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Master's Thesis of Education

A Developmental Study on  
Instructional Principles for  
Intercultural Experiential Learning  
with the Use of 360 Videos in the  
Foreign Language Classroom

외국어 교실에서 360도 동영상을 사용하  
는 문화간 체험 학습을 위한 수업 원리  
에 대한 개발 연구

February 2020

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## **Abstract**

# **A Developmental Study on Instructional Principles for Intercultural Experiential Learning with the Use of 360 Videos in the Foreign Language Classroom**

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As the world has developed new technology, people have moved around the world more easily and new means of communication have arisen. Learners are encountering the use of a foreign or second language inside and outside their classrooms, and the demands of a more globalized environment around them has become more apparent. Thus, language teachers need to encourage learners to go beyond structure so that they can face the real world with confidence in the language they are learning, to be suitable job candidates with greater opportunities in the existent competitive industry, but above all, so people can overcome cultural barriers and stereotypes to be able to understand and accept each other's differences.

This study developed a set of 13 instructional principles with the support of 360 video experiences for intercultural experiential lessons, which educators and teachers can apply to foster and develop intercultural competence in the language classroom. The use of VR/360 videos brings the opportunity to go to places we cannot take our students on a daily basis, moreover, it overcomes the budgetary and spatial constraints that many courses face. Additionally, this study shows briefly, the characteristics of selection or creation of 360 video content, previous research conducted with VR technologies, and outcomes of our 360 video experiences during the application field.

The instructional principles are based on the theories of experiential and intercultural learning. Internal validation and feedback interviews were conducted through expert reviews, pilot test and implementation respectively. The instructional strategies developed will give useful guidance on how to effectively apply the proposed instructional principles in a foreign language classroom.

The questions that guided our study were:

- i. What are the instructional principles for intercultural experiential learning with 360 videos in foreign language education?
- ii. Are instructional principles for intercultural experiential learning with the use of 360 videos internally valid?
- iii. What are the teachers' and learners' responses to 360 video-based intercultural experiential lessons?

The research procedures followed, started through the literature review. Secondly, five experts in the fields of Educational Technology, Linguistics and Language teachers internally validated the instructional principles. Thirdly, the application field where the instructional principles were applied, consisted of one Spanish Language Teacher and ten graduate students. Learners were given a Google cardboard headset each for individual use during all the sessions, orientation was provided on how to set up their devices and possible technical problems. During the 5-week module, one orientation and four 90-minute intercultural experiential lessons were carried out once a week.

The cycle contains four components or stages that are supported by instructional principles to foster intercultural competence that comprehends knowledge, attitudes and skills. A set of 13 principles, examples of application, step-by step instructional procedures and 360 video experiences were developed.

Learners and the teacher made use of headsets and 360 videos as part of the first stage of the Experiential cycle, the Concrete Experience which comprehends six principles: promoting mindfulness, encouraging questioning and discussion, 360 video purpose, monitoring technical problems, exposing learning to a 360 video experience, and guiding learners to identify feelings and emotions. After, they followed the next stages which stem from said experience, the reflective observation stage focus on one principle which allows learners recall information from what they observed and reflect on their perceptions and opinions. The third stage of the cycle corresponds to abstract conceptualization which is supported by two

principles: providing learners with extra resources and inducing them to form their own hypotheses. Lastly, we find the active experimentation stage, where the teacher applied a total of four principles: fostering collaboration, sharing findings, encouraging argumentation and feedback, and keeping record of progress. Learners were given a dossier in each session that contained the activities to prompt learners' reflection and observation note taking, to later discuss with their peers. Interactions varied from one-on-one to small group collaboration and discussion with all the participants by presenting their findings.

Interviews and questionnaires results showed that the instructor and learners had a positive response by the end of the 5-week module, where everyone went through a path of discovery and exploration through a new learning environment. Learners expressed they felt sense of presence in the 360 experience and think they could be useful to see real people in real context, bringing authentic materials to their language lessons where they can see how places look like and people around them while using the language they are learning. Particularly the interviews with the teacher were an insightful path to the application of the principles, feedback and suggestions were taken into account for each session, mainly revolving around the sequence in which the cycle should be started and which principles could be synthesized to improve the dynamics and sequence of the class. The teacher expressed she does believe the set of principles applied can help learners develop resolution of problems, observational, meaning making and analytical skills while promoting collaboration in class among learners. However, it was

pointed out that time, the cultural background, and proficiency level of the target language (L2) in learners are major factors to consider as challenges might arise if we would like to apply an ambitious plan such as that of experiential learning.

This study provides instructional principles for educators and teachers who would like to try intercultural experiential and 360 videos in their language classroom. Lastly, recommendations are given based on the application and results of the sessions conducted. Intercultural Experiential Learning and the use of 360 videos has a practical academic implication that offers learners a relatively easy way to transport to places without leaving their classroom, leading to discussion and the use of their analytical skills and supporting evidence to create their arguments and reach a consensus with their classmates about the social problem that is being discussed about, alternatively, it helps them understand other peoples' culture and issues by contrasting that of their own and becoming aware of their own society, behaviors, and perceptions towards others.

**Keywords:** Experiential learning, Intercultural learning, 360 videos, Virtual reality, Developmental research, Foreign language education.

**Student Number:** 2017-26786.

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# I. INTRODUCTION

## 1. Research Needs and Purpose

For decades, students have encountered long-established educational systems in schools, following books and passively absorbing information that teachers deliver based on traditional methods such as memorization or recitation, which do not encourage problem-solving, critical and analytical thinking skills. However, we are working towards modern education to foster these skills in the 21st Century classroom. Not only pertinent to teaching methodologies, we find the development of soft skills is an important matter when learning a second language, as the environment in which we are living nowadays is becoming more culturally diverse, learners need to be able to develop intercultural competence such as observing, listening, cultural self-awareness, awareness of other people's cultures, grasp of social issues, effective communication, and openness (Deardorff, 2009).

As part of one of the thirteen sustainable development goals, under the umbrella of Global Citizenship Education, UNESCO has several special themes, among them, language in education that seeks to promote a culture of peace and non-violence, global citizenship and appreciation of cultural diversity (UNESCO et al., 2015). In addition, the Common European Framework of Reference's central objective of language education is to promote the favorable development of the learner's whole personality and sense of identity (CEFR, 2011).

Kolb's experiential learning theory looks to involve learners in observational and analytical processes while they actually do or are part of concrete experiences. Kolb (1984) defines experiential learning as "an holistic integrative perspective on learning that combines experience, perception, cognition, and behavior" (p.21).

Experiential learning is related to, but not synonymous with, other forms of active learning such as action learning, adventure learning, free-choice learning, cooperative learning, service learning, and situated learning (Itin, 1999). While many of these theories also involve students in the learning process, sometimes it is difficult to apply them in traditional school curriculum because of time, spatial and situational constraints teachers face.

In agreement with Itin (1999), “experiential learning is best considered as the change in an individual that results in new abstractions and applications” (p. 93). Thus, this theory suits the purpose of encouraging learners to develop observational and analytical skills while not depending on the teacher entirely and giving them freedom to reflect and self-analyze their experiences to later shape or reshape their own opinions on said experience. Notwithstanding, although experiential learning can be used through different techniques such as simulations, role-play, games, fieldtrips or internships at organizations, many times the resources are limited to be able to take learners outside the foreign language classroom, so they benefit from real-life situations. For this reason, we propose the use of VR/360 videos in order to bridge the gap between everyday life experiences and the limitations traditional classrooms face nowadays to facilitate better practices in experiential learning.

