Developing ICC through VWC Projects
in Foreign Language Education

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1. Introduction

1.1 Introduction

This research project investigates the language pedagogical and organisational preconditions for implementing Intercultural Communicative Competences (ICC) into foreign language education at secondary schools effectively, using Video Web Communication (VWC), a computer facility, as a teaching tool for this purpose. This chapter will discuss the motivation for this research project and the theoretical framework in which this research should be placed. Then the research questions will be posed and the variables defined. This is followed by the hypothesis and a summary of how this research project is constructed.

1.2 Motivation and theoretical framework

The European Commission (LACE, 2007: 12) and foreign language teachers have expressed the wish to incorporate methods that stimulate the development of intercultural communicative competences (ICC) (Lázár, 2003: 35, Byram, 1997) in foreign language curricula. With Intercultural Communicative Competences are meant intercultural knowledge and awareness of cultural differences, and the skills to mediate and communicate effectively cross culturally. Apart from teaching a foreign language, the EC and foreign language teachers want to bring cultures together and surpass passive knowledge gained from books or other sources. Rather than just offer a mere basic and superficial insight into different cultures through schoolbooks, teachers aim to develop ICC through contact and interaction between pupils from different countries and cultures preferably within the school's walls. Research by Ildikó Lázár has shown that language teachers in Europe recognise the importance of implementing ICC development in foreign language teaching (Lázár, 2003: 35).

> *"In the last two decades many language teachers, teacher educators and*
> *researchers have expressed the belief that the primary aim of second and*
> *foreign language acquisition is to enable learners to communicate with*
> *people coming from different linguistic and cultural backgrounds."*
> (Lázár, 2007: 5)

Lázár's statement makes it clear that the importance of developing ICC is widely recognised and therefore needs to be appropriately incorporated in foreign language education.

The recognition of the relevance of ICC development in foreign language education has led to a pilot study in which Video Web Communication (VWC) was used as a method to stimulate language acquisition and ICC development. In 2009 a VWC project was carried out between a Dutch and a Spanish secondary school (Jauregi, 2009, N.P.). The VWC project ran over a period of four weeks, during which four Dutch pupils and five Spanish pupils were asked to participate in online communication sessions. The tasks that were developed specifically for this purpose aimed at increasing language proficiency and ICC. Students interviewed after the video-web sessions reflected positively on their experience and made known they felt their proficiency level had increased and that the session had been useful in overcoming their shyness in communicating with a native speaker from the target language. Examples of a few of their reactions are given below:

> "[…] the assignment was fun, because you got to know the other person. It was fun to compare and see that kids in Spain aren't too different from us".
> Comment pupil Hilversum 9-12-2009

> "I think this session helps me to listen, understand and answer Spanish questions better, because it is real, you really have to use what you have learned in class".
> Comment pupil Hilversum 9-12-2009

> I liked this first session, as it is different from what you do in class. In class you do not have to talk spontaneously, as you can prepare presentations very well beforehand, so you don't really have to think about what you are going to say. Here you do have to talk! [...] I liked it and I expect that if you do it more often my Spanish would become loads better. Communicating would become easier but also more difficult.
> Comment pupil Hilversum 9-12-2009

Nevertheless, researchers, teachers and system administrators experienced many difficulties in the organisation of the project.

After the pilot study, Krooshof and Slebus investigated how researchers, teachers and system administrators had experienced the organisation of the project by sending out an open questionnaire to the participants. One of their conclusions was that the success a VWC project depends on three points: organisation, communication and technical facilities. Since their data

set was too small to make any hard claims on the preconditions for these three points, they suggested further research was necessary. Considering these critical results on the one hand, and pupils' enthusiasm for VWC and the language teachers wish to incorporate ICC in language teaching programmes on the other hand, this research project is aimed at defining the language pedagogical and organisational preconditions for video-web communication projects.

1.3 Research question

Based on the above motivation the following research question was formulated:

What are the language pedagogical and organisational preconditions for the implementation of Video Web Communication projects in foreign language education programmes at secondary schools to stimulate the development of ICC?

The variables that were investigated to determine the language pedagogical preconditions include:

- The relevance of ICC in foreign language education.
- The different stages of ICC development.
- The deficiencies in current language teaching materials.
- The feasibility of VWC as support to acquiring ICC.
- Task Based Learning (TBL) as a supporting didactic method.

In this research project language pedagogical preconditions are factors that should be incorporated in foreign language curricula, or on a smaller scale in a language task, to ensure language acquisition and ICC development in pupils. Note that in this research project language pedagogical has both linguistic and cultural connotations. With ICC is meant intercultural knowledge and awareness of cultural differences, and the skills to mediate and communicate effectively cross culturally. With VWC is meant all computer programmes or online platforms that allow people to interact online using real time video and spoken language. In this research project Adobe Connect will be mentioned as an example, however, there are multiple good programmes or platforms that can be used instead with similar features. TBL is a didactic method for educational task development. It is important to note

that the aim of this research is not to suggest that VWC and TBL is the only way to incorporate ICC development in language teaching. Rather, Video Web Communication is presented as a potentially promising facility that can contribute to the development of ICC. The aim of this research project is to review the preconditions on the basis of which VWC can help bring ICC into teaching practice.

The variables that were investigated to determine the organisational preconditions include:

- The significance of VWC in secondary language education.
- Foundation to the implementation of VWC at secondary schools.
- Involvement colleagues in planning phase.
- Availability facilities in planning phase.
- Involvement colleagues in execution phase.
- Monitoring performance of facilities during execution phase

With significance of VWC is meant the extent to which VWC can contribute to language education as indicated by the target group. With facilities are meant all IT facilities that are necessary to execute a VWC project. A further explanation of these variables will be given in the following chapters.

1.4 Hypothesis

In respect to the first set of variables, which concern the language pedagogical preconditions, the researchers expected to find a positive and complementing relation between Task Based Learning as a didactic method in combination with VWC. The researchers also expected this combination to be a supporting teaching method to the implementation of ICC in foreign language education. The relation between Task Based Learning and VWC will be explored through a literature study reported in the following chapter.

In respect to the second set of variables, which concern the organisational preconditions, the researchers expected to validate most claims made about these variables in previous research. However, further details concerning these claims will be given in the methodology section.

1.5 Summary

This research project is carried out to establish the language pedagogical and organisational preconditions for the implementation of Video Web Communication projects in foreign language education programmes at secondary schools to stimulate the development of ICC. The whole of this research project consists of two parts, a literature study and a practical research.

The first part of this research is a literature study, which was executed to ascertain the language pedagogical preconditions. The literature study will review relevance of ICC in foreign language education, the different stages of ICC development and deficiencies in current language teaching materials. Furthermore, the feasibility of VWC as support to acquiring ICC will be discussed and Task Based Learning (TBL) will be presented as a supporting didactic method. The literature study can be found in chapter two. The conclusions based on this study, which refer to the language pedagogical preconditions, can be found in the final chapter.

The second part of this research is a practical research, aimed at analysing what organisational preconditions have to be made for the organisation of Video Web Communication projects to ensure the development of Intercultural Communicative Competences. To determine this, a pivotal questionnaire was sent to researchers, teachers, and technicians who were, or still are, connected to the organisation of online communication projects. The questionnaire was based on claims taken from previous research, which concern the significance of VWC in secondary language education, the foundation to the implementation of VWC at secondary schools, the involvement colleagues in the different phases of a VWC project, the availability facilities in the different phases of a VWC project and monitoring performance of facilities during execution phase. The validation of these claims was tested. Based on this, conclusions are drawn as to what the organisational preconditions are. Information on this part of the research project can be found in the methodology and results chapter. The discussion and conclusions with respect to the organisational preconditions can be found in the final chapter.

2. Literature study

2.1 Introduction

This chapter contains the first part of this research project. This literature study will investigate what language pedagogical preconditions have to be established to successfully implement Video Web Communication projects in foreign language education programmes at secondary schools to stimulate the development of ICC. This chapter consists of two distinct sections.

The first section will discuss the theory behind Intercultural Communicative Competences (ICC) and its relevance to contemporary foreign language education. In this discussion it will first become clear what the concepts culture and ICC mean in this research project. Secondly, the stages of ICC development will be discussed, followed by a clear motivation for stimulating the development of ICC in foreign language education. Then the problems of current teaching tools and materials are presented, and it will become clear why implementing the ICC theory in foreign language education is difficult.

The second section of this chapter presents a relatively new educational technology, Video Web Communication, as a feasible online educational project to stimulate the development of ICC. To illustrate in what way this method can be effective, the didactic method Task Based Learning will be presented. It will be made clear how video-web communication in combination with task-based learning can be a solution to the deficit in appropriate teaching tools and materials.

This chapter aims to show the relevance of ICC in contemporary foreign language education, and convey the importance of attempting to bring theory and practice closer together effectively. Based on the discussion of the above mentioned topics, conclusions will be drawn as to what the language pedagogical preconditions are. These conclusions are presented in the final chapter of this article.

2.2. ICC in foreign language education

Language teachers in Europe recognise the importance of implementing intercultural communicative competence (ICC) development in foreign language teaching (Lázár, 2003: 35). Taking this statement as a starting point, this section will elaborate on this statement to present a substantial and practically oriented theory on implementing ICC in foreign language education.

Firstly, a definition of culture and intercultural communicative competences (ICC) will be given. These definitions will be based on the definitions and descriptions posed by other researchers in the field. As the terms are related, both concepts will be discussed to fully clarify their meaning.

Secondly, an explanation will follow as to why the implementation of ICC in foreign language teaching is considered desirable. Research has already shown that teachers and the European council consider the implementation of ICC in foreign language teaching a necessity and here the reasons for it being so will be set out.

This section will conclude by showing why current teaching materials appear insufficient to support the development of ICC.

2.2.1 Culture and ICC

To form an idea about the meaning of intercultural communicative competence it is important to know what notion of culture is used when speaking of 'intercultural'. Therefore, this paragraph will commence with a definition of the concept of culture. It must be stressed that this is only one of the many possible explanations for the meaning of culture as there are many depending on the context in which it is referred to. However, it is important for the clarity of the explanation of ICC to share a common concept of what is meant by the term culture in this context. Secondly, the term ICC will be presented and the related skills will be discussed.

When describing culture most people will refer to literature, geography, art and perhaps food. But there are deeper layers of culture which have been described in several ways. To create a clearer view on these deeper layers a description will follow of Brembeck's 'iceberg analogy' (Brembeck, 1977):

> "[This analogy] compares the notion of culture to an iceberg only the tip of which is visible (language, food, appearance, etc.) whereas a very large part of the iceberg is difficult to see or grasp (communication style, beliefs, values, attitude, perceptions, etc.) The items in the invisible body of the iceberg could include an endless list of notions from definitions of beauty or respect to patterns of group decision making, ideals governing child-raising, as well as values relating to leadership, prestige, health, love, death and so on."
> (Lázár, 2007: 7)

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The choice for this definition of culture is based on its importance in making the distinction between the visible or more obvious cultural notions and the less visible notions. As will be shown later, this analogy helps to clarify why some of the current teaching materials, which do offer some form of culture, remain insufficient in supporting the development of ICC. Apart from that, this iceberg analogy refers to the cultural values that lie beneath the surface and are quite invisible but most important because the knowledge and understanding of them is indispensable in successful cross-cultural communication. That is why it is felt that this definition of the term culture is most beneficial to the context of this research.

Now that a definition of culture is set out it is time to move on to a definition of intercultural communicative competence. Again, the definitions used in this research are borrowed from existing ones which are widely accepted in the field. In his work on intercultural communicative competences Ildikó Lázár, who is involved with the European Centre for modern Languages of the Council of Europe, refers to a definition of ICC which is formulated as follows:

"[Intercultural communicative competence will be defined as] the ability to communicate effectively in cross-cultural situations and to relate appropriately in a variety of cultural contexts."
(Bennett and Bennett, 2004; also similarly to Byram, 1997; Byram, Gribkova and Starkey, 202; Corbett, 2003; Moran 2001; and Samovar and Porter, 1993, among others as cited in Lázár, 2007: 9-10).

