chinese national culture has a significant influence on student’s behavior in teamwork. It would be of great value and interest to focus more concrete on the cultural impact on the student’s behavior. Furthermore, it would be interesting to conduct research in a multicultural or cross-cultural context. Apart from the cultural aspect, it would be interesting to explore how Chinese students manage interdisciplinary teamwork and how this affects their teamwork experiences. As teachers play a significant role in training and support during teamwork, it would be of great value to include them in future studies or even focus only on them.

The theoretical fundament of teamwork is, as stated in the literature, profound. Though empirical studies, applying the theory, seems to lag behind. Consequently, it is more
reasonable to apply existing theory in empirical cases targeting particular aspects or different contexts as mentioned above. Analyzing teamwork in a different context will further purposive theoretical sampling. Furthermore, based on the limited generalization of this study, it would be of value to expand this study and explore further cases.

5.7 Conclusion

In conclusion, analyzing the teamwork experience, in general, is complex, as many internal factors are influencing the experience and are interrelated. External factors like the educational framework and in particular the Chinese culture have further influence on behavior, hence team processes, development, and experiences. Nevertheless, integrating the cultural aspect into this study requires a unique model and more cases to prove complex relations.

Concerning team processes, it can be concluded that Chinese students manage to develop structured and efficient team processes independently. The taxonomy of Marks et al. (2001) is a great support to analyze the teamwork processes. Considering the taxonomy, the transition processes require the student’s most significant effort, demonstrate the most possibilities for improvement, and thereby generate the most distinct experiences of teamwork processes. Leadership and psychological safety have been identified to be the critical factors of teamwork experience. As mentioned in the literature, leadership has a significant influence on the development of psychological safety (Allen et al., 2018; Salas et al., 2018). The formulation of vision and norms have been neglected at the beginning of the teamwork cases but later on identified to facilitate the development of shared mental models and thereby also psychological safety (Edmondson, 1999). It is further suggested that course instructors facilitate this development by asking the students to discuss leadership and to formulate vision and norms for teamwork.

Regarding team development, the author can conclude that not every team passes all theoretical stages of the team development model (Tuckman, 1965). Nevertheless, moving all stages seems to increase the quality and number of teamwork experiences, hence experienced learnings. Comparing all stages, the forming and norming stages are experienced
to be the most impactful stages for the interpersonal development of team members. An effective *forming* stage, in the beginning, will facilitate teamwork by the creation of shared mental models. The *norming* stage, in the middle of the teamwork, serves as a good phase to reflect and to adjust teamwork to further enhance efficiency and interpersonal relation. Both stages are essential for the creation of psychological safety. It is recommended that external support through instructors be provided to take full potential of the two stages.
References


Duhigg, C. (2016). What Google Learned From Its Quest to Build the Perfect Team - The New


Appendixes

Appendix 1: Instructions of teamwork exercise I Like I Wish

The instruction of the teamwork exercise can be found in the appendix or online via https://ilikeiwish.org/.

Appendix 2: Skeleton to assign notes after teamwork exercise I Like I Wish

SESSION X – Team YZ (team members) – duration of session in minutes

Proposition 1: ...
Proposition 2: ...
...

Summary of Team YZ
...

Notes regarding Team Function:

Coordination
Communication
Cohesion / Group Heterogeneity
Conflict management
Decision Making
Social Relationship
Performance Feedback
Other

Notes regarding Individual Function:

Flexibility
Commitment
Trust
Self-knowledge
Awareness
Empathy
Humility

Organisational Function:
Distinct Rules
Specific Task
Appropriate Culture / Atmosphere
Suitable Leadership / Guidance
Clear purpose
Adequate Resources
Relevant members

Promises on Team Level
• ...

Promises on Individual Level
• ...

Feelings about session
• ...

Appendix 3: Team summaries of teamwork exercise I Like I Wish

**Team1:** The social relationship of this team is great as they know each other well and could be friends outside the course. They are aware of each other’s hard and soft skills. Nevertheless, the constructive feedback is only touching the surface (about attendance, being late or efficiency, working harder) and no concrete ways to improve teamwork are discussed. No information about Decision Making and Conflict Management was shared in the session. All team members haven’t experienced to give nor receive direct feedback to each other.
**Team 2:** This diverse and motivated team seems to have fruitful teamwork resulting from collective aspiration and internal content related discussions. The team members seem to be aware of their individual and collective capabilities and challenges, but do not know in concrete how to master these challenges. In general, all team members were open to constructive feedback are willing to change, although it is considered to be difficult. Decision Making seems to evolve out of discussions. Only one out of five students has experienced to receive direct feedback.

**Team3:** This team has developed a highly caring and safe environment for very sensible team members in order to leverage teamwork. Coming from four different schools they have built great social relationship and one member even considered the “company of the team as a gift”. Regarding the coordination, one person is taking the lead and contributing far above average. On the one hand this is appreciated and recognized by the team but on the other hand not liked by the managing person. The managing person wants to include other team members more in the decision making process. According to the team members, communication can be increased and improved. The team is aware of each other’s weaknesses and capabilities but seem to have difficulties to leverage them as personal change is considered difficult. Potential solutions to improve the teamwork have been shared but not commonly agreed by the entire team. The exercise has been perceived very helpful in terms of team cohesion, progress and individual personality development.

**Appendix 4: Skeleton of semi-structured interview**

**General experience**

- How do you feel about the end of the teamwork? How was it?
- Who was in your team? How did it get started? How was the teamwork in the beginning?
- Who worked with whom? Why?
- How did it develop during the three months?
- What have been the three important milestones in your teamwork? Why?
- Can you draw your process of teamwork?
Management of teamwork: decision making, coordination, conflict management

- How did you experience the management of the teamwork? (who, how)
  Can you give an example? How was that for you?
- What tools have you used to manage the teamwork?
- How did you cope with different ways of working?

- How often did you have discussions?
  How did you deal with different opinions?
- How did you proceed / decision making?

Communication

- How would you describe the communication in your team? (style, time, format)
  How do you think about it? (style, time, format)
- Was it easy to bring up your opinion?
- What is your preferred way to communicate (speaking, writing, drawing, etc.)?
  Why?

Relation

- How would you describe the relation among the team members?

Feedback and Change

- What did your team change after the teamwork exercise I Like I Wish?
- What did you change after teamwork exercise I Like I Wish?

Experience & Learning

- What have been challenges during the teamwork process?
- What have been beneficial actions during your teamwork?
- What are your personal key learnings about teamwork of this project?
- What will you do different in your next teamwork?

Other

- Do you have the feeling that there is something relevant we haven’t talked about yet?