The importance of life experiences in language learning is involved when language becomes a social practice that integrates communication and structure as a whole. Language is not a thing to be studied but a way of seeing, understanding, and communicating about the world and each language user uses his or her language(s) differently to do this (Liddicoat & Scarino, 2013). Learners not only need to be able to produce language but to use other elements of communication and social interaction that requires a set of cognitive skills, knowledge and attitudes that will allow them to carry out from the simplest to the most complex tasks such as recognizing or identifying sensory stimuli to goal-oriented behavior like

problem-solving, decision making or emotional self-regulation.

As the world has developed new technology, people have moved around the world more easily and new means of communication have arisen. Learners are encountering the use of a foreign or second language inside and outside their classroom, and the demands of a more globalized environment around them. For these reasons, language teachers need to encourage learners to go beyond structure so that they can face the real world with confidence in the language they are learning, to be suitable job candidates with greater opportunities in the existent competitive industry, but above all, so people can overcome cultural barriers and stereotypes to be able to understand and accept each other's differences.

Emerging technologies like Virtual Reality (VR), Augmented Reality (AR) or Mixed Reality (MR) bring the possibility of expanding our options in education to offer learners different types of interactive experiences in the classroom that trigger their curiosity, encourage them and aid them in the learning process. Typically, educators wishing to create their own educational VR content have to either hire programmers to create the content or learn complex and time-consuming programming techniques (Wiecha et al., 2010). One of the positive aspects of 360 videos is that the equipment (cameras, microphones, and software) has been improved in recent years and the market of 360 cameras is growing at a fast pace, making it affordable for educators to create their own materials for VR headsets in the classroom. As there are more accessible equipment and software for this format, more people who are interested in creating content, regardless of their academic background, are merging their passion for technology with their professional careers. Educators as well, are looking for ways to boost their lessons with personalized materials for their subjects and learners needs.

Furthermore, the study on Virtual Reality Learning Environments (VRLEs) supports the notion that constructivist learning is indeed the driving force behind the creation of VRLEs and presented case studies to validate VRLEs for learning

(Zantua, 2017). In said study, the authors go through features that VRLEs provide, such as interaction with an artificial real environment, motivation to learn, scaffolding, and it also warns educators about the importance of understanding the challenges of using VR technology for instruction rather than counting on the novelty of the approach.

Another key aspect we look to address in this study is the use of materials that provide authentic learning experiences, videos not only provide instances of real language use, but their great advantage is that they provide authentic language input (Katchen, 2002; Cakir 2006). We pursue the goal of creating environments where students can connect with real-life situations that foster socio-cultural contexts, lifestyle, beliefs, and mentality that play a huge role in the field of intercultural communication. In such environments, students can get involved in a simulated-experiential situation within safe surroundings that foster confidence, motivation, interest, and exploration.

There are four main learning categories for language education: communicative competencies, proficiencies, cross-cultural experiences, and multiple literacies (Phillips, 2007). Learners of foreign languages are not only lacking the true exposure to the cultural aspects of the language they are trying to learn but also lacking the exposure to the natural expressions and nuances of the language and culture that cannot be found in formal textbooks or the classroom due to varied curriculum constraints. The application of an holistic approach is needed because the increasing globalization is demanding professionals that are capable of understanding, and collaborate with each other, including verbal and non-verbal communication such as gestures, body language, expressions, and other features of each culture.

British Council (2013) in its report *Culture at Work*, shows a summary of values of technical and soft skills ranked in by employers across countries like Jordan, Indonesia, UK, South Africa, India, US, UAE, Brazil, and China. Among the

highest ranked by employers, the research shows: demonstrating respect for others, building trust, working effectively in diverse teams, openness to new ideas/ways of thinking, qualifications related to the job, collaboration, listening/observing to deepen understanding, self-motivation, time management, and analytical thinking.

We find experiential learning to be a cycle that allows learners to go from self-reflection on experiences through conceptualization and even the possibility to discuss collaboratively to facilitate the conditions that reduces foreign language anxiety while promoting the development of analytical and thinking skills at the same time.

## 2. Research Questions

This study aims to provide a set of principles that guides educators who want to conduct intercultural experiential learning-based lessons with the use of 360 videos to develop intercultural competence. The design developed will give useful guidance on how to effectively apply the proposed principles in a foreign language classroom. Three research questions are thus raised:

- What are the design principles for intercultural experiential learning with 360 videos in foreign language education?
- Are design principles for intercultural experiential learning with the use of 360 videos internally valid?
- What are the teachers' and learners' response to 360 video-based intercultural experiential lessons?

### 3. Definition of Terms

**Experiential Learning:** “In its most current statement (Kolb, 2015; Kolb and Kolb 2013) experiential learning theory is described as a dynamic view of learning based on a learning cycle driven by the resolution of the dual dialectics of action/reflection and experience/abstraction. Learning is defined as “the process whereby knowledge is created through the transformation of experience” (Chapter 2, p. 49).”

**360 video:** also known as immersive videos, VR video or spherical videos, are video recordings where a view in every direction is recorded at the same time, shot using an omnidirectional camera or a collection of cameras. During playback on normal flat display the viewer has control of the viewing direction like a panorama. It can also be played on a displays or projectors arranged in a sphere or some part of a sphere.

**Intercultural Competence:** A set of components of attitudes, skills and knowledge that includes values, behaviors, understanding, awareness and understanding of one own’s and others’ culture which lead to effective communication between nations of diverse cultural backgrounds (Deardorff, 2009).

## II. LITERATURE REVIEW

### 1. Experiential Learning

In 1984, Kolb published his theory about Experiential learning, in his work he goes through Learning models of Lewin, Dewey, and Piaget and identifies the common characteristics they share – characteristics that serve to define the nature of his model on experiential learning.

Based on a four-stage cycle of learning and four learning styles: 1) Concrete experience where a new experience is encountered or re-encountered providing learners with more exposure to re-shape previous knowledge; 2) Reflective Observation of said experience; 3) Abstract Conceptualization, learners come up with a new idea or modify existing abstract concepts; and 4) Active Experimentation, the learner applies them in the real world. Although the cycle can be joined at any point, he expresses that effective learning is seen when a person progresses through the cycle of four stages which ultimately will result in new experiences.