Lázár later refers to a description by Hall (1996) of what is meant in this definition by interacting effectively across cultures:

"Interacting effectively across cultures means accomplishing a negotiation between people based on both culture-specific and cultural-general features that are on the whole respectful and favourable to each. This implies the criss-crossing of identities and the "positions" to which they are summoned; as well as how they fashion, stylise, produce and "perform" these positions."
(Hall, 1996: 13-14), (Lázár, 2007: 25)

Communication and interacting effectively across cultures is a competence which does not necessarily come naturally to someone, especially as specific knowledge and skills are required. To acquire ICC, it is therefore necessary to pick up these skills somewhere.

According to Lázár there are thus various competences that accompany effective intercultural communication. These skills are the following:

- Observation
- Interpreting and relating
- Mediation and discovery
- Attitude formation to increase respect
- Empathy
- Tolerance for ambiguity
- To raise interest in, curiosity about and openness towards people from other cultures, and to encourage a willingness to suspend judgement.
(Lázár 2007: 9)

From the above it can be concluded that there is a strong complementary interaction between communicating effectively across cultures and developing the skills for doing so. This means that intercultural communication becomes most effective if the skills are mastered. In return, the skills and knowledge necessary to obtain a higher level of ICC can be obtained and improved through communication and interaction with someone from a different culture. In a most beneficial situation students will not only learn about deeper cultural structures through direct teaching but they will also master the above skills for effective cross-cultural interaction with appropriate tasks and teaching materials and above all through real-life experience with the target culture. The real-life experience is something which will be addressed further down. For now the focus will turn on how the level of skills and competence can be measured in a student and in learning materials.

2.2.2 The stages of ICC development

Mastering the abovementioned skills and achieving intercultural communicative competence is not something which is developed from one day to the next. There are different stages, or more precisely, dimensions of intercultural communicative competence which can be achieved. These different dimensions can be used to assess the level of competence a student

has achieved. However, they can also be used to evaluate which dimensions are addressed by learning materials and help to set learning goals.

The three dimension for assessing ICC by Byram (1997) and Lussier (1997; 2003) are:

1. Knowledge:
   Intercultural awareness which involves the understanding of the relation (similarities and distinctive differences) between the world of origin and the world of the target communities.
2. Know-how:
   Ability to function linguistically. Interact in and adjust to different contexts. Develop abilities to interpret and negotiate interaction in terms of skills: social, living, vocational and professional, leisure. These imply the abilities to use a variety of language strategies in order to communicate with those from other cultures, as well as the capacity to overcome stereotyped relationships.
3. Being:
   Cultural awareness and understanding of other cultures. Critical competence of appropriation of self-identity and the ability to accept and interpret other cultures. A level of transcultural competence, the valorisation of otherness and the integration of other values than those of one's own culture.
   (Lázár 2007: 25-26)

When the iceberg analogy and these dimensions are compared, it will be clear that the first dimension, the 'knowledge' dimension, more or less parallels the tip of the iceberg. The understanding that there are differences between the target culture and one's own culture can be visible through the more apparent cultural differences that can be seen above the surface of the water. For the second dimension the necessary cultural knowledge reaches deeper than the mere basic awareness of differences. To be able to function effectively socially and professionally in a different culture requires a deeper understanding of the ways and customs of the other culture. In the iceberg analogy Brembeck describes this as being able to understand for example how decisions are made and what values there for example in hierarchic positions. The third dimension goes a step further and reaches beyond understanding the deeper structural layers and being able to use this understanding to support effective cross-cultural interaction. If a person reaches the third dimension of 'being', he or

she will be able to take something from a different culture, assimilate and make it part of one's own personal culture.

2.2.3 Motivation for stimulating the development of ICC in foreign language education
Liljana Skopinskaja, published in Lázár's 'Incorporating Intercultural Communicative Competence in Language Teacher Education', states the following about language instruction:

> "Textbooks in foreign language instruction are primarily designed to facilitate language learning, but they cannot simply do that since language learning is inseparable from its cultural context."
> (Lázár 2003: 39)

In Mexico, for example, the word 'gordita', which describes a plump female person, can be a loving nickname. Whereas calling someone a 'fatty' in other cultures can be an insult. In China there is no word for 'no', which entails that negating something has to be done differently. These examples show how language has a cultural background which has determined much of its meaning and which is worth knowing and understanding to prevent miscommunication. Skopinskaja's claim is supported by Cunningsworth (1995: 86); "A study of language solely as an abstract system would not equip learners to use it in the real world." Lázár *2003:* 39). For more obvious reasons, languages are taught to enable communication between people from different cultural backgrounds. This desire for communication can originate in different fields such as the wish to make friends, to socialise or negotiate, not just to exchange words. Cultural knowledge and competence is thus an obvious necessity to achieve effective cross-cultural communication. Therefore, integrating ICC in foreign language education is important.

2.2.4 Teaching tools and materials and ICC
To stimulate the development of ICC in foreign language education it is important to provide teachers with appropriate teaching tools and materials that incorporate cultural exchanges. The LACE study, carried out by the European Commission, assessed and identified the nature, scope and extent of ICC development in present foreign language education. The study indicated that most national foreign language curricula centre mainly on the development of language and communication skills. Intercultural competences get noticeably

less attention, if any at all.[1] Therefore, it is important to focus on the appropriateness of teaching materials.

Skopinskaja's research has shown that many modern language teaching materials actually do contain and sometimes even focus on activities conveying cultural aspects of the foreign target language. Naturally, this is good news. However, although these learning materials contain a greater focus on culture, the cultural aspects alluded to are of a more superficial nature and can be compared to cultural aspects from the top layer of the iceberg analogy. The LACE study found that the cultural aspects dealt with most in foreign language teaching are aspects such as food and drink, daily life and routines, and literature.[1] This does not automatically stimulate the development of ICC. The skills and competences which students acquire from these materials do not reach much further than the first dimension of ICC. The materials are oriented on a basic and touristy representation of a country's culture. The materials contain stereotypical examples of both the target culture and the culture of origin. For English, for example, there is usually an Anglo-centric focus in school books with only limited examples from other English speaking cultures (Lazar, 2003: 52). Therefore, students will have an increased awareness about the differences and similarities between their own culture and that of the target culture but there is no way of speaking about 'know-how' or 'being' with respect to ICC skills.

These findings are supported by the LACE study, which found that current foreign language curricula, if they focus on intercultural competence at all, the emphasis lies mostly on knowledge about and attitude towards the target culture. Although these curricula do aim for a change in attitude towards the target culture and an increase in knowledge and awareness of different cultures, it is not likely to set about a change in the behaviour of the learner.[1] Students do seem to be stimulated in activities to become aware of cultural differences and critically review possible stereotyping[1] but to be able to communicate effectively, awareness and passive knowledge alone is insufficient. The skills which accompany the dimension of 'know-how', communication can become more effective and satisfactory to both parties.

2.2.5 Implementing ICC in foreign language education

Naturally, teachers should be aided in teaching ICC by developing appropriate teaching materials. The previous section clearly indicates that teaching materials should be improved as to offer more insight in the deeper layers of a culture. However, it is unsure if this will

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[1] http://ec.europa.eu/education/languages/archive/doc/lace_en.pdf

allow students to truly reach the dimension of 'know-how' and a sense of 'being'. The LACE study shows that if any methods, techniques or teacher activities stimulate ICC, these are mostly in the form of information about the other culture through texts about the target country, oral teacher input and online information. Teachers themselves have stated in interviews for the LACE study that textbooks are inadequate to stimulate ICC but that shortage of computers and Internet access can be a problem too in some countries. These teachers also feel there should be more guidance for them with regard to the development of ICC.[1] Therefore, offering students more insight in the deeper layers of a culture is problematic. It is therefore desirable to have students experience the differences in cultures themselves.

Allowing students to experience another culture themselves is, however, also difficult. Teachers advocating the implementation of ICC use their own cultural experiences to convey cultural awareness to their students (Lázár 2003: 25, 34). This shows how important these personal experiences are for understanding and being able to describe and explain cultural differences and characteristics. Personal experiences conveyed by teachers are, however, not the best solution. Creating a possibility for student to have some form of a cultural encounter is therefore worthwhile, especially through immersion in the target culture. The LACE project results suggest activities outside the language classroom that are considered beneficial for the development of intercultural competence. Examples are cultural assimilators which teach about target culture's value system by letting learners analyse critical incidents until they understand why a cultural problem can explained differently by someone from a different culture, case studies, self-assessment, critical incidents and intercultural sensitizers which is another cross-cultural training method such as cultural assimilators (both terms are often used as synonyms).[1] Well organised exchange programmes can also offer a language and culture immersion experience but are costly and it is more difficult to steer interaction between cultures when students seek the company of their own friends. Moreover, exchange programmes usually last for shorter periods of time and the experience is usually limited to a one time opportunity. These suggestions are therefore useful, but not ideal to stimulate the development of ICC.

These examples show that implementing ICC in schools' curricula in an effective way is very difficult. Rather than offering one-time experiences with a foreign culture, it would be more effective if students could be immersed in a foreign culture structurally, guided by appropriate tasks to stimulate the development of skills needed for competence to reach

effective ICC. This immersion will allow the students to experience the target culture at set times instead of once, and more importantly, the tasks will allow the students to be geared toward gaining knowledge and know-how. This will lead them to a higher level of intercultural competence. However, implementing these types of activities in foreign language education is difficult. Teachers already feel they could use more guidance with implementing ICC in their language classes. The LACE study indicates that teachers "[…] are left without guidance and examples when it comes to methods, techniques, procedures and activities for developing intercultural competence."(2007: 10) Therefore, these types of teaching methods and materials have to be developed to stimulate the development of ICC. However, to develop appropriate teaching methods, it is important to determine preconditions to activities as to establish a learning effect.

2.3 Video Web Communication as an ICC teaching method

Herewith starts the second section of this literature study, which focuses on the technology of Video Web Communication (VWC), as an interactive online facility that allows students to interact with native speakers of a foreign language and culture. This technology can create possibilities for the development of ICC. This will therefore be explained below. Additionally, a didactic method, Task Based Learning (TBL) is discussed in order to illustrate how assignments or tasks can be linked to VWC to create a learning effect in support of ICC.

2.3.1 Video Web Communication

As language teachers support the implementation of ICC development in foreign language teaching, the implementation of ICC in language education classes seems a logical choice. However, creating lessons in which students practice their ICC in a realistic setting is difficult. Nevertheless, this realistic setting allows the students to have a genuine experience with a foreign culture. This is most beneficial to help students acquire the knowledge and skills to reach a higher level of ICC. Exercises in class, as they are usually offered, can be considered artificial, and less stimulating than real interaction with foreigners. Creating a rich learning environment in which students are able to have genuine interaction with foreigners can therefore be a solution to not just stimulate language acquisition, but the development of ICC as well. Video Web Communication (VWC) is a suitable method to improve language skills, but can also be suggested to lend itself well for the development of ICC. Therefore, VWC can be a solution to make the transition from the ICC theory to practice.

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VWC is an example of a Computer Mediated Communication method that facilitates genuine communication between language learners and language experts. Several varieties of CMC exist, for example e-mail projects or chat programmes, and these methods can naturally also be implemented in foreign language education. However, VWC might have an advantage to these methods because of the more extensive variations it offers for interaction. Rather than just offering asynchronous communication, or delayed communication, through chat or e-mail, VWC also allows students to interact synchronous through webcam and headset; students are able to communicate with each other directly and realistically. Furthermore, depending on the online communication platform that is selected for VWC, it is also possible to send each other computer files, show each other videos or give presentations that play on one's desktop. An example of such an online platform is Adobe Connect, a screenshot of which is shown in *Figure 1*. An example of Adobe Connect in use is given in *Figure 2*.
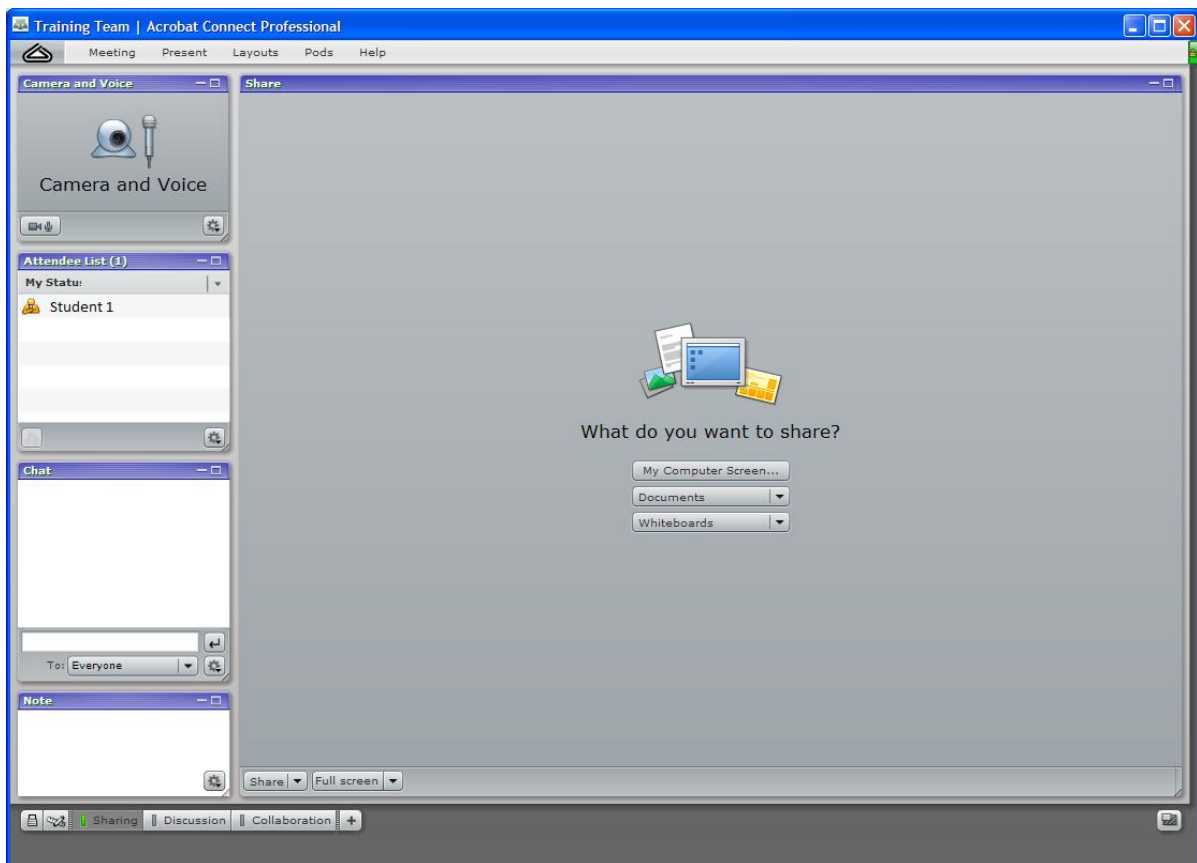
Figure 1: Screenshot of Adobe Connect, an example of a platform for VWC
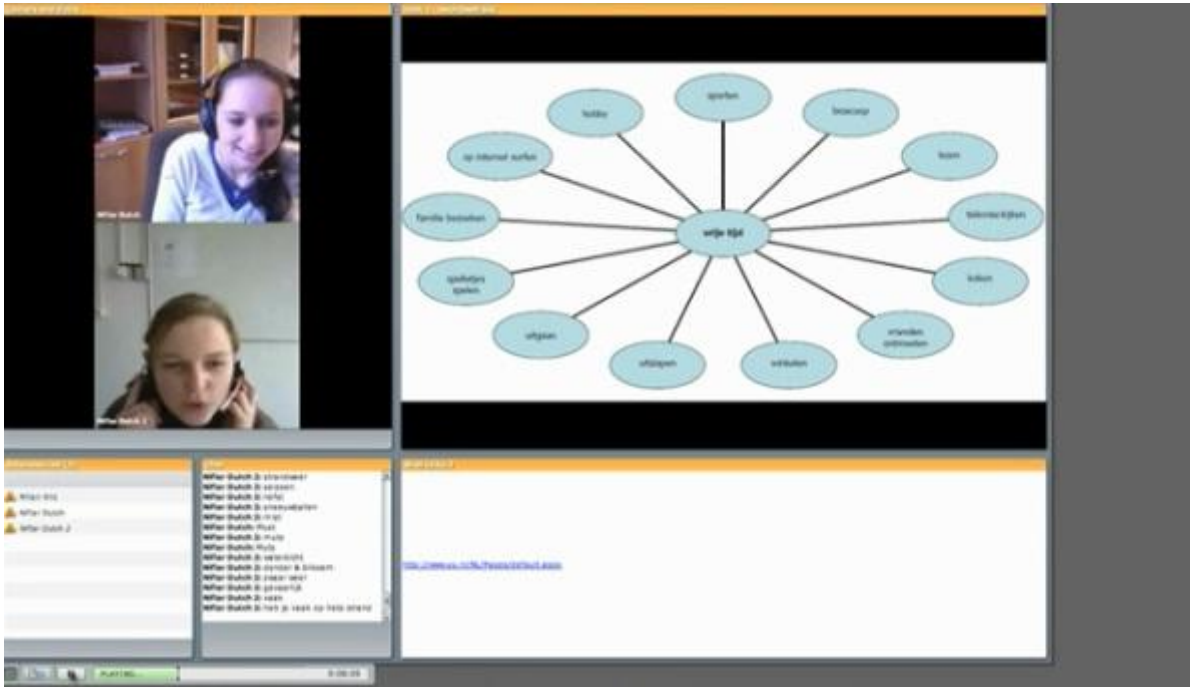
Figure 2: Screenshot of Adobe Connect in use.

Due to the diverse possibilities for interaction, students are able to use, for example, spoken language, written language, body language, drawing or online dictionaries to help them understand each other. This allows for 'negotiation of meaning', which induces language learning. The abundant possibilities to help each other understand what has been said are valuable for language education, as it forces language learners to understand words, phrases and grammatical constructions the native speaker offers. This is what makes language acquisition possible (Wang 2006: 122). Moreover, communication problems become visual and are possibly solved with greater ease. Furthermore, the interaction between learners is genuine rather than constructed, which allows for intercultural communication to take place without it being forced. As part of stimulating language learning, negotiation of meaning also induces the development of intercultural communicative skills as the students have a willingness to construct effective communication and understanding of the other. Instead of intercultural communication being constructed in an assignment, it is necessary and obvious in these situations, because it is necessary to understand each other. Apart from creating a realistic setting for genuine and spontaneous communication between students, another benefit is that language education can be considered without limitation, because spontaneous conversation can cover any topic. This is not the case in a classroom setting, where language is offered in carefully selected parts (Muñoz 2008: 590). VWC allows students to implement

what they have learnt from books into reality. This technology is very useful for language education, especially foreign language education, as it allows students to get in touch with native speakers.

This general description of the positive effects of VWC on language acquisition serves as an illustration to how it can support ICC acquisition. VWC offers many possibilities to stimulate the development of ICC, because there is a multiplicity of interactive options, apart from speech alone. This makes VWC a highly interactive experience for students with many possibilities for cultural exchanges. The only note that has to be made here is that this language and cultural exchange depends highly on the didactic method used to construct online assignments or tasks. Therefore, a feasible didactic method that can be combined with VWC to optimise its contribution to the development of ICC is discussed below.

2.3.2 Task Based Learning

Task Based Learning is a didactic method that allows teachers to develop tasks that gear students towards exchanging aspects of their culture. Generally speaking, a good task contains one or more assignments around a theme or topic that can only be completed through communication in the target language. Language education can take place when this communication takes place in the target language. When teachers use this didactic method to create tasks around intercultural themes and topics, TBL can be a highly effective method to stimulate the development of ICC. Below an explanation of how TBL tasks are constructed will be given, as well as how they can stimulate ICC development.

A task cycle normally consists of three phases (Willis, 1996). A cycle starts with a pre-task, in which the students prepare themselves by familiarising themselves with the topic, go through related vocabulary or grammar. After this preparation the actual task follows. The task should be clearly formulated, the attainment targets should be defined and communication should be necessary to complete the task. When this is not included, or when the task is not rich enough, the communication will end and language acquisition and increase in cultural awareness will not take place. After the task itself, a post-task should take place, in which students reflect on the exchange, look up vocabulary they were unsure about, and review the results of the task critically. This is the moment when communication problems are discussed and new aspects of the target language are learned, and when the teacher can be asked for help. More importantly, here is where communication problems such as critical incidents can be discussed to increase awareness of the other person's cultural values as

opposed to those of the home culture. This is where the interaction stimulates the development of ICC. By developing several tasks in which the difficulty level of both language and cultural topic increases slightly, a learning effect will be established. Below the schedule is given in figure 3.

Pre-task Teacher's introduction of task and topic. Students familiarise themselves with topic by looking up information and vocabulary, watching a film or others carrying out a similar task.		
Task Students carry out the task in pairs or in small groups. Teacher observes.	**Planning** Students report on what they did and results of their task. Oral, through posters or reports. Teacher offers feedback.	**Report** The teacher selects some groups to present their reports to the class. Teacher acts as chairperson, gives feedback, on content and form.
Post-task Students analyse their progress and the result of their task. The teacher offers extra language feedback if necessary.		

Figure 3: Based on Willis 1996 (38)

There are several conditions that have to be met to make a task successful. Firstly, a task should elicit as much communication as possible according to the interaction hypothesis, which proposes that language acquisition is facilitated by using the target language, in order to create negotiation of meaning. Negotiation of meaning occurs when the participants in the conversation do not understand each other. They will have to use communication strategies, like paraphrasing, describing, or using body language to convey what they want to say. This is when language acquisition and ICC development can take place. Furthermore, the language proficiency level of the task should be one level above that of the language learner, according to Krashen's rule i+1 (1981). However, to facilitate communication, topics should be selected that relate to the students' world. An example of how this can be integrated with intercultural topics – something that might be considered quite removed from the students' world – is by making them compare things that are close to home – friends, national holidays etc. By

carefully selecting a topic or theme and crafting the communication assignments, the development of ICC can be stimulated. Apart from this, clear attainment targets and a clear time-limit should be formulated.

As an example to the analysis above, a pre-task, task and post-task can be found in appendix A. These tasks were part of the previously discussed pilot study into the implementation of VWC in secondary school education. These assignments illustrate the effectiveness of TBL when used for VWC. The task was the third task of a series of three and was aimed at students of 13-18 years old. The task discusses eating habits, which naturally are different according to culture. The pre-task prepares the students for a discussion of differences in cultural eating habits and healthy eating habits by reviewing two news articles. This pre-task allows them to look up difficult words and do some research on the topic. Apart from focusing their attention on language, it also makes them think about possible differences between the Spanish and Dutch culture. The task itself follows from this and guides the students through a discussion of their eating habits: they have to discuss the cultural differences, because they have to construct a healthy international menu. The post-task lets the students review their work by adding the results to the profile they constructed of their communication partner. This way the task incorporates the elements necessary for both language acquisition and ICC development. The abovementioned task addresses the dimension of 'knowledge' in respect to the intercultural dimensions which can be achieved according to Byram (1997) and Lussier (1997; 2003) in Lázár (2007: 25-26). This dimension focuses on an awareness and understanding of the similarities and differences between the students' worlds. This is exactly what the task focuses on as its goal is for both students to learn about each other through a comparison of their daily habits. It can also be suggested that some 'know-how' is involved as the students are already functioning linguistically to a certain extent. However, it can be said that their ability is limited due to the differences in proficiency.

TBL seems to be a very suitable method to design teaching materials that stimulate the development of ICC. TBL can be useful in foreign language education as tasks can be developed for every language proficiency level, and any topic can be addressed. TBL is also adaptable to VWC, because it is relatively easy to develop tasks for online environments. When a task around an intercultural theme is developed with care, it will not just create an increase in language proficiency, or stimulate the development of ICC, but it also creates a significant increase in students' confidence (O'Dowd & Waire 2009: 2). This can be

beneficial to the willingness to learn and explore the foreign culture further, resulting in a higher level of ICC.

2.4 Summary

This chapter has reviewed literature to investigate what language pedagogical preconditions can be established to successfully implement Video Web Communication projects in foreign language education programmes at secondary schools to stimulate the development of ICC. This chapter aimed to show the relevance of ICC in contemporary foreign language education. Based on the discussion of the above mentioned topics, conclusions will be drawn as to what the language pedagogical preconditions are. These conclusions are presented in the final chapter of this article. The aim of these preconditions is to bring theory and practice closer together.

3. Methodology of the practical research

The previous chapter has covered the first part of this research project, namely the literature study, which has looked into the language pedagogical preconditions. The following two chapters will comprise the methodology and results of the practical research of this research project. This second aim of this research project was to analyse what organisational preconditions have to be met for the organisation of Video Web Communication projects to facilitate the development of Intercultural Communicative Competences.