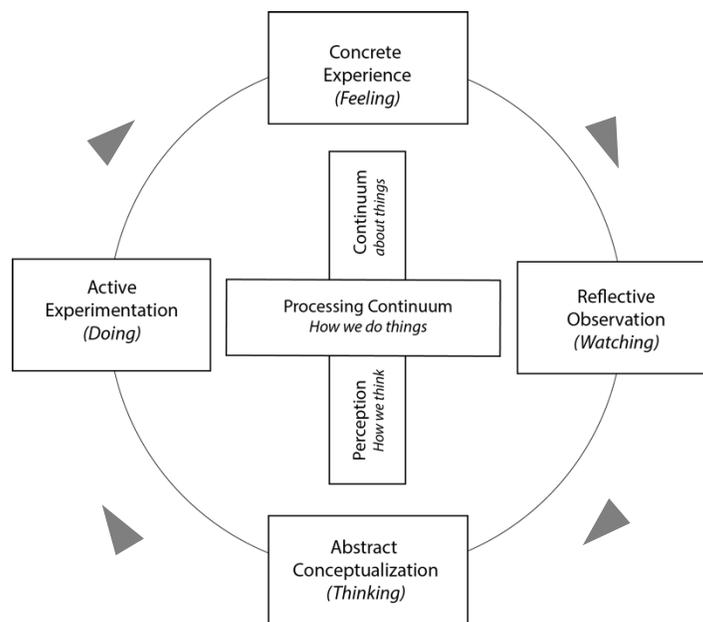
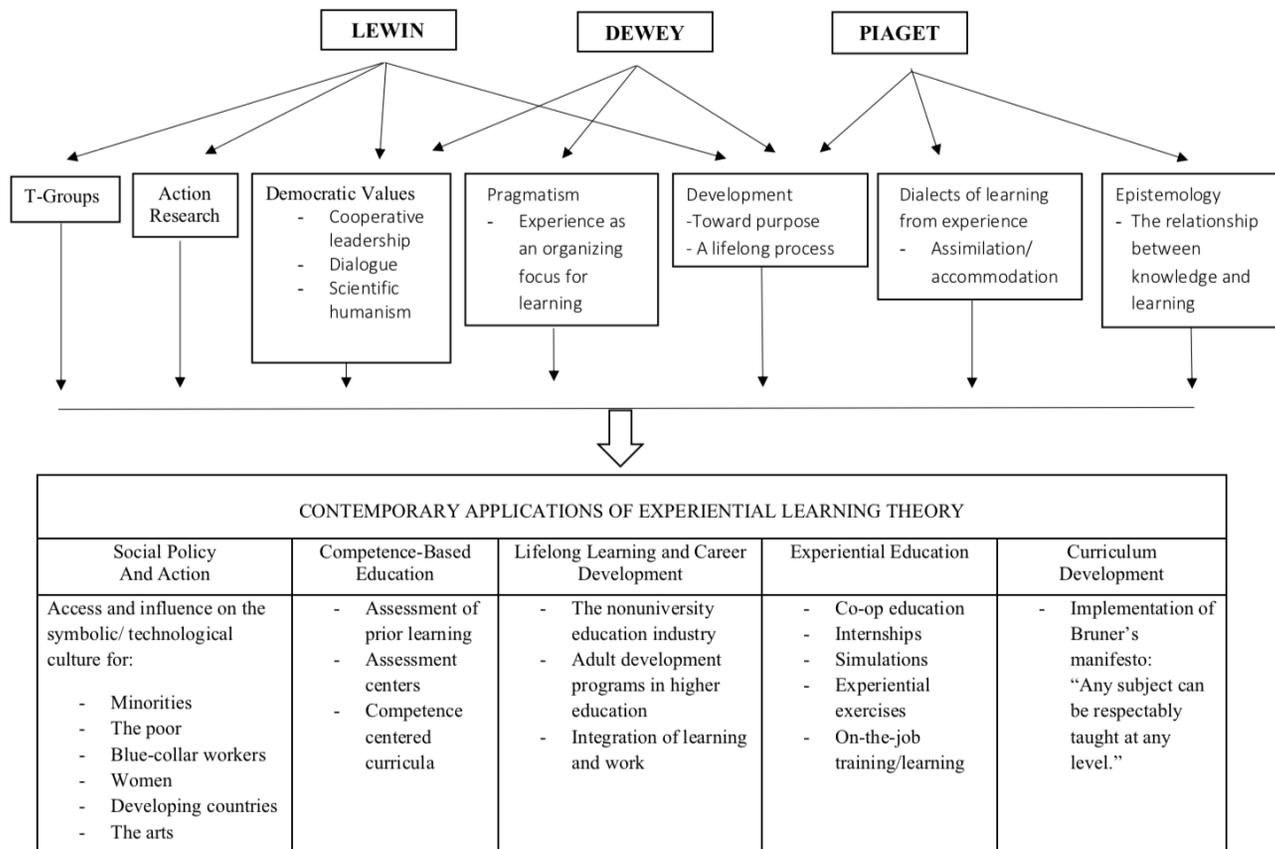


Figure 1 Kolb's Experiential learning model (Kolb, 2015)

Kolb (1984) defines experiential learning as an holistic integrative perspective on learning that combines experience, perception, cognition, and behavior, and states that in experiential learning the experience is the foundation of, and the stimulus for, learning, and that we should consider each person as a whole person, as a sensing, thinking, feeling human being. Figure 2 summarizes seven themes that stem from the work of Lewin, Dewey and Piaget, that offer guidance and direction for programs of experiential learning (Kolb, 1984). These themes go through the contributions done by each of the icon psychologists, from democratic values guiding experiential learning, the emphasis on development, assimilation of experience into concepts and accommodating these into experiences.

Taking the characteristics of the experiential learning cycle into account, we propose that 360 videos or VR tools can aid learners in creating knowledge through the transformation of experiences in virtual environments by first emphasizing on the process of adaptation and learning, as Kolb says, learning is best conceived as a process, not in terms of outcomes. Second, that knowledge is continuously created and recreated by exposing learners to new or repeated experiences. Third, learning transforms experience in both its objective and subjective forms, meaning that learners would be able to shape or re-shape knowledge into private mental events like subjective feelings or reflection processes that convert into thoughts or ideas by looking around in a tangible virtual environment.



**Figure 2** Experiential Three Traditions of Experiential Learning (Kolb, 2015)

## 1.1 Experiential Learning in Foreign Language Education

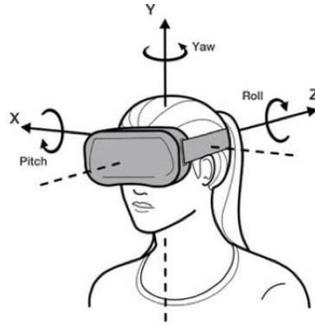
Experiential learning “involves both observing the phenomenon and doing something meaningful with it through an active participation” (Kohonen et al., 2001). Thus, meaning that learners are directly doing something after being exposed to the situations being studied rather than just passively hearing or reading about it. When it comes to language learning, we find that formats of lessons are generally too conventional, leaving learners in a passive role and with little opportunity to practice the language naturally. However, we strive for an approach that facilitates the environment to not only practice the language but also cognitive, metacognitive, and social skills that are required by the new demands of the 21st Century classroom, moreover, we look forward to nurturing these skills among learners for their future work competences in the globalized society we are becoming.

In previous studies on experiential learning and language education, there have been several techniques used such as: field trips, simulations, role-play, exchange programs, internships, and telecollaboration. We find a lack of research on foreign language education and experiential learning with the use of 360 videos or VR technologies applied in the foreign language classroom. As mentioned previously at the beginning of our paper, teachers and schools might face constraints that make it harder to provide learners with experiential learning experiences on site. For these reasons, we look forward to supporting concrete experiences on the first stage of the cycle with 360 videos that present a problem or social issue in a cultural context from the target language (L2) to later move on into the next stages of the experiential learning cycle while applying our instructional principles. Thus; fostering not only contextualized language practice but also promoting the use of thinking skills.

## 1.2 Experiential Learning and Virtual Reality

VR and 360-degree videos concepts have been present in history for at least eight decades, with the appearance of the Stereoscope in 1838 by Charles Wheatstone. In the late 80s, Jaron Lanier left Atari and in 1987 he coined the term Virtual Reality and his company became the first one in to link hand gestures, visuals, and 3D audio with the Eyephone, AudioSphere and DataGlove which lead to beginning of the VR industry preparing itself for consumption and in 1989, Mattel turned the DataGlove into the Power glove for Nintendo. The VR industry made a peak during the late 90s and beginning of 2000, but the technology was not powerful enough to live up to consumer expectations. Nowadays, Virtual Reality has become more solid little by little, despite the constraints that the industry might face at the moment; tech companies have made head-mounted displays a tangible reality that is trying to insert into society.