To determine what organisational preconditions have to be met, a pivotal questionnaire was sent to researchers, teachers, and technicians who were, or still are, connected to the organisation of online communication projects. Several steps were taken to ensure the quality of the questionnaire and the relevance of the selected respondents to the research project. The first step made was a link to previous research into VWC, in which several claims were made in an open questionnaire about the organisation of VWC. These claims were relevant to this research project, as they shed light on what factors are important in the organisation of a successful VWC project. The second step was to analyse these claims and to construct a questionnaire with the aim of testing the validity of these claims. Lastly, this questionnaire was sent out to respondents who were connected to the organisation of online research projects. Below the steps, the instrument, the respondents and the analysis are specified.

3.1 Previous research into VWC

Although previous research into VWC projects at university level has shown a beneficial effect on language acquisition, little is known about preconditions that have to be made for the organisation of VWC projects at secondary schools to induce the same effects. It is important to establish these preconditions, as the effectiveness of a VWC project may be negatively influenced by organizational deficiencies. Although it might seem easy to avoid organisational deficiencies, experience has shown that this is not the case. Therefore, this research project aimed to make use of experience gained during previous research into VWC at secondary school level to find out what these preconditions are.

In 2009 a VWC project was carried out between a Dutch and a Spanish secondary school (Jauregi, 2009, N.P.). The project functioned as a pilot, as the researchers wanted to establish whether their method of research would yield the type of data they needed.

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Furthermore, the researchers wanted to find out whether the project would be able to run smoothly at both schools in the way they had organised it. The VWC project ran over a period of four weeks, during which four Dutch pupils and five Spanish pupils were asked to participate in online communication sessions. The project was organised and planned by the researchers, a teacher from a Dutch secondary school, and a teacher from the Spanish secondary school. Oldeman, Krooshof & Medina de la Torre, students from Utrecht University and the University of Granada constructed the tasks that the pupils would perform around and during the sessions, according to the task design grid presented previously (Willis 1996: 38). These tasks consisted of an introductory session, three Spanish tasks, and three English tasks. These tasks were given each successive week. The introductory session was planned in the first week to let the pupils familiarise with the online platform, Adobe Connect, and briefly meet the pupils from the partner school. Over the remaining three weeks, pupils participated in both an English task and a Spanish task with a pupil from the partner school each week. During the Spanish sessions, the Spanish pupils functioned as language experts. During the English sessions, the Dutch pupils functioned as language experts, their English proficiency level being significantly higher. The sessions were monitored by Oldeman, Krooshof, Slebus & Medina de la Torre and the teachers from both schools. Technical support was given by system administrators from Utrecht University and the Dutch secondary school.

After the pilot study, Krooshof and Slebus (2010, N.P.) were interested in the way the researchers, teachers, system administrators and students had experienced the VWC project, and what insight their experience could give into implementing VWC projects at secondary schools. They therefore constructed an open questionnaire[2], which they sent out to those who had contributed to the project. This yielded several claims about the organisation of VWC projects. Based on these claims, Krooshof & Slebus concluded that networked interaction was a promising medium to stimulate authentic communication between language learners. However, they concluded that the implementation of networked interaction projects into secondary education was particularly difficult, and depended on three essential points: "organisation, communication, and technical facilities". They therefore pointed out the necessity of more research.

The claims made in Krooshof & Slebus' (2010) research were essential to this current research project, as they gave insight into factors that are essential for organising a VWC project. Naturally, the dataset in Krooshof & Slebus was very small, as only a few people had

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[2] Appendix B

participated in the organisation of the project. This means that Krooshof & Slebus were unable to make hard claims about the preconditions needed to successfully implement VWC into secondary education. However, the experience with the organisation of VWC projects, expressed through the answers to questions in the open questionnaire, was used as a starting point for this research project.

3.2 The construction of a validation questionnaire

The open questionnaire used in the research by Krooshof & Slebus (2010) yielded many reactions from the respondents involved in the organisation of the VWC Pilot Project. The claims made by the respondents were related to organisation of the project, communication during the project, and the technical facilities making the project possible. These claims were most interesting to use as the basis for formulating organisational preconditions but as the dataset of Krooshof & Slebus was too small, further research was necessary. Therefore, a validation questionnaire was constructed based on these claims, to find out whether the reactions and suggestions made after the VWC Pilot Project were still true and found support from other researchers, teachers or technicians connected to the organisation of online communication projects. Another aim of the validation questionnaire was to further specify these claims, making it possible to identify the organisational preconditions to implementing a VWC project at secondary schools.

The validation questionnaire was based on the answers to questions in the open questionnaire by Krooshof & Slebus. To construct this validation questionnaire it was important to order the answers – or claims – according to different topics. This made it easier to see which claims were important, and which answers or claims were less important. Below you will find an example of the questionnaire questions[3] posed in Krooshof & Slebus (2010) that yielded most results[4]. They have been taken from the questionnaire and have been translated to English. Below each question a selection from the answers is given, translated to English.

- Do you think IT can be used as a tool for education, and if so, in what way?
    - Exchanging authentic and contemporary information.
    - It stimulates communication.

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[3] Appendix B: *Questions in Dutch*
[4] Appendix C: *Claims taken from responses to questionnaire Krooshof & Slebus (2010)*

- Did you think the organisation of the VWC project was easier or more difficult than expected?
  - Difficult, you need to bear in mind for example the school board, IT classrooms, colleagues, scheduling, etc.
  - Investment system administration is too big.

- What are the essential factors that make a VWC project work?
  - Communication with colleagues and the school board.
  - You need a schematic organisation, back-up schedule, effective communication with the schedulers, involvement system administration
  - Communication between schools.
  - Online platform needs to work properly.

- Which technical preparations are essential for a successful execution of the project?
  - Working hardware, software, an online platform that supports several sessions taking place at once, big IT classroom.

- Which problems are recurring and can be prevented?
  - Shortage of hardware, bandwidth, scheduling, communication with colleagues, logging into the online platform.

- Which organisational steps need to be taken? In which order should these steps be taken to ensure the project's success?
  - The technical preparation should be done, a good schedule should be made, back-up schedule should be present.
  - Similar goals and clear agreements should be made; technical support should be available, integration of project into educational programme.
  - Informing the school board, informing teachers and pupils, scheduling and making facilities available for use.

- Under what conditions is it reasonable to start a VWC project?
  - When teachers want to work together and when the organisational steps have been taken care of properly.

Once this was done, the answers were analysed per topic, selecting topics and subtopics, and removing any claims that were considered more or less similar in meaning. After creating the topics and subtopics, it was possible to turn the claims into statements for the validation questionnaire. The selected topics all represent a phase or factor in organising a VWC project. The following topics and subtopics were used:

- Significance of VWC to secondary school language education
- Foundation to the implementation of VWC at secondary schools
  - Implementation of VWC at school
  - Selecting a partner school
  - Learning objectives
  - Communication between partner schools
  - Documentation of agreements
  - Order of planning
- General planning phase
  - Type of agreements at school and between partner schools
  - Scheduling sessions
  - Technical preparation
- Involvement colleagues in planning phase
  - Communication with the school board
  - Communication with colleagues
  - Involvement system administration
  - Involvement timetable management
- Availability facilities in planning phase
  - Availability hardware and software
  - Selecting project's hardware and software
- Execution phase
  - Contact between partner schools during execution project
  - Deviations from agreements

- Involvement colleagues in execution phase
    - Communication with the school board
    - Communication with colleagues
    - Involvement system administration
    - Involvement timetable management
- Monitoring performance of facilities during execution phase
    - Assistance system administration
    - Performance of hardware and software
    - Handling occurring problems with bandwidth etc.

It was considered important to create several control questions for each topic; two similar questions, one formulated positively, one formulated negatively. This was done to check if respondents were not influenced in their answers by the formulation of the questions. Once all the questions were formulated, a first version of the questionnaire was uploaded by way of testing the functioning of the chosen website www.thesistools.com , a platform for gathering data. After the first upload the questions were checked on grammar, spelling and construction, hoping to limit subjectivity. A native speaker of English read them to see if there were any more errors or misunderstandings. Finally, the questions were checked to see if all topics and subtopics were covered correctly and sufficiently. After this the final version of the questionnaire[5] was uploaded a second time. A five point Likert scale was selected and the questions were listed according to topic, but the subtopics were listed in a random order, to ensure that the respondents did not base their answers on those of a previous question. Once this was done the questionnaire was made available for the respondents who were approached by email containing a letter of request[6], an information sheet[7], and a link to the questionnaire.

3.3 Respondents and gathering data

To gather data the website ThesisTools was selected, as it was the most efficient way of reaching the required respondents. ThesisTools seemed very useful, as it made it possible to send a link to the questionnaire to respondents and place it on websites, thereby making it easier to collect data. The respondents in this research were required to have affinity with

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[5] The final version of the questionnaire can be found in appendix F
[6] Appendix D
[7] Appendix E

organising online communication projects, therefore the link was sent through e-mail and placed on websites related to online communication projects. For example, an e-mail was sent to visitors of the CALL conference in Antwerp, who all have affinity with computer assisted language learning. Another example of a website that was used to reach the necessary respondents is the NIFLAR website, which is a logical choice to reach people who have affinity with organising VWC. The e-mails and posts on websites consisted of an invitation to fill in the questionnaire accompanied by further information on the project. People who were interested were able to go to the website.

On the ThesisTools website the respondents were able to briefly review some information on the topic of the questionnaire. Then a selection of questions was asked to determine the background of the respondents, for example their connection to VWC. Furthermore, they were asked to consent to their information being used in the project on an anonymous basis only. It was pointed out to the respondents that by consenting to this, they would be unable to retrieve the information they would enter, as the platform did not allow us to collect any personal contact information. Once they consented to this, the respondents were forwarded to the questionnaire questions. When the questionnaire was complete, the respondents were able submit it on the website.

In the end, forty-eight respondents registered for the questionnaire. However, only twenty-two of them completed the full questionnaire. It is possible that the respondents who had only partially finished the questionnaire experienced difficulty finishing it because they had not personally been involved in organising video web communication projects. Only the twenty-two full responses were used for further analysis. Therefore, the characteristics of these twenty-two participants are reported here. Of the twenty-two respondents, fourteen had been involved in organising online communication projects; eight had not. Eight had a background in IT, fourteen had not. Twelve had a background in research, nine had not. Twenty had a background in teaching, two had not. Seven of the respondents were students, fifteen were not.

3.4 Analysis

Before analysing the raw data[8], it was made sure that all respondents had given their consent to their data being used in the project. Furthermore, respondents' affinity to online communication projects was confirmed. Then all incomplete questionnaires were deleted

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[8] Appendix H: a

from the data set and the remaining answers were regrouped into a list of topics with their corresponding subtopics. Once this was done, all data was imported in SPSS 13 (SPSS Inc., Chicago IL)[9] and the mean result and standard deviation[10] for each question was calculated. The percentages per question showed which statement participants agreed or did not agree with, and to what extent. This information was converted into histograms.

Interpretation of the results had to be done very carefully, as the answers to each question were related to another. Furthermore, as each topic had control questions, two similar questions of which one formulated positively and the other negatively respectively, the answers to the negative questions had to be interpreted even more carefully. A five point scale was used for all questions, and to allow an analysis of how much a respondent agreed or disagreed with a statement the answers to the negative questions had to be compared to the opposite answer. This means that when the mean answer to a question formulated positively was four, the mean answer to the negative counterpart had to be two:

| 1 | 2 | 3 | **4** | 5 | *Answer to positive question* |
| 1 | **2** | 3 | 4 | 5 | *Answer to negative question* |

When a large discrepancy existed between the mean answer to the positive question and to the mean answer to the negative question, an interpretation was made of what might have induced the difference in answers, and when necessary excluded from further analysis. When the means did not contradict each other they were further analysed. Standard deviation was taken into account to establish the extent of consensus on a particular topic. Std. Dev. < 1 was considered acceptable. The smaller the standard deviation, the more reliable the consensus was considered. Based on the means, standard deviation and histograms a conclusion could be drawn as to what organisational preconditions have to be met, according to the respondents, to implement VWC projects successfully.