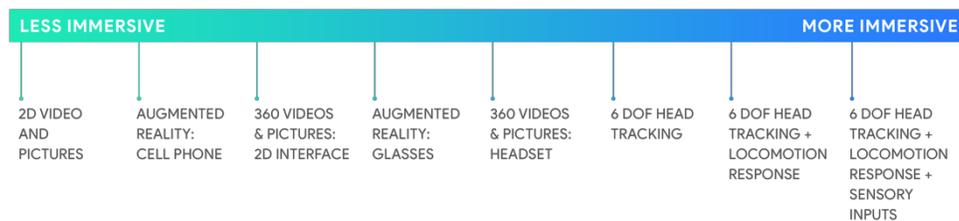
Virtual Reality and 360 video terms are becoming more publicly used which has allowed them to be more exposed to online audiences in the recent years. Head scientist at the initial stage of the Oculus VR project, LaValle (2017) defines Virtual Reality as the inducing targeted behavior in an organism by using artificial sensory stimulation, while the organism has little or no awareness of the interference, in other words, we can categorize as VR to every experience that hijacks our brain by simulated stimuli of our human senses and that makes us feel we are in virtual world even though we are not physically there. Current debate on whether 360 videos are VR experiences or not has arisen due to the fact that 360 videos lack the 6DoF (6 degrees of Freedom) feature, which makes it possible to track the movements of your body inside that virtual environment while 360 videos offer only 3DoF (3 degrees of freedom) limiting our movements tracking to only of those of our head.



**Figure 3** 6DOF rotational axes

However, 360-degree videos are introduced to be part of the Virtual Reality spectrum by Google’s team Daydream, which explains the immersion degree of this kind of environments from less immersive to more immersive. As shown on Figure 4, 360 pictures and videos are positioned in two sections of the spectrum, this is because we can experience them in different devices, for example, if you watch a 360 video on your phone or computer, this experience would be categorized as less immersive than if you watch it with an HMD. The current study will display 360 videos in a VR headset as we can test its features to the fullest capability possible that headsets can currently provide within the limits of 360 environments.

## The Virtual Reality Spectrum



**Figure 4** VR Spectrum (Google AR & VR, 2018)

From a constructivist perspective, (as cited in Mayer, 2014) states Virtual Reality environments provide the facility for experiential learning by allowing the student to explore the virtual environment at their own pace and interact with the

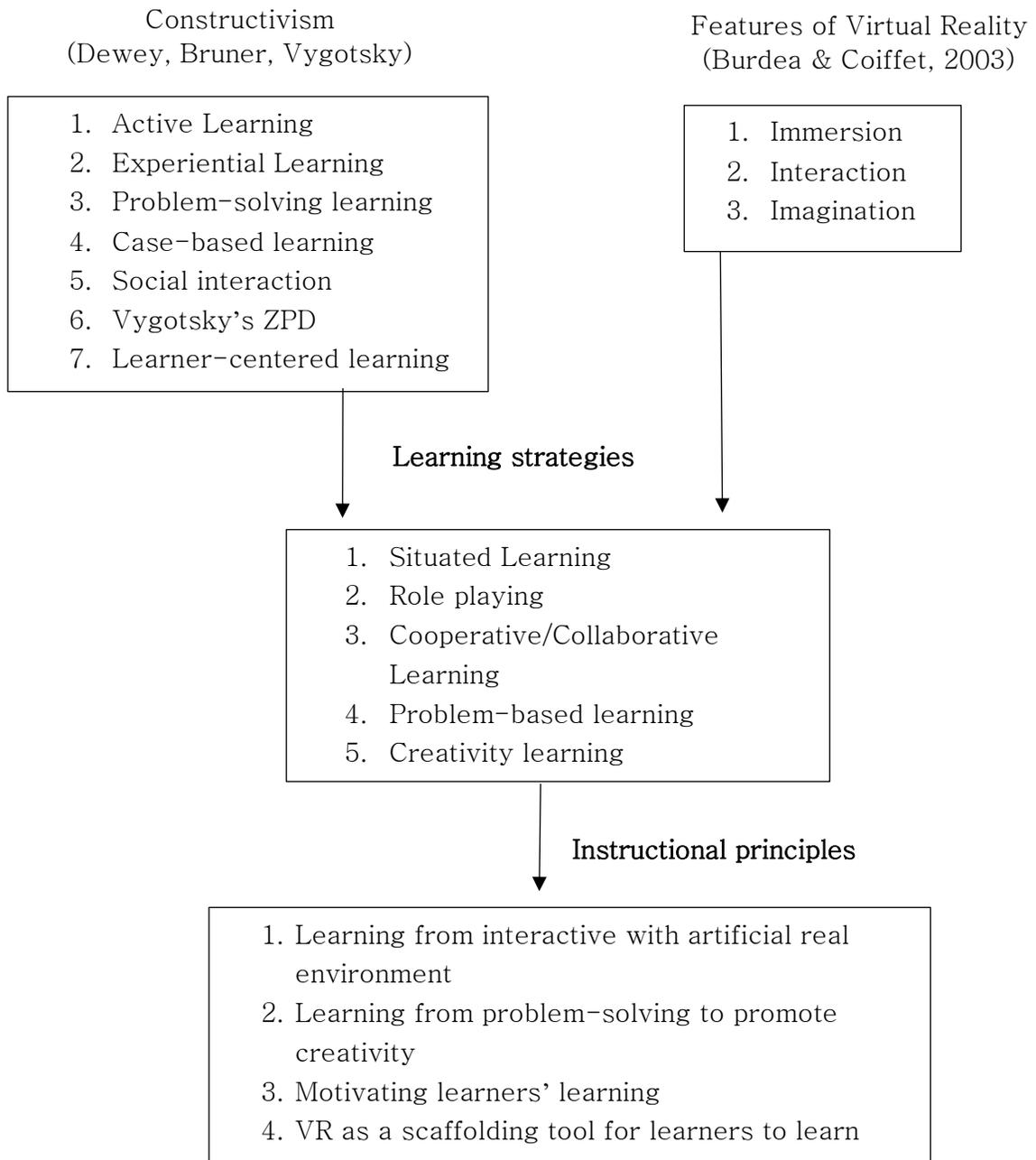
virtual environment in real time.

In a study from the Virtual Reality Applications Research team, shows that using contextually based training of people with learning disabilities, improved their performance in life skills and reduced their anxiety over time, not only that but there was evidence of skill transfer as children were able to be exposed to daily tasks such as doing the laundry, food preparation, cooking, and hazard recognition. However, in comparison to real training groups, there was no significant difference found. With this, we look for environments that are difficult to get to when learning a language, such as traveling to another country, visiting remote places, being exposed to an authentic environment that cannot be reached in the classroom or the country of residence.