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[9] Appendix H: b

[10] Appendix H: c & d (histograms & percentages)

4. Results practical research

The following results were acquired through analysis of the questionnaire. The answers were regrouped into corresponding topics and subtopics and coded for analysis[11]. Data was imported in SPSS 13 (SPSS Inc., Chicago IL). Mean, standard deviation and percentages were calculated for the answers to each question. Based on a comparison of the means, percentages and the standard deviation of the answers, conclusions could be drawn on the extent to which participants agreed or disagreed with a statement relating to topics and subtopics of the organisation of a VWC project at secondary schools. Below the results are presented for each topic and subtopic. A complete overview of all the results tables can be found in appendix I.

4.1 Analysis of significance of VWC in secondary school language education
Percentages, means and standard deviations were calculated for each question. Answers indicate whether participants feel that VWC can be a significant addition to language education in secondary schools. The questions connected to this topic related to the effect of VWC on the development of ICC, finding and exchanging authentic and contemporary information, greater fluency and proficiency in the target language, and whether VWC elicits genuine communication between language learners. Descriptive statistics are given in table 1 below.

Table 1: Significance of VWC in secondary school language education

Question code:	Mean (SD):	Questionnaire question:
RQ1	4.32 (0.57)	Video Web Communication stimulates students in finding and exchanging authentic and contemporary information relevant to education.
RQ2	4.41 (0.67)	Video Web Communication can be used as a teaching tool to stimulate the acquisition of ICC (Intercultural Communicative Competencies).
RQ3	4.45 (0.60)	Video Web Communication is a satisfactory means of eliciting genuine communication between language learners.
RQ4	4.72 (0.77)	Video Web Communication is an effective teaching tool to stimulate the acquisition of greater fluency and proficiency in the target language.
RQ5	1.73 (0.99)	Video Web Communication does not elicit genuine communication between language learners.

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[11] Appendix G

The above results show that VWC is considered a useful teaching tool to stimulate the development of ICC. Mean: 4.41 (0.67). Furthermore, RQ1 and RQ4 indicate that participants feel that VWC can be an effective teaching tool to stimulate students in finding and exchanging authentic and contemporary information relevant to education, mean 4.32 (0.57), as well as an effective tool to stimulate the acquisition of greater fluency and proficiency in the target language, mean 4.27 (0.77).

RQ3 and RQ5 are two similar questions, formulated positively and negatively respectively. Descriptive statistics of the positively formulated question show that participants feel VWC is a satisfactory means of eliciting genuine communication between language learners. Mean: 4.45 (0.60). The descriptive statistics of the negatively formulated question confirm this result, mean 1.73 (0.99).

4.2 Analysis of foundation to the implementation of VWC at secondary schools
Percentages, means and standard deviations were calculated for each question. Answers indicate on what basis participants feel that VWC can be implemented in secondary schools successfully. Descriptive statistics are given in table 2 and are further analysed per subtopic.

Table 2: Foundation to the implementation of VWC at school

Question code:	Mean (SD):	Questionnaire question:
RQ6	3.68 (1.13)	An online communication project is preferably implemented within the school curriculum.
RQ7	2.82 (0.91)	It is the school's intention to carry out the project once.
RQ8	4.00 (0.87)	Matching learning objectives, determined beforehand by both schools, should motivate partner school choice.
RQ9	4.32 (0.65)	Clear communication of VWC-project goals and expectations should be expected from the partner schools, for example if the project will run once or yearly.
RQ10	3.95 (0.95)	Partner school project initiators should determine the possibilities for implementing a VWC project together, before informing the school boards of the possible VWC project.
RQ11	3.36 (1.00)	It is the school's intention to carry out the project on a yearly basis.

RQ12	4.45 (0.60)	Scheduling VWC sessions should take place after system administrators at both schools have established whether the technical facilities are able to support a VWC project.
RQ13	4.05 (0.84)	Learning objectives should be determined before exploring scheduling options.
RQ14	4.00 (0.93)	VWC project organisation benefits from concurrent planning of time, technical preparations and educational preparations.
RQ15	4.01 (0.81)	Partner schools should document their learning objectives before preparing a VWC project.
RQ16	3.50 (1.02)	Partner schools should have similar learning objectives.
RQ17	4.23 (0.75)	Partner schools should clearly define and document technical facilities for VWC to ensure the quality of the sessions.
RQ18	4.09 (0.75)	It is necessary to document agreements made at school and between partner schools.
RQ19	3.73 (1.03)	Concerning the order of planning the VWC project, partner schools should determine the learning objectives before any technical preparations should take place.
RQ20	3.36 (1.09)	Partner schools should define their general expectations of a VWC project and should base the learning objectives and technical facilities on reality during the execution of the project.
RQ21	3.68 (1.09)	VWC projects benefit organisationally from step-by-step preparation time planning, technical and educational preparations are done successively.
RQ22	4.09 (0.61)	Partner schools should clearly document the learning objectives, technical facilities and other agreements concerning the preparation and planning of VWC projects.
RQ23	3.36 (1.05)	Partner schools should be able to have different learning objectives.

4.2.1. Implementation of VWC at school

The questions connected to this subtopic related to how VWC projects should be implemented within school, and how often a VWC project should be carried out. Descriptive statistics for RQ6, RQ10, RQ7 and RQ11 are given in table 2.

Results to RQ6 indicate that participants' opinion on implementing VWC within schools' curricula is ambiguous. Mean 3.68 (1.13), standard deviation ≥ 1. The results indicate there is a slight lean towards preferring implementing VWC in schools curricula. However, the standard deviation shows there is no clear consensus on this matter. RQ10 shows that participants prefer determining possibilities for implementing a VWC project first, before informing the school boards. Mean: 3.95 (0.95). Although the standard deviation < 1, percentages show there is only just a consensus. Furthermore, RQ7 indicates that participants feel that carrying out a VWC project only once it not really an option. Mean 2.82 (0.91). However, when comparing these results to RQ11 it is clear that there is no real consensus on whether a VWC project should be carried out yearly either. Mean 3.36 (1.00), standard deviation ≥ 1. This will be discussed further in chapter 5.

4.2.2. Selecting a partner school

RQ8 investigated whether learning objectives should motivate partner school choice. Descriptive statistics on selecting a partner school are given in table 2. Results from RQ8 show that participants feel that partner school choice should be motivated by matching learning objectives. Mean: 4.00 (0.87)

4.2.3. Learning objectives

The objective of this subtopic was to establish whether partner schools should have similar learning objectives, or whether they should be able to have different learning objectives. Descriptive statistics for RQ16 and RQ23 are given in table 2. Means and standard deviations indicate that there is no real consensus on having similar or differing learning objectives. This seems to contradict results yielded from RQ8. Therefore, this will be discussed further in chapter 5.

4.2.4. Communication between partner schools

Descriptive statistics of RQ9 on the importance of clear communication between partner schools are given in table 2. The answers to this research question indicated that participants

feel clear communication on goals and expectations, for example on whether the project will run once or yearly, should be expected from partner schools. Mean 4.32 (0.65).

4.2.5. Documentation of agreements

This subtopic determined whether agreements should be documented and how detailed these should be. Descriptive statistics are given in table 2. RQ18, RQ20, RQ22 and RQ17 are further analysed below.

RQ18 shows that participants feel it is necessary to document any agreements made both at their own school, but also between partner schools, when organising a VWC project. Mean: 4.09 (0.75). Furthermore, a comparison of RQ20 and RQ22 indicates that participants feel that clearly defining and documenting agreements between partner schools on learning objectives and technical facilities during the planning phase, rather than only formulating general expectations, is necessary to organise a successful VWC project. Mean RQ20 3.36 (1.09) vs. mean RQ22 4.09 (0.61). RQ17 further confirms this result: participants indicated that technical facilities available for the project should be defined and documented clearly to ensure the quality of VWC sessions. Mean 4.23 (0.75).

4.2.6. Order of planning

This subtopic was set up to specify if there should be an order in planning a VWC project, and in what order planning should take place. Descriptive statistics for research questions 14, 21, 15, 13, 12 and 19 are given in table 2.

RQ14 indicates that a concurrent planning of time, technical preparations and educational preparations is preferred. Mean 4 (0.93). There was no consensus on organising a VWC projects step-by-step. Mean RQ21: 3.68 (1.09), standard deviation ≥ 1. However, research questions 15, 13, 12 and 19 show a different tendency when compared to research questions 14 and 21. These results indicate that there is a particular order in which VWC projects should be organised.

Firstly, RQ15 showed that partner schools should document their learning objectives before preparing a VWC project. Mean 4.01 (0.81). Furthermore, RQ13 confirmed this result; participants indicated that learning objectives should be determined before exploring scheduling options. Mean 4.05 (0.84). RQ12 indicated, however, that scheduling sessions should take place after system administrators at both schools have established whether the technical facilities at both schools are able to support a VWC project. Mean 4.45 (0.60). Only

RQ19 did not yield conclusive results on whether the learning objectives should be determined before any technical preparations should take place. However, as this result does neither confirm nor contradict previous results, the following order to organising a VWC project can be discerned:

1. Establish learning objectives
2. Take care of technical facilities
3. Scheduling sessions

4.3 Analysis of general planning phase

Percentages, means and standard deviations were calculated for each question. Participants' answers indicate what factors in the planning phase of VWC projects are important. Descriptive statistics are given in table 3 and are further analysed per subtopic.

Table 3: General planning phase

Question code:	Mean (SD):	Questionnaire question:
RQ24	4.05 (0.65)	General agreements between colleagues, members of the staff and school board concerning the execution of the VWC project within your school should be documented during the planning phase.
RQ25	3.41 (0.91)	Agreements between partner schools concerning the execution of a VWC project should be documented with as much detail as possible.
RQ26	3.45 (1.14)	Scheduling VWC sessions at your school should be done during the planning phase as much as possible.
RQ27	4.18 (0.80)	Time should be made available for the VWC sessions to take place at school during school hours.
RQ28	3.68 (1.04)	Scheduling an alternative timetable and/or classrooms in your school as a back-up to allow rescheduling is an essential part of planning a successful VWC project.
RQ29	3.95 (0.90)	Scheduling VWC sessions between partner schools should be taken care of during the planning phase of the project.

RQ30	3.82 (1.10)	The creation of a back-up schedule for VWC sessions between partner schools is an essential part of the planning phase in order to create a successful project.
RQ31	2.50 (1.26)	Whether VWC projects to take place during or outside the subject's timeslot is up to the school boards.
RQ32	2.91 (1.38)	The VWC sessions should take place at any time available including hours before or after regular language classes.
RQ33	2.91 (1.34)	Time should be made available for the VWC sessions to take place at school after regular school hours.
RQ34	4.14 (0.71)	Elaborate or detailed technical test-runs should take place to check if both partner schools meet the technical specifications, before shaping the VWC sessions.
RQ35	4.45 (0.60)	Introductory sessions should be planned to get students acquainted with the software.
RQ36	3.68 (0.95)	Agreements between colleagues, members of the staff and school board concerning the execution of the VWC project at your school should be documented with as much detail as possible during the planning phase.
RQ37	2.68 (1.71)	During software introductory sessions students should not get acquainted with the students of the partner school.

4.3.1. *Type of agreements at school and between partner schools*

This subtopic was set up to establish what type of agreements should be made at participants' own school and between partner schools during the planning phase. Descriptive statistics of RQ24, RQ36 and RQ25 are given in table 3.

RQ24 indicated that participants felt that general agreements colleagues, members of the staff and school board concerning the execution of the VWC project within your school should be documented during the planning phase. Mean 4.05 (0.65). Interestingly, RQ36 showed that agreements between colleagues, members of the staff and school board concerning the execution of a VWC project within participants' schools should be documented during the planning phase with as much detail as possible. Mean 3.68 (0.95). This ambiguity in the results will be discussed further in chapter 5.

The results of RQ25 remain slightly ambiguous. Results point out that a slight majority of the participants feel that agreements between partner schools concerning the execution of a VWC project should be documented with as much detail as possible –

regardless of whether these agreements are made during the planning or execution phase. Mean 3.41 (0.91). This will be discussed further in chapter 5.

4.3.2. *Scheduling sessions*

This section determined the preconditions to scheduling VWC sessions. Descriptive statistics of RQ 35, 37, 27, 33, 32, 31, 26, 28, 29 and 30 are given in table 3.

RQ35 established that introductory sessions should be planned to get students acquainted with the software. Mean 4.45 (0.60). RQ37 is inconclusive, mean 2.68 (1.71), standard deviation ≥ 1. Therefore, it is unclear whether students should get acquainted with the students of the partner schools during the software introductory sessions.

RQ27 indicates that participants feel that time should be made available for the VWC sessions to take place at school during school hours. Mean 4.18 (0.80). Results of RQ33 remain ambiguous; 2.91 (1.34), standard deviation ≥ 1. It is therefore unclear if time should also be made available to take place after regular school hours. Unfortunately, it also remains unclear whether VWC sessions should take place at any time available, including hours before or after regular language classes. RQ32, mean 2.91 (1.38), standard deviation ≥ 1. In addition, it is unclear whether the school board should decide whether VWC projects should take place during or outside the subject's timeslot. RQ31, mean 2.50 (1.26), standard deviation ≥ 1.

RQ26 did not yield conclusive results on whether VWC sessions at participants' own schools should be scheduled during the planning phase as much as possible or not. Mean 3.45 (1.14), standard deviation ≥ 1. It also remains unclear whether alternative timetables and classrooms at participants' own school should be scheduled as a back-up during the planning phase. RQ28, mean 3.68 (1.04), standard deviation ≥ 1.

However, it is evident that participants feel that VWC sessions should be scheduled between partner schools during the planning phase of the project. RQ29, mean 3.95 (0.90). Whether a back-up schedule should be made, though, remains ambiguous. RQ30, mean 3.82 (1.10), standard deviation ≥ 1. This will be discussed further in chapter 5.

4.3.3. *Technical preparation*

Descriptive statistics of RQ 34 are given in table 3. RQ34 indicates that participants feel that elaborate detailed technical test-runs should take place to check if both schools meet technical specifications, before shaping the VWC sessions. Mean 4.14 (0.71).

4.4 Analysis of involvement colleagues in planning phase

Percentages, means and standard deviations were calculated for each question. Participants'
answers indicate in what way colleagues should be involved in planning a VWC project at
secondary schools. Relevant results to questions are analysed below per subtopic. Descriptive
statistics are given in table 4.

Table 4: Involvement colleagues in planning phase

Question code:	Mean (SD):	Questionnaire question:
RQ38	4.36 (0.66)	Technical help from the school's system administrators is indispensable during the planning of the project.
RQ39	4.00 (0.82)	The VWC project organisers should document clear agreements with the school board concerning the planning of the project.
RQ40	3.68 (1.13)	All school colleagues should be kept up to date regularly about the planning and organisation of the VWC project.
RQ41	3.00 (1.16)	Only the colleagues working in the same department should be kept up to date regularly about the organisation of the VWC project.
RQ42	1.82 (0.59)	The school's system administrators' technical help is not yet needed during the planning phase of the project.
RQ43	3.64 (0.90)	During the planning phase scheduling of classrooms and making of timetables should be done by timetable management.

4.4.1. Communication with the school board

Descriptive statistics of RQ 39 are given in table 4. Results of RQ39 indicate that the VWC
project organisers should document clear agreements with the school board concerning the
planning of the project. Mean 4.00 (0.82).

4.4.2. Communication with colleagues

This subtopic was set up to find out whether colleagues should be kept up to date about the
organisation of VWC projects, and if so, which colleagues. Descriptive statistics of RQ 40

and RQ 41 are given in table 4. Unfortunately, RQ40 and 41 were both inconclusive. RQ40, mean 3.68 (1.13), standard deviation $\geq$ 1. RQ41, mean 3.00 (1.16), standard deviation $\geq$ 1.

4.4.3. Involvement system administration

This subtopic discussed whether technical help from system administrators was necessary or not. Descriptive statistics of RQ 38 and RQ42 are given in table 4. RQ38 and RQ42 are two similar questions, formulated positively and negatively respectively. Descriptive statistics of the positively formulated question, RQ38, indicates that technical help from system administrators is indispensable during the planning phase of the project. Mean 4.36 (0.66). The question formulated negatively confirms this result: mean RQ42 1.82 (0.59).

4.4.4. Involvement timetable management

This topic determined involvement of timetable management in planning a VWC project. Descriptive statistics of RQ43 are given in table 4. The results of RQ43 indicate that during the planning phase scheduling of classrooms and making of timetables should be done by timetable management. Mean 3.64 (0.90).

4.5 Analysis of availability facilities in planning phase

Percentages, means and standard deviations were calculated for each question. Participants' answers indicate what facilities are important to consider when planning a VWC project. Relevant results to questions are further analysed below per subtopic. Descriptive statistics are given in table 5.

Table 5: Availability facilities in planning phase

Question code:	Mean (SD):	Questionnaire question:
RQ44	3.95 (0.90)	Schools should check each other for the availability of necessary hardware (pc's, headsets, webcams, etc.) and software during the planning phase of the project.
RQ45	4.45 (0.51)	The selected virtual environment should be stable as to support a successful VWC project.
RQ46	3.95 (1.26)	The user friendliness of the selected hardware and software should enable teachers to work independently from system administrators.

RQ47	4.36 (0.58)	Teachers should be able to work with the selected hardware and software independently after an introductory training by a system administrator.
RQ48	4.32 (0.48)	The suitability IT classrooms should be checked during the planning phase of the VWC project.
RQ49	4.32 (0.57)	Partner schools should test the sufficiency of their bandwidth during the planning phase in order to adjust either the number of VWC sessions taking place at a time, or the software.
RQ50	3.82 (1.14)	Minor problems and periodic glitches in the virtual environment are acceptable, as long as they do not compromise the success of a VWC project.
RQ51	4.50(0.51)	Each school makes sure for themselves that the necessary hardware (pc's, headsets, webcams, etc.) and software is available and working during the planning phase of the project.

4.5.1. *Availability hardware and software*

This subtopic determined in what way the availability of both hardware and software should be checked. Descriptive statistics of RQ51 and RQ44 are given in table 5. RQ51 indicates that participants feel that each school should make sure for themselves that the necessary hardware (pc's, headsets, webcams, etc.) and software is available and working during the planning phase of the project. Mean 4.50 (0.51). RQ44, however, shows that in addition to schools checking themselves during the planning phase of the project, schools should check each other for the availability of necessary hardware and software. Mean 3.95 (0.90).

4.5.2. *Selecting project's hardware and software*

This subtopic determined what type of hardware and software should be selected according to participants. Descriptive statistics of RQ45, RQ50, RQ46, RQ47, RQ49 and RQ48 are given in table 5. RQ45 indicates that the selected virtual environment should be stable as to support a successful VWC project. Mean 4.45 (0.51). RQ50 was set up to find out if periodic glitches in the selected virtual environment are acceptable. Unfortunately, the result was ambiguous; mean 3.82 (1.14), standard deviation ≥ 1.

RQ46 and 47 established whether teachers should be able to work independently from system administrators or not. RQ46 did not yield conclusive results; it was therefore unclear

whether the selected hardware and software should enable teachers to work independently from system administrators. Mean 3.95 (1.26), standard deviation ≥ 1. However, RQ47 indicated that teachers should be able to work with the selected hardware and software independently after an introductory training by a system administrator. Mean 4.36 (0.58).

RQ49 investigated whether schools' bandwidth should be checked during the planning phase. The results confirm that partner schools should test the sufficiency of their bandwidth during the planning phase in order to adjust either the number of VWC sessions taking place at a time, or the software. Mean 4.32 (0.57). In addition, results from RQ48 showed that the suitability IT classrooms should be checked during the planning phase of the VWC project. Mean 4.32 (0.48).

4.6 Analysis of execution phase

Percentages, means and standard deviations were calculated for each question. Answers indicate what factors in the execution phase of VWC projects are important to consider. Relevant results to questions are analysed below per subtopic. Descriptive statistics are given in table 6.

Table 6: Execution phase

Question code:	Mean (SD):	Questionnaire question:
RQ52	3.82 (1.14)	After every session teachers should contact each other and exchange experiences and solve any problems there might have been.
RQ53	4.00 (0.82)	Partner schools should evaluate the probability of reaching the learning objectives halfway through the VWC project.
RQ54	4.23 (0.92)	Deviations from agreements made during the planning phase of the project can be made as long as both partners are clear on the changes and agree with them.
RQ55	2.27 (1.20)	Contact between teachers need only take place if problems have occurred during the sessions.
RQ56	4.59 (0.59)	Partner schools should evaluate whether the learning objectives were reached at the end of the VWC project.

4.6.1. Contact between partner schools during execution project

This subtopic established if and on what schools should communicate during the execution of the project. Descriptive statistics on question RQ52, RQ55, RQ53 and RQ56 are given in table 6.

RQ52 and RQ55 do not yield conclusive results. RQ52 was set up to establish whether partner school teachers should contact each other and exchange experiences to solve any problems there might have been after every session. Unfortunately, results were unclear: mean 3.82 (1.14), standard deviation ≥ 1. RQ55 tried to establish whether contact between teachers need only take place when problems occur during the sessions, but results were also unclear. Mean 2.27 (1.20), standard deviation ≥ 1.

RQ53 and RQ56 tried to establish how partner schools should monitor progress during a VWC project. RQ53 indicated that partner schools should evaluate the probability of reaching the learning objectives halfway through the VWC project. Mean 4.00 (0.82). In addition, RQ56 showed that partner schools should evaluate whether the learning objectives were reached at the end of the VWC project. Mean 4.59 (0.59).

4.6.2. Deviations from agreements

This subtopic was set up to establish how one should deal with deviations from agreements. Descriptive statistics on RQ54 are given in table 6. RQ54 established that deviations from agreements made during the planning phase of the project can be made as long as both partners are clear on the changes and agree with them. Mean 4.23 (0.92).

4.7 Analysis of involvement colleagues in execution phase

Percentages, means and standard deviations were calculated for each question. Participants' answers indicate in what way colleagues should be involved in the execution of a VWC project at secondary schools. Relevant results to questions are analysed below per subtopic. Descriptive statistics are given in table 7.

Table 7: Involvement colleagues in execution phase

Question code:	Mean (SD):	Questionnaire question:
RQ57	3.73 (0.99)	The VWC project organisers responsible for the organisation of the VWC project should keep the school board up to date on the execution of the project and clear any changes to the agreements made during the planning phase before documenting and proceeding with them.
RQ58	2.45 (1.26)	The school's system administrators' help is not needed during the execution of the project.
RQ59	3.32 (1.29)	All colleagues should be kept up to date regularly about the execution of the VWC project.
RQ60	3.00 (1.27)	Not all colleagues should be kept up to date regularly about the execution of the VWC project.
RQ61	3.27 (1.39)	Only the colleagues working in the same department should be kept up to date regularly about the execution of the VWC project.
RQ62	3.64 (0.90)	During the execution phase of the project, scheduling of classrooms and making of timetables should be done by timetable management.

4.7.1. Communication with the school board

This subtopic was set up to find out whether the project organisers should keep the school board up to date during the execution of the project. Descriptive statistics for question 57 are given in table 7. The results of RQ57 showed that the participants thought that the VWC project organisers should keep the school board up to date on the execution of the project and clear any changes to the agreements made during the planning phase before documenting and proceeding with them. Mean 3.73 (0.99).

4.7.2. Communication with colleagues

This subtopic on communication with colleagues was set up to find out if participants thought colleagues should be kept up to date on the execution of the project. Unfortunately, results are ambiguous. Descriptive statistics for RQ59, RQ60 and RQ61 are given in table 7. RQ59 tried to establish whether all colleagues should be kept up to date regularly about the execution of the VWC project. However, the results were ambiguous: mean 3.32 (1.29), standard deviation ≥ 1. RQ60 was the negatively formulated part of this question, but did not yield results either.

Mean 3.00 (1.27) standard deviation ≥ 1. RQ61 investigated whether only the colleagues working in the same department should be kept up to date regularly about the execution of a VWC project. These results were also ambiguous. Mean 3.27 (1.39), standard deviation ≥ 1. These results will be discussed further in chapter 5.

4.7.3. Involvement system administration

Descriptive statistics of RQ58 are given in table 7. Results of RQ58 on the involvement of system administration during the execution of a VWC project were ambiguous. Mean 2.45 (1.26), standard deviation ≥ 1. This result will be discussed further in chapter 5.