Pilgrim (2016) gives a useful explanation of experiential learning in VR tools:

VR tools enable teachers to provide more than prior knowledge about content. With VR tools, teachers can provide opportunities for students to engage with environments. This instructional strategy reflects experiential learning (Dewey, 1938). John Dewey (1938) promoted the benefits of experiential learning, explaining, “there is an intimate and necessary relation between the processes of actual experience and education” (p. 7). He asserted that experiential learning enables students to develop their own opinions of a concept based on interaction with the information. In addition, he suggested that each experience is individualized, based on past experiences. When classroom learning provides individual opportunities for experiences and reflection, varying viewpoints are supported. (p.91)

Experiential learning is not a molecular educational concept but rather is a molar concept describing the central de process of human adaptation to the social and physical environment. As Burdea and Coiffet (2003) noted, (a) constructivist learning involves exploration and discovery of prebuilt artificial real worlds, and (b) constructivist learning process provided by VR technology requires educators to examine the learning models and how the technological features support learning. Constructivist theories can be potentially integrated to virtual environments to motivate learners to learn. Through the interactive and potential high repetition, VR can help to improve knowledge retention and student’s motivation (Burdea & Coiffet, 2003). Sims, (2007) study noted that “lifelike, interactive digital characters, serving as mentors and role–playing actors, have been shown to significantly improve learner motivation and retention” (p.75). Huang et al. (2010) summarize desirable constructivist strategies and design embedded in educational VRLEs as shown in the following Figure 5.



**Figure 5** Constructivism applied in virtual reality learning (Huang H. et al., 2010)

On a different study on Chemistry concepts using Virtual Reality Technology as the concrete experience of the experiential learning cycle, it was concluded that VR makes students more active and engaged in the learning through a combination of practical experiments, observations and reflections (Moxnes & Ristesund, 2017). Learners expressed enjoyment and engagement while playing around with molecules and discussing after the concrete experience.

A vast number of studies related to simulations, training or experiencing through VR technologies are mainly related to the medical fields and science education, usually by 3D environments. Most of the studies that use experiential learning for VR technologies are made with 3D renders which offers designers the freedom to manipulate the environment and interactions at a higher rate. However, that is not the case with foreign language education, we are trying to not only acquire the language but to develop communicative competencies, proficiencies through cultural experiences, and multiple literacies and 360–video can offer a closer look to the actual human interaction in different societies where the foreign language learned is spoken naturally rather than experiencing an artificial environment.

## **2. VR/360 Videos in Education**

Google expeditions is an immersive education app that allows teachers and students to explore the world through over 800 virtual–reality tours with the use of Google cardboard head mount, this is one of the biggest projects that started promoting the use of 360 videos in the classroom in 2015. Initially, the videos were individual observational experiences and the project has been improved since then and released to the public, educators can now bring a classroom kit that helps them take more control and guide the expedition, something like a tour guide role while students look around and the teacher helps them explore and monitors their interactions with a tablet. On the other hand, we find content from 360 video creators at the consumer level, mostly aimed at traveling and sports sector though, as for educational videos, they usually locate users as passive witnesses and there is from little to no guidance or elements learners can interact with.

We find an outstanding number of studies in the medical field, the use of virtual reality, and lately 360–degree videos in medical education, is increasing to provide an immersive learning experience (as cited in Herault et al., 2018) and where practitioners observe specialized techniques of the professions such as surgery simulations. In a study in Sweden, the focus was on patient trauma treatment education, as catastrophic situations are quite rare in the country, practitioners have little opportunity to encounter and develop the skills to treat patients in these situations. Learners were provided with interactive 360 videos on a touchscreen, learners were also prompted with questions about the problem they were encountering in the video while discussing among them. Practitioners perceived the experience as very good on average but found difficulties with the design of icons and buttons when touching the screen. Overall, they expressed the videos are helpful and kept them interested and engaged in a group discussion and exchange of possible answers related to their previous knowledge, the authors

noted that it is to be expected that other countries might have different procedures and equipment available and that the design of the recording should consider a strategy for audio and video without disrupting the work of doctors performing as well as technical aspects of the technology such as connectivity and the layout of the graphics (Herault, 2018).

## **2.1 Choosing or Creating 360 Videos for Experiential Learning**

Three-hundred-and-sixty-degree videos is relatively a new format that provides audiences with the opportunity to experience content in a deeply immersed way. Without diminishing the conventional 2D video format, where directors and filmmakers control angles, cuts, camera movements, and aid from different techniques in order to get people focus on the important elements of the scene, 360 videos offer a unique environment where although the same elements can be found, it is completely up to the user how to interact with it. However, there are a number of aspects to be taken into consideration when looking for or creating our own 360 video content.

Whether materials are used from existing content online such as Google expeditions, YouTube VR, Facebook 360, any other application that hosts 360 videos; or that we create our own, we should make sure the experience is pleasurable and smooth for our learners, we have to test materials in advance in the devices that will be used during the experiential learning session before we expose learners to these environments. By doing so, we can make sure the material is not affected by inappropriate or unnecessary content, remember that 360 cameras record all around us and hiding equipment or objects that do not belong to the scene should be planned too. Keeping our learning goals in mind at all times is essential, from planning to production and post-production of your material you must wonder where to place the camera and the role of the learner in each segment,

stability of the camera is a golden rule in order to avoid motion sickness in learners as this will totally produce an unpleasant journey and will stop the learner from watching it immediately. Additionally, when planning the topic and kind of questions we will expose our learners to, we should think about the safety of our learners, it is always a good idea to peer-review your plan with colleagues and subject matter experts to receive feedback of possible outcomes if you will adventure in creating your own materials or when choosing the existent content online.

### **2.1.1 Characteristics of 360 Videos for Experiential Learning**

When choosing or creating our materials we should consider several aspects of 360-videos that influence and impact in the experience of our learners, such as motion perception, information design, task design, and interaction design. While not all of them are mandatory to provide learners with a concrete experience, the elements summarized on Table 1 are the ones of a desired 360 video for experiential learning based on multimedia learning principles (Mayer, 2004), and Virtual Reality book (LaValle, 2017) that cover the fundamentals of VR systems. We find extremely important that we become aware of and familiarized with the main elements that result in a good experiential learning journey for our learners in this type of format.

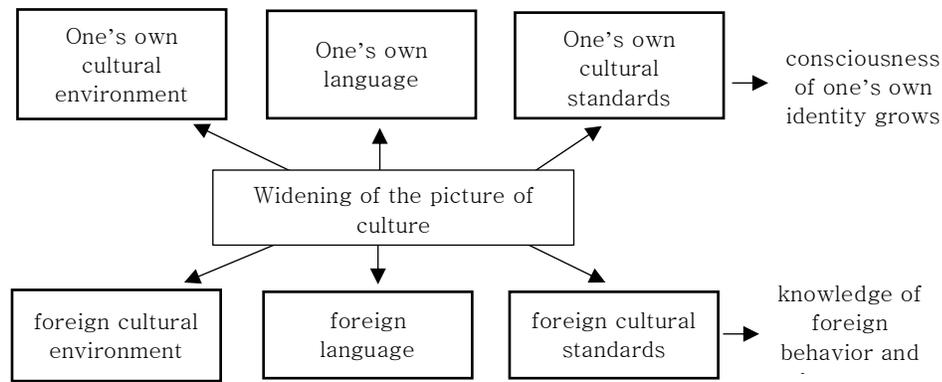
**Table 1** Characteristics of interactive 360 videos for experiential learning

	Feature	Description
Motion perception	<ul style="list-style-type: none"> <li>o Make learners feel comfortable and safe</li> </ul>	Create the right conditions for a pleasurable experience while achieving the learning goals. (e.g. prevent motion sickness (La Valle, 2014; Google AR/VR 2018).
Information design	<ul style="list-style-type: none"> <li>o Control the Cognitive Load of students</li> </ul>	<p><i>Visual graphics</i> - Convey information in a clear, simple and concise way without confusing our learners (Mayer, 2014).</p> <p><i>Segmenting</i> - Avoid dual-channel overload by segmenting into well-structured bite-sized videos (Mayer and Moreno, 2003).</p> <p><i>Coherence</i> – Adding unnecessary pictures, audios, graphs or text can distract learners and interfere in the learning process (Mayer, 2014).</p>
Task design	<ul style="list-style-type: none"> <li>o Promote authentic experiences</li> </ul>	<p><i>Motivation</i> - Provide learners with experiences that trigger curiosity and interest them in the topic.</p> <p><i>Authentic tasks</i> (Concrete Experience) - Include real-life issues that might be new (or not) that encourage reflective observation (Kolb, 1984).</p> <p><i>Reflection</i> - Prompt information or questions that help learners to generate self-explanations (Kolb, 1984).</p>
Interaction Design	<ul style="list-style-type: none"> <li>o Foster interactivity with the use of hotspots</li> <li>o Promote engagement with visual and audio cues</li> <li>o Give users the control</li> </ul>	<p>Strategically placed hotspots give the necessary visual space without interrupting the ongoing video while hiding the information until the learner decides to interact with it. (Google AR/VR, 2018).</p> <p>Direct learners' attention by using techniques with audio-visual cues that keep learners engaged with the environment (LaValle, 2014; Google AR/VR, 2018).</p> <p>Allow learners explore the environment after the presented situation by using hotspots and control bar with command buttons like play, rewind, pause, stop and forward (Mayer, 2014).</p>

### **3. Intercultural Learning**

Kohonen et al. (2001), presents intercultural learning as a varied definition in different cultures, and instead introduces the concept by talking about the aims such as the integration of different cultures and improving their quality of life, in some countries it is concerned with the education of citizens towards internationalism or multiculturalism. The author adds that intercultural learning has an explicit meaning of mutual or reciprocal understanding, that deals with dissimilarity and foreignness. Taking these points into consideration, we can say that intercultural learning is a broad concept and that its shape will adapt depending of the perspective and background of the country in which it happens.

The importance of Intercultural learning or education being present in the foreign language classroom is something that has been brought to the table before, while it might sound obvious that learning a language should include cultural aspects, the classroom, time, curriculum, teachers, and learners are still lacking exposure to these aspects of the language. Among the main reasons why it is important, we can find that in intercultural encounters people have to tolerate foreign behavior (Kohonen, 2001), and misunderstandings, results of failed attempts to communicate not only with people from different nationalities but even among speakers of the same language and culture. However, we would not be able to become more competent if we were not exposed to these encounters, learning a language and becoming aware of our own and other peoples' cultures, make us grow and reshape perspectives towards others. Kohonen et al. (2001) briefly summarizes the concept as the process whereby the learner's picture of culture grows wider. The following figure captures the main idea of widening our picture of culture by contrasting the awareness of our own and the knowledge of a new one.



**Figure 6** Widening the learner's picture of culture (Kohonen, 2001)

In 2013, The British Council published a report with the results of research looking at the value that employers place on intercultural skills. The report highlights the need of these skills as competitiveness and effective solutions to global challenges is being targeted, the demand of interconnections and the opportunities that bring us to engage with other countries. Their main argument is that developing intercultural skills is vital and highly valued by leaders as it means we can develop long relationships not only among businesses but with customers and that it plays a key role when interacting with people at work as it fosters creativity, reduce conflict, improves communication and team working. As we have mentioned before, we would not be able to improve our competences if we were not exposed to challenges, the research results show that employers main challenges are that it is difficult to find good candidates with good communication skills, finding candidates with the formal qualifications and retention of employees. The most common terms employers use to define intercultural skills are in order of frequency they were mentioned:

- Understands cultural differences
- Adjusts communication
- Accepts cultural differences
- Adapts to different cultures
- Open to new ideas
- Aware of own culture
- Works in diverse teams
- Respectful
- Multilingual
- Listens and observes
- Continuous learner
- Flexible
- Build trust
- Tolerates ambiguity

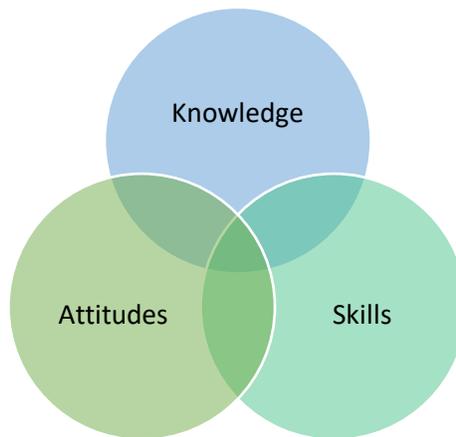
On the other hand, the current teachers in the second language classroom, regarding intercultural competence, are ethically required to develop themselves as personalities, educators and members of their work communities. In the context of foreign language education, this includes developing understanding of the kind of holistic experience that foreign language involves for learners of different ages and backgrounds. (Kohonen et al., 2001).

### **3.1 The Intercultural Competence Teacher**

Intercultural teaching competence is the ability of instructors to interact with students in a way that supports the learning of students who are linguistically and culturally different from the instructor or from each other and that is effective and appropriate in the context of teaching (Fantini, 2009).

When we talk about the foreign language teacher, we mean there is a broader meaning than focusing in the linguistic and communicative aspect of the language being taught. The language teacher contributes to the development of learners at a deeper level, in agreement with Kohonen (2001), language learning involves a broad range of complex thinking and learning skills and emphasizes the importance of such qualities as self-direction, self-control, self-reflection and a capacity for responsible social interaction. For these reasons, teachers should go beyond the traditional practices to develop his/her identity as a community developer.

Sercu, L. (2006), describes the new professional identity foreign language teachers are to acquire regarding intercultural competence in terms of a number of saviors (Byram, 1997). The author summarizes Byram's work in describing each component of the saviors savoir  $\hat{u}$ tre, savoir comprendre, savoir  $\hat{u}$ tre, savoir apprendre/faire, and savoir s'engager which are interpreted as follows:



**Figure 7** The Intercultural Competence Teacher Profile  
(Byram, M. 1997; Deardorff, D. K. 2009)

Byram's categorization of the saviors lists a number of qualities and abilities that the intercultural competence teacher should aim at understanding and acquiring before applying it into the foreign language classroom. These sets of characteristics cover a wide scope of one's own awareness of the culture one belongs to and the one who is targeting to contrast to be able to guide learners in the classroom when needed as well as the use of experiential approaches to language-and-culture teaching.

**Table 2** Foreign language and the intercultural competence teacher  
(Byram, M. 1997; Sercu, L. 2006)

Domain	The intercultural competence teacher should:
Knowledge	<ul style="list-style-type: none"> <li>• Be familiar with the foreign culture associated with the foreign language they teach.</li> <li>• Know their own culture well.</li> <li>• Possess culture-generated knowledge that can help them explain similarities and differences between cultures to learners.</li> <li>• Know what stereotypes pupils have and how to address these in the foreign language classroom.</li> <li>• How to select appropriate content, learning tasks and materials that can help learners become interculturally competent.</li> </ul>
Skills	<ul style="list-style-type: none"> <li>• Should be able to employ teaching techniques that promote the acquisition of intercultural skills.</li> <li>• Should be able to help pupils relate their own culture to foreign cultures, to compare cultures and to emphasize with foreign culture's point of view.</li> <li>• Be able to select appropriate teaching materials and to adjust these materials should they not allow achieving the aims of intercultural teaching.</li> <li>• In addition to being skillful, classroom teachers should also be able to use experiential approaches to language-and-culture teaching.</li> </ul>
Attitudes	<ul style="list-style-type: none"> <li>• Should be favorably disposed towards the integration of intercultural competence teaching in foreign language education and willing to actually work towards achieving that goal.</li> <li>• Should define objectives of foreign language education in terms of both language learning and intercultural competence acquisition.</li> </ul>

## **4. Instructional Principles for Intercultural Experiential Learning with the Use of 360 videos**

### **4.1 Instructional Principles for Intercultural Experiential Learning with the Use of 360 Videos**

The final instructional principles were developed as a result of the literature review to later be modified through reviews with the experts' validation. Step-by-step procedures were added as an example of how principles can be applied in an intercultural experiential session.