4.7.4. Involvement timetable management

This subtopic investigated whether timetable management should be involved during the execution of a VWC project. RQ62 established that a slight majority of participants thought that timetable management should schedule classrooms and make timetables during the execution phase of the project. Mean 3.64 (0.90).

4.8 Analysis of monitoring performance of facilities during execution phase

Percentages, means and standard deviations were calculated for each question. Participants' answers indicate what technical facilities are important to monitor when executing a VWC project. Relevant results to questions are analysed below per subtopic. Descriptive statistics are given in table 8.

Table 8: Monitoring performance of facilities during execution phase

Question code:	Mean (SD):	Questionnaire question:
RQ63	4.18 (0.50)	The performance of the necessary hardware (pc's, headsets, webcams, etc.) and software should be checked regularly during the execution phase.
RQ64	2.05 (1.05)	When teachers and pupils encounter problems with the selected hardware and software during the execution phase, teachers and system administrators should end the whole project prematurely.
RQ65	2.45 (1.01)	When the sufficiency of the bandwidth at either partner school is interfering with the quality of the sessions taking place during the execution phase, the whole VWC project should end prematurely.

RQ66	2.77 (1.07)	The selected virtual environment should be stable during the execution phase; otherwise the whole project should end prematurely.
RQ67	3.91 (0.81)	System administrators should help teachers and pupils when problems occur during the execution phase of the project, regardless of how often their help is needed.
RQ68	3.95 (0.72)	If problems occur during the execution phase, partner schools should make adjustments to the sufficiency of the bandwidth at their schools until the quality of the sessions is sound.
RQ69	4.23 (0.43)	Minor problems with the virtual environment are acceptable during the execution phase, as long as both partner schools try to improve the quality of the sessions.

4.8.1. *Assistance system administration*

This subtopic investigated what should happen when problems occur during the execution phase of a VWC project. Descriptive statistics of RQ64 and RQ67 are given in table 8.

RQ64 was set up to establish if a VWC project should end prematurely when teachers and pupils encounter problems with the selected hardware and software during the execution phase. Unfortunately, results are ambiguous. Mean 2.05 (1.05), standard deviation ≥ 1. However, results from RQ67 indicated that system administrators should help teachers and pupils when problems occur during the execution phase of the project, regardless of how often their help is needed. Mean 3.91 (0.81).

4.8.2. *Performance of hardware and software*

This subtopic investigated if and how the performance of hardware and software should be monitored. Descriptive statistics for RQ63, RQ66 and RQ69 are given in table 8.

RQ63 established that the performance of the necessary hardware (pc's, headsets, webcams, etc.) and software should be checked regularly during the execution phase. Mean 4.18 (0.50). Furthermore, RQ69 indicated that participants thought minor problems with the virtual environment to be acceptable during the execution phase, as long as both partner schools try to improve the quality of the sessions. Mean 4.23 (0.43).

RQ66 did not yield conclusive results on whether the participants thought a VWC project should end prematurely if the selected virtual environment was unstable during the

execution phase. Mean 2.77 (1.07), standard deviation ≥ 1. These results will be discussed further in chapter 5.

4.8.3. *Handling occurring problems with bandwidth etc.*

This subtopic was set up to find out how bandwidth problems should be dealt with. Descriptive statistics for RQ65 and RQ68 are given in table 9.

Results from RQ68 indicated that participants thought that when problems occur during the execution phase, partner schools should make adjustments to the sufficiency of the bandwidth at their schools until the quality of the sessions is sound. Mean 3.95 (0.72).

Results from RQ65 were inconclusive. It was unclear whether participants thought a VWC project should end prematurely when the sufficiency of the bandwidth at either partner school is interfering with the quality of the sessions taking place during the execution phase. Mean 2.45 (1.01), standard deviation ≥ 1. These results will be discussed further in chapter 5.

5. Discussion

This research project was carried out to establish the language pedagogical and organisational preconditions for the implementation of Video Web Communication projects in foreign language education programmes at secondary schools to stimulate the development of ICC. A literature study has shown that there is a positive relation between VWC and TBL in constructing an effective teaching method to stimulate the development of ICC. A questionnaire has also shown that participants in VWC projects consider VWC an effective way of stimulating ICC development in secondary foreign language education. These results have led to a summary of language pedagogical preconditions to stimulate effective VWC projects. Furthermore, the same questionnaire contains results which validate claims concerning the organisational preconditions for organising a VWC project.

The discussion below covers the main results, the effectiveness of the methodology used in this research project, the ambiguous results, and the relevance and appropriateness of the results for foreign language education at secondary school. These topics will be discussed successively.

5.1. Methodology

The methodology will be discussed critically, in order to understand the actual applicability of the results for foreign language education. First, problems with the validation questionnaire will be discussed. Secondly, a critical view on the selected participants will be presented. Lastly, the analysis used will be discussed.

5.1.1. Validation questionnaire

The validation questionnaire was an effective instrument for research – in theory. However, several problems were encountered. Firstly, there were serious problems with the selected online platform which was used for the questionnaire. To construct the most effective instrument possible, the questionnaire was read several times, by several people, to extract linguistic errors, errors with respect to the content and order of the questions, and problems concerning length or topics that were not addressed in questions yet. An example of a question which should be added was a question on the way in which an international team could manage the project best; using one, two or no international project leaders. This and other changes were incorporated into the final version of the questionnaire. Unfortunately,

although the editing programme did show the questionnaire as being updated with these changes, the actual questionnaire that was presented to participants on the website was not the final one. Therefore, respondents filled out an older and much less nuanced questionnaire than the fine-tuned final version that was meant to be used. This means that the questionnaire used has probably yielded less nuanced and informative results than if the final questionnaire had been used. The second problem that was encountered is obviously related to this first point; this questionnaire contained linguistic errors and was not as complete as the edited version, which might also have influenced the results. For example, participants might have chosen a different answer if the question had been formulated differently. The last problem encountered was that the questionnaire might have been too long in an attempt to be complete. Perhaps a concise questionnaire might have yielded the same amount of information.

5.1.2. Participants

Only twenty-two out of 48 participants finished the questionnaire completely. Statistically speaking, this group is rather small to draw strong conclusions from the results. There are three explanations for this. First of all, the questionnaire might have been too long, which might have meant that willing participants felt it was taking up too much of their time. Secondly, the fact that the final version of the questionnaire was not online due to the discussed technical problems, might have meant that participants did not take the questionnaire seriously due to linguistic errors, or felt it was too repetitive. Lastly, this research project addresses an educational method that is not yet widely used at secondary schools, which makes it more difficult to find enough people who meet the target group criteria required to respond to the questionnaire. This project needed particular participants – if the participants did not meet the target group criteria, they would probably not have been able to fill in the questionnaire. This is also another explanation for why many participants did not finish the questionnaire – they might have realised they were unable to answer the questions, and thus have stopped.

Although there might have been too few participants to draw convincing conclusions, some conclusions can still be drawn, as the target group is expected to consist of quite a large part of the population of people who actually have experience with VWC. As mentioned before, not too many people have experience with VWC, which means the people who have filled in the questionnaire probably make up a large part of this population. Furthermore, it

can be expected that the participants in this research form a homogeneous group – every participant has experience with organising an international online project one way or another. Even though the type and degree of experience will probably be different due to the participants' job positions, the current results can be considered a valid starting point for further research into the technical and organisational implementation of VWC as a method in secondary school foreign language education.

5.1.3. Analysis

The data analysis used can be described as quite basic – mean and standard deviation. There is no further breakdown of the results according to the type and degree of experience of the participants based on, for example, the job positions the participants might hold. To make such comparisons the group of participants should have been larger, and the part of the questionnaire informing after personal details should have contained more in depth questions. Although this questionnaire informed after some personal details, the subgroups are unequal in number of participants, which means any comparisons would have been invalid. Nevertheless, it would definitely be valuable to make such comparisons in further research. These kinds of comparisons can specify what claims about organising a VWC project are made by researchers, and which are made by teachers or people in IT. Differences can then be analysed and shed light on improvements to the organisation of VWC that might further improve the learning efficiency of ICC education.

5.2 Results

Not all questions in the questionnaire yielded conclusive results. There were several ambiguous sections. To understand why these questions were ambiguous and what bearing this has on the significant results, they will be discussed below per subtopic.

5.2.1. Implementation of VWC at school

The questions connected to this subtopic related to how VWC projects should be implemented within a school, and how often a VWC project should be carried out. Results to RQ6 were ambiguous.

   RQ6 showed that participants were unsure whether or not a VWC project should be implemented in a school's curriculum, mean 3.68 (1.13), standard deviation $\geq$ 1. The results indicate there is a slight lean towards preferring implementing VWC projects in schools'

curricula. However, these results can be explained when looking at the results to other questions related to this subtopic: RQ7 indicates that participants feel that carrying out a VWC project only once it not really an option. Mean 2.82 (0.91). RQ11 shows that there is also no real consensus on whether a VWC project should be carried out on a yearly basis either. Mean 3.36 (1.00), standard deviation ≥ 1. These results show that there is no real preference towards how often a VWC project should be carried out. This can have several reasons; experience with such a project, the school's budget, the relationship with a potential partner school etc. Whether or not a school implements a VWC project in a school's curriculum will depend on the abovementioned factors – this means the question was to hypothetical and not specific enough to yield conclusive results.

5.2.2   *Learning objectives*

The objective of this subtopic was to establish whether partner schools should have similar learning objectives, or whether they should be able to have different learning objectives. Descriptive statistics for RQ16 and RQ23 were ambiguous. Means and standard deviations indicated that there is no real consensus on having similar or differing learning objectives. This seems to contradict results yielded from RQ8, which indicated that matching learning objectives should motivate partner school choice. However, the inconclusive results yielded from these questions have probably arisen from the resolute phrasing of the questions. There is no question that allows for both matching learning objectives and some different learning objectives. Perhaps adding such a question would confirm the findings from RQ8. However, at this point this is speculation. It would be advisable to look into this in further research.

5.2.3.   *Type of agreements at school and between partner schools*

This subtopic was set up to establish what type of agreements should be made at participants' own school and between partner schools during the planning phase.

RQ24 indicated that participants felt that general agreements between colleagues, members of the staff and school board concerning the execution of the VWC project within their school should be documented during the planning phase, mean 4.05 (0.65). RQ36 showed that documentation should be done with as much detail as possible during the planning phase, mean 3.68 (0.95). Furthermore, the results of RQ25 point out that a slight majority of the participants feel that agreements between partner schools concerning the

execution of a VWC project should be documented with as much detail as possible, regardless of whether this is the planning or execution phase. Mean 3.41 (0.91).

Naturally these results clash; on the one hand the agreements made during the planning phase should be documented with as much detail as possible, on the other hand they should be general – without too much detail. It should be noted here that this ambiguity might have something to do with the order in which the questions were presented. A question in which the participants were asked to indicate whether they preferred detailed or general documentation of agreements would have prevented this ambiguity. Naturally the only conclusion to be drawn here is that agreements should be documented during the planning phase, without specifying with how much detail this should be done.

5.2.4. *Scheduling sessions*

This section determined the preconditions to scheduling VWC sessions.

RQ37 investigated whether students should get acquainted with the students of the partner schools during the software introductory sessions, mean 2.68 (1.71), standard deviation ≥ 1. It is probable that this question did not yield conclusive results because it might be unclear what effect introducing students to each other during a software introductory session might have on their confidence and getting to know the programme properly. Therefore, no conclusions can be drawn.

RQ27 indicates that participants feel that time should be made available for the VWC sessions to take place at school during school hours. Mean 4.18 (0.80). However, further results were ambiguous. It was therefore unclear whether time should also be made available to take place after regular school hours, RQ33 mean 2.91 (1.34), standard deviation ≥ 1. It was also unclear whether VWC sessions should take place at any time available, including hours before or after regular language classes. RQ32, mean 2.91 (1.38), standard deviation $\geq$ 1. In addition, it is unclear whether the school board should decide whether VWC projects should take place during or outside the subject's timeslot. RQ31, mean 2.50 (1.26), standard deviation ≥ 1. There is no constructive explanation as to why these questions remain inconclusive. Perhaps it had to do with the phrasing or the order in which the questions were presented. Another possibility is that some of the participants did not know, for example if the participants were involved in research rather than teaching at a secondary school. Further research can therefore further specify these results.