The final instructional principles consist of four experiential learning components that belong to the experiential learning cycle and thirteen principles. The Concrete Experience component is composed of six principles that comprehend preparation for and implementation of the 360-video experience. The Reflective Observation component includes one principle that focus on observation and reflection, after we have Abstract Conceptualization that includes argumentation and meaning making, to finally close with Active Experimentation which promotes collaboration, resolution of given issues and presentation of findings. Below, a detailed description of each principle is given, separated by each component in the experiential learning cycle.

**The Concrete Experience:** the first principle to consider is reducing language anxiety to help learners ease their worries when speaking in front of others. The major significance of research into foreign/second language anxiety is in the relationship between anxiety and performance in the foreign language and recent studies have focused on language skill-specific anxieties, such as speaking anxiety (Woodrow, 2006). In her study, Woodrow's results conclude that the major stressors reported by the participants were 'performing in front of class' and 'talking to native speakers'. For this reason, it is vital that student-centered lessons where speaking is the main ability to be used, considers strategies that

reduce stressors in learners before the main discussions and collaborative activities start. Whether these strategies are meditation or listening to a piece of music, icebreakers or a mini game, it is up to each teacher to build rapport among and with the learners to create the right environment learners need. Kohonen et al. (2001) says, that experiential learning challenges both language teachers and learners to work where the teacher is, among other roles, a creator of the learning atmosphere and the learning space.

The second principle focus on introducing learners into the topic or social issue by even connecting the previous principle and take advantage to transition to the start of the class in a seamless way. In this way, the teacher acts as a guide that elicit information in a simple way that does not require too complex analysis or thinking and that learners can connect with it by empathizing with the situation or topic given. Learners take the most active role and the teacher helps them

by using the suitable questions that lead to discussion or answers provided by learners. Faculty must be knowledgeable of alternative techniques and strategies for questioning and discussion (Hyman, 1980), and must create a supportive intellectual and emotional environment that encourages students to take risks (Lowman 1984, as cited in Bonwell, 1991). Questioning strategies can vary from open-ended questions to learners working together and commenting about short ideas, concepts or keywords they can think about at this stage.

The third and fourth principle are mainly related to the application of technology in the classroom, being 360 video the concrete experience and the supportive tool to start the first stage of the experiential cycle. The teacher needs to communicate the purpose of said experience and what he/she wants learners to do (e.g. observe, immerse and pay attention to detail to recall information and look around). Observation and attention to details is the main characteristic to live experiences and be able to work with the next stages of the experiential cycle.

It is extremely important that the teacher is familiar with the device and the

type of media that 360 is, LaValle (2017) has compiled extensive work on virtual reality that partially covers 360 video technical features to consider such as motion sickness, 360 sound, and how our brains respond to such environments. On the other hand, teacher should test the chosen device to use in the classroom (Google Cardboard or any other head-mounted display of preference) as they vary from each other and setting up might have different procedures. Being exposed to this tool in advance is highly advice to be able to identify possible problems learners will face and to understand what they experience the environment but above all, to make sure that the selected media is an experience worthy of being presented in an intercultural experiential classroom. Bonner, E. & Reinders (2018) talk about the affordances that VR offers, to mention some, portability, enabling interaction and collaborative learning for discussions within the realm of technology-enhanced language learning, connectivity and supportive to experiential learning (as cited in Bonner E. & Reinders, 2018).

Our fifth principle encompasses the learners being exposed to the concrete experience or 360-video experience in which learners should be given enough time to be able to enjoy the video, considering they might want to stop or rewind at times. On this principle, the teacher merely acts as a monitor and support in case technical support is required.

Lastly on this stage, our sixth principle according to the suggested application assignment for evaluating Experiential Learning by Kolb, A. Y., & Kolb, D. (2017), after having the concrete experience, learners should be guided in order to review or replay the experience in their minds and start identifying how they felt through said experience. As talking about emotions or even thinking about them in class is not something, we do all the time, learners might need a bit of help, the teacher's roles is that of a monitor and a coach that could trigger a couple of questions or use the most appropriate teaching principle according to the group's background and personality.

**Reflective Observation:** In order to have learners actively reflecting on what they experience, they need to develop observational skills, on this stage learner not only recall information but they reason and reflect on the observed events, learner might have different interpretation of the same object, person or behavior they witness, and in the same way they would have different process to reflect on it. The teacher will encourage learners to exchange their interpretations to listen attentively other people's perception on the same situation, these observations are assimilated into a "theory" from which new implications for action can be deduced. These implications or hypotheses then serve as guides in acting to create new experiences (Kolb, 2017).

**Abstract Conceptualization:** the first principle of this stage exercises the delivery of extra resources that learners can use to support some of their arguments, making different resources available for working out ideas is part of a list of guidelines that teacher can use to enhance creative thinking (as cited in Iakovos, T., 2011). While the argument of whether the teacher should allow learner to look for their own sources or not exists, giving them original sources or adapted materials is up to the learners' proficiency of the language they possess and the class characteristics such as time available.

The second principle we apply is making meaning out of hypotheses, according to Kolb (2015), by relating assigned readings and lectures to what learners have experienced, they are demonstrating their ability to understand conceptually abstract material through their experiences.

**Active Experimentation:** the fourth stage of the experiential learning cycle is characterized for planning an action resolution or learners trying out by themselves.

In agreement with Bonwell (1991), discussion in class is one of the most common strategies promoting active learning, this stage encourages students to collaborate and discuss with a common goal of bringing some creative ideas into the classroom or comparison between both cultures' key features of the social

issue they have been exposed to. Having this in consideration, the first principle belonging to the last stage of the cycle brings the social issue to a resolution point where learners exchange opinions and perceptions in which a process of agreement and disagreement will take place to reach consensus on a proposal for improvement or resolution.

The second principle is giving learners the space to present their findings to everyone after they have collaborated, the teacher should always encourage everyone to give feedback on what is being presented and continue discussion where they can practice constructive comments. If sessions' goal, such as intercultural experiential learning ones, is to promote long-term retention of information, to motivate students toward further learning, to apply information in new settings, or to develop students' thinking skills, then discussion is preferable to lecture (McKeachie et al., 1986).

However, social issues are often complex and do not really have a definite answer but different angles from where people can express their perceptions, we suggest learners are given different type of activities according to the topic and that the teacher's efforts are concentrated in moderating the discussions when necessary.

The fourth and last principle helps both the teacher and learners to keep track of their work and for learners to see their progress in expressing their ideas and recalling information of each sessions. The teacher can select a list of options and make an agreement with students on how they prefer tracking their work, from portfolios to digital entries, intrapersonal skills are developed through various opportunities to reflect on the work through journals, decisions about self-assessments, selections for portfolios, periodic debriefing, and challenging ideas from others (Jones et al., 1997). Table 3 on the next page, shows the final set of principles derived from the iterations with experts.