RQ26 did not yield conclusive results on whether VWC sessions at participants' own schools should be scheduled during the planning phase as much as possible or not. Mean 3.45 (1.14), standard deviation $\geq$ 1. It also remains unclear whether alternative timetables and classrooms at participants' own school should be scheduled as a back-up during the planning phase. RQ28, mean 3.68 (1.04), standard deviation $\geq$ 1. However, it is evident that participants feel that VWC sessions should be scheduled between partner schools during the planning phase of the project. RQ29, mean 3.95 (0.90). Whether a back-up schedule should be made, though, remains ambiguous. RQ30, mean 3.82 (1.10), standard deviation $\geq$ 1. The ambiguity surrounding these questions is not explained easily either. Perhaps the participants were unsure what to answer due to vague phrasing, which would mean the instrument is not sensitive enough. Another possibility is that some of the participants did not have enough experience with scheduling to answer these questions. Further research can further specify these results.

5.2.5. *Communication with colleagues*

This subtopic on communication with colleagues was set up to find out if participants thought colleagues should be kept up to date on the execution of the project. Unfortunately, results are ambiguous.

RQ59 tried to establish whether all colleagues should be kept up to date regularly about the execution of the VWC project. However, the results were ambiguous: mean 3.32 (1.29), standard deviation $\geq$ 1. RQ60 was the negatively formulated part of this question, but did not yield results either. Mean 3.00 (1.27) standard deviation $\geq$ 1. RQ61 investigated whether only the colleagues working in the same department should be kept up to date regularly about the execution of a VWC project. These results were also ambiguous. Mean 3.27 (1.39), standard deviation $\geq$ 1.

The reasons why the questions above were inconclusive are speculatively the different protocols schools have for keeping each other updated. Some schools inform as much people as possible, other schools probably only inform those who are directly connected to the project and there are also many versions in between. This has possibly leaded to inconclusive results.

5.2.6. Involvement system administration

Results of RQ58 on the involvement of system administration during the execution of a VWC project were ambiguous. Mean 2.45 (1.26), standard deviation ≥ 1. This ambiguous result is expected when one considers the results of RQ47, which indicate that teachers should be able to work with the software independently after an introductory course from the system administrators. However, RQ57 indicated that system administration should help out when problems occur during the execution of the project. This indicates that it is probable that participants feel that system administrators' help is only needed during the execution of the project when problems occur.

5.2.7. Performance of hardware and software

This subtopic investigated if and how the performance of hardware and software should be monitored. Unfortunately, only RQ66 did not yield conclusive results. It is therefore unclear whether the participants thought a VWC project should end prematurely if the selected virtual environment was unstable during the execution phase. Mean 2.77 (1.07), standard deviation ≥ 1. This ambiguity probably arises from incompleteness of the questionnaire, as a question less resolutely formulated might have yielded more conclusive results. Further research should therefore specify these results.

5.2.8. Handling occurring problems with bandwidth etc.

This subtopic was set up to find out how bandwidth problems should be dealt with. Unfortunately, results from RQ65 were inconclusive. It was unclear whether participants thought a VWC project should end prematurely when the sufficiency of the bandwidth at either partner school is interfering with the quality of the sessions taking place during the execution phase. Mean 2.45 (1.01), standard deviation ≥ 1. This ambiguity probably arises from incompleteness of the questionnaire, as a question less resolutely formulated might have yielded more conclusive results. Further research should therefore specify these results.

5.3 Theory to practice

Even though the results gathered in this research project are less meticulous and significant than aimed at, they are still important to translate theory to practice. The conclusions that can be drawn from the results will be used to construct a manual to facilitate organising VWC projects for secondary school teachers around Europe and to shed light on a way in which

teachers can stimulate the development of ICC. The intention of this manual is to make it clear in what way ICC development can be stimulated, and how VWC projects can play a role in this. Apart from explaining how ICC can be implemented in foreign language education at secondary schools, it is also necessary to indicate that it is necessary to be critical of VWC projects, which can only be successful when organised correctly.

It is advisable to continue research on the optimal ways to implement ICC in language education in secondary schools. This is only possible when more schools use VWC to stimulate ICC development. More participants and respondents are necessary to do research, and currently this will be difficult. However, more experience is necessary for participants to give constructive feedback through a questionnaire. Also, further specification of results according to the experience of the participants is necessary to understand certain differences in answers and the consequent implications for the results, for example the differences in answers between researchers, teachers and system administrators. However, as VWC has shown to be a promising method in stimulating language acquisition and ICC development, it is probable that more schools will implement it and this second measurement will come in the future.

6. Conclusion

This research project was carried out to establish the language pedagogical and organisational preconditions for the implementation of Video Web Communication projects in foreign language education programmes at secondary schools to stimulate the development of ICC. Literature research was done to ascertain the language pedagogical preconditions. A validation questionnaire was constructed based on previous research by Krooshof & Slebus (2010) to establish the organisational preconditions to implementing VWC projects at secondary schools.

This research as a whole partially confirmed the hypothesis. A positive relation between VWC and TBL was established through literature research and by assaying a VWC project with TBL designed tasks to the results of this literature study. Furthermore, the questionnaire further confirmed this as our findings indicate that our participants believe there is a positive relation between VWC and ICC development. The questionnaire also validated several claims from previous research concerning the organisation of VWC. Only claims with a standard deviation ≤ 1 were considered validated. Based on this research project, several conclusions can be drawn with respect to both the literature study and the practical research through a validation questionnaire. They will be presented below.

6.1 Literature study into language pedagogical preconditions
Although it remains a challenge to develop intercultural activities that stimulate the development of ICC in foreign language teaching, a suggestion is made below as to what the language-pedagogical preconditions for developing ICC are. When developing a task that is aimed at improving ICC, teachers should bear in mind the following:

- Immersion; an experience *with* a culture, *in* a culture (Lázár 2003: 25, 34)
  o Immersion will allow students to experience the culture instead of passively reading about it. This will increase awareness of, for example, cultural differences and stereotyping.
- Structural contact with different cultures
  o One experience will not be enough to stimulate the development of ICC. There are different stages or more precisely dimensions of intercultural

communicative competence which can be achieved. Going through these stages takes time.

- Appropriate tasks (after Byram 1997, Lussier 1997; 2003 in Lázár 2007: 25-26 and Lace 2007: 25)
  o Stimulate an increase of knowledge;
    ▪ A good task should confront students with similarities and distinctive differences between their own and the other culture.
  o Stimulate the development of 'know-how':
    ▪ An appropriate task should allow the students to practice their ability to function linguistically. Preferably Krashen i+1. Negotiation of meaning.
    ▪ A good task should allow students to interact in and adjust to different contexts; a variety of topics should be covered, for example, social, living, vocational and professional, leisure, etc.
    ▪ Students should become aware of- and practice their language strategies.
  o Stimulate 'being';
    ▪ Students practice defining and conveying their self-identity in cultural contexts.
    ▪ Students should interpret and discuss other cultures.
    ▪ Students should practice relating and integrating otherness and other values in one's own culture.
  o Incorporate practicing one or more skills/competences (Lázár 2007: 9):
    ▪ Observation
    ▪ Interpreting and relating
    ▪ Mediation and discovery
    ▪ Attitude formation to increase respect
    ▪ Empathy
    ▪ Tolerance for ambiguity
    ▪ To raise interest in, curiosity about and openness towards people from other cultures, and to encourage a willingness to suspend judgement.

To develop intercultural activities that stimulate the development of ICC, it is important to bear the preconditions described above in mind. When shaping an intercultural activity or selecting didactic methods for teaching ICC, these preconditions can help establish a more effective learning effect.

6.2 Practical research into organizational preconditions

In reference to the aforementioned practical research several conclusions can be drawn with respect to the results from the validation questionnaire. These conclusions are presented below per organisational topic. A list of these conclusions can be found in appendix J.

Concerning the significance of VWC in secondary school language education and ICC, it can be concluded that VWC is considered a satisfactory teaching tool in language education to stimulate the development of ICC. Furthermore, our results confirm that VWC is an effective teaching tool for finding and exchanging authentic and contemporary educational information. VWC is recognised as a stimulating teaching tool for the acquisition of greater fluency and proficiency in the target language. Lastly, it can be concluded that VWC elicits genuine communication between language learners.

With respect to the *foundation* that should be made before implementing VWC at school, it can be concluded that project organisers should find out what the possibilities are for implementing a VWC project, before informing the school board. Furthermore, learning objectives of the VWC project should be determined beforehand, and a partner school should be selected based on matching learning objectives. Partner schools should clearly communicate goals and expectations – for example if the project runs once or yearly, and whether differences are allowed to exist in the learning objectives. Partner schools should document any agreements made with as much detail as possible. Concerning the order of planning the VWC project, organiser should:

    i. Establish learning objectives
    ii. Take care of technical facilities
    iii. Schedule sessions at school / between partner schools

Regarding the *general planning phase*, it can be concluded that project organisers should document agreements with colleagues, members of staff and school board on the execution of the VWC project, although the amount of detail of these agreements will depend

on the school's preference. Additionally, agreements with the partner school on the execution of the VWC project should also be documented. Elaborate technical test-runs should be organised to check whether both partner schools meet technical specifications, before shaping the VWC sessions. Furthermore, it can be concluded that VWC sessions should be planned between the partner schools during the planning phase. The sessions should be scheduled to take place during school hours. Lastly, introductory sessions should be planned to get students acquainted with the software.

It is concluded that several *colleagues should be involved in the organisation* of VWC projects at secondary schools during the *planning phase* of the project. It is a necessity to involve the school board to clear and document any agreements concerning the planning of the VWC project. The involvement of system administrators is concluded to be indispensable to execute, for example, the technical test-runs. Depending on the school, involvement of timetable management is necessary to schedule VWC sessions at school.

During the *planning phase*, it is concluded that the *availability of several technical facilities should be checked*. Firstly, schools should check themselves for the availability of the necessary hardware, for example PC's, headsets and webcams, and the availability of software. A stable virtual environment should be selected. Secondly, schools should select software with which teachers can work independently after an introductory training by system administration. Thirdly, it is concluded that schools should check the suitability of the IT classrooms during the planning phase. Lastly, it is concluded that schools should check the sufficiency of their bandwidth during the planning phase and adjust either the number of VWC sessions taking place at a time or the software accordingly.

During the *execution* of the VWC project, it can be concluded that schools should only make deviations from the planning and agreements as long as everyone involved in the project is clear on the changes and agrees with them. Furthermore, it can be concluded that schools, particularly the involved project organisers, should get in touch halfway through the project to evaluate the probability of reaching the learning objectives. The teachers involved in the project should also be in touch at the end of the project to evaluate whether the learning objectives have been reached.

Concerning the *involvement of colleagues in the execution phase*, it can be concluded that, firstly, the school board should be kept up to date about the execution of the VWC project and clear any changes to the agreements made during the planning phase before documenting and proceeding with them. Furthermore, it is concluded that timetable

management should be involved in the execution phase of the project to schedule classrooms and to make timetables for the VWC project.

It can be concluded that the *performance of several facilities should be monitored during the execution phase*. Firstly, the performance of the necessary hardware, for example PC's, headsets and webcams, and software should be checked regularly during the execution phase. Secondly, it can be concluded that system administrators should help teachers and pupils when problems occur during the execution phase of the VWC project, regardless of how often their help is needed. Thirdly, it can be concluded that minor problems with the virtual environment are acceptable during the execution phase as long as both partner schools try to improve the quality of the sessions. Lastly, if problems occur due to bandwidth problems during the execution of the project, schools should make adjustments to the sufficiency of the bandwidth until the quality of the sessions is sound.

The aforementioned conclusions confirm and further specify the findings by Krooshof & Slebus, and will hopefully be an addition to VWC project development to stimulate ICC development and make the transition from theory to practice. An increase in implementation of VWC projects into secondary school language education is necessary to further understand, specify and optimise VWC and how it supports pupils' ICC development. Hopefully, schools and teachers are inspired by the possibilities of VWC and tempted to implement VWC projects based on the preconditions as defined in this research. It is hoped that in doing so, they will have the same positive experience teachers had in the pilot study Spanish:

> "Motivation [in my classroom] is greater than ever and I think they have learned more Spanish in three sessions than in two years. Furthermore, they have learned more about the culture and their behaviour toward other students has changed: they show more respect, they help each other more often, and they dare more. They have grown as people."
>
> *Reaction from a teacher involved in the pilot study Hilversum-Granada*

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