Table 3 Instructional principles for intercultural experiential lessons with 360 videos

Experiential Learning Component	Instructional Principles	Related Studies
<p><b>1. Concrete Experience</b> (Doing, Having an experience through 360 video)</p>	<p>1.1 Promote mindfulness to overcome or/and reduce language anxiety to enable an experience through mindful awareness and attention.</p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> Make learners listen to a short piece of music with extreme attention, reading something aloud, observing an interesting object, a riddle or puzzle, an ice breaker or warm-up activity.</li> <li>- <b>E.g. in class:</b> If the students were to experience a lesson about pet care in different countries, the activity can be related to this topic. Make learners listen to a background audio where dogs are in a park or people playing with dogs around and have them tell you where they think the dogs are and what they are doing. Another option can be playing “what’s in the bag?” and have photos of different dogs in different contexts such as playing, eating, destroying things, in a shelter or on the street. Ask learners to take one photo randomly and assign them names in Spanish. Would they like to have a dog like that one?</li> </ul>	<ul style="list-style-type: none"> <li>• Kolb (2017).</li> <li>• Mortimore (2017).</li> <li>• Kohonen et al. (2001).</li> <li>• Yeganeh, B. (2007).</li> <li>• Woodrow (2006).</li> </ul>

<p style="text-align: center;"><b>1. Concrete Experience</b> (Doing, Having an experience through 360 video)</p>	<p><b>1.2 Prepare learners for the 360–video experience by encouraging questioning and discussion by sharing their experiences about the learning topic.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> Elicit information based on the previous principle and relate the topic to warm up.</li> <li>- <b>E.g. in class:</b> Teacher acts as facilitator and mediator. Ask learners to discuss in pairs about the reasons why people like having pets at home and the pros and cons of owning one. Ask them to share their thoughts with the class. Give them a worksheet where they can take notes or make a mind map.</li> </ul> <p><b>Other possible questions:</b> Do you have a pet? Do people usually buy or adopt? Which one is better (buying or adopting) and why? What responsibilities are there behind owning a pet? Do pets have rights? Are there many pets abandoned in the country you are right now? If so, where are they? Are there many animal shelters? Are there programs to educate/inform people about animal care?</p>	<ul style="list-style-type: none"> <li>• Hyman (1980).</li> <li>• Bonwell (1991).</li> </ul>
	<p><b>1.3 Inform and explain students about the experience they are about to have with the 360 video and VR headset. Explain the purpose of said experience is to observe in detail, hear and explore the environment they are witnessing as if they travelled to the country they are learning about.</b></p>	<ul style="list-style-type: none"> <li>• Schwienhorst, (2012).</li> </ul>

	<ul style="list-style-type: none"> <li>- <b>In class:</b> 360-degree videos allow learners to control where and what they look at. Ask learners to observe not only people but the environment, interactions, hear people and other sounds in detail.</li> </ul>	
<p style="text-align: center;"><b>1. Concrete Experience</b> (Doing, Having an experience through 360 video)</p>	<p><b>1.4 Check any technical problem that learners can possibly be exposed to.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> Ask learners about right visualization of the video (blurriness), sound working properly, comfort of the headset, use of the headset, etc.</li> <li>- <b>in class:</b> Before giving them the headsets. Explain to learners that there are possibilities of discomfort to be experienced while watching the 360 video and that it is totally normal as their brain and sight are getting used to the environment. If they feel very sick, they can stop and let you know anytime, if this is the case, we need to check for blurriness correction, calibration of the headset, etc. If none of these seems to be the problem, the learner will have to take a rest for a couple of minutes before trying again. Be prepared with a different way to display the video in case learner(s) are not able to use the headset or are unable to stand the motion sickness.</li> </ul>	<ul style="list-style-type: none"> <li>• LaValle (2017).</li> </ul>

	<ul style="list-style-type: none"> <li>- <b>Other possible problems to consider in advance:</b> No access to a stable Wi-Fi connection, equipment malfunction, lack of earphones. We highly advise to test the video yourself before each session starts to identify it can run smoothly.</li> </ul>	
<p><b>1. Concrete Experience</b> (Doing, Having an experience through 360 video)</p>	<p><b>1.5 Familiarize learners with the learning topic (social issue) by exposing learners to the 360-video experience.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g. in class:</b> Allow learners to watch the video without interrupting the experience. Learners should be given the time to be immersed and observe the environment they are in. The teacher should be monitoring learners in case they experience motion sickness or have any technical issue.</li> </ul>	<ul style="list-style-type: none"> <li>• Bonner, E. &amp; Reinders, H. (2018).</li> </ul>
	<p><b>1.6 Guide learners to replay (review) the experience in their mind and to elicit what they felt through the experience.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> Hint learners with questions that help them think about what they felt, their perceptions and thoughts about the social issue they just saw.</li> <li>- <b>E.g. in class:</b> Prepare handouts or an assignment to help learners write down what they felt during the experience. Kolb suggests we first ask learners to replay the experience in their mind. After, they can</li> </ul>	<ul style="list-style-type: none"> <li>• Kolb, A. Y., &amp; Kolb, D. A. (2017).</li> </ul>

	<p>write a short report of what they saw, heard, felt, thought and saw others doing. In this part of the session, <u>they will focus on the feelings they sensed and felt during the experience</u>. Ask learners the right questions to elicit feelings such as: what did you feel when you saw the people? What was your perception of people and dogs/pets at the beginning? Did your feelings and perception towards people or the situation change after? Why? And How did you feel by the end of the experience?</p>	
<p><b>2. Reflective Observation</b> (Reflecting, reviewing on an experience)</p>	<p><b>2.1 Guide learners to briefly describe and reflect about what happened in the experience.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> What did they observe? how did others view the situation and what did it mean to them? What can they learn about themselves when they compare both cultures? How would a neutral observer have seen and heard? Try to figure out why people behaved the way they did, what can you learn about them and you looking back on the experience?</li> <li>- <b>E.g. in class:</b> Ask learners to first think about their own reaction to the experience and their opinion. Then ask them to discuss with other classmates about others' opinions. The teacher functions as monitor and coach that will encourage students' reflection through appropriate questions as shown above.</li> </ul>	<ul style="list-style-type: none"> <li>• Kolb 017).</li> </ul>

<p style="text-align: center;"><b>3. Abstract Conceptualization</b> (Concluding/Learning from experience)</p>	<p><b>3.1 Provide learners with extra sources to prepare and support their arguments.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> articles, authentic materials, statistics, songs, phrases, newspapers, short videos available online, etc. The teacher can adapt materials or use authentic ones if they are available.</li> <li>- <b>E.g. in class:</b> Teachers functions as a standard setter who sets the performance objectives. Explain learners they will now try to find out information that supports their opinions and those from others that help them understand why “x” society has specific social issues and how they are related to their culture. The main objective of this stage is learners have to make sense of what has happened by interpreting events and understanding the relationships between them. They should be able to scan a couple of articles and choose what suits best.</li> </ul>	<ul style="list-style-type: none"> <li>• Iakovos, T. (2011).</li> <li>• Zare, P &amp; Othman, Moomala (2013).</li> </ul>
	<p><b>3.2 Induce learners to form their own hypotheses and to make meaning out of them.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> What is the issue or problem examined? What variables can learners identify in the resources that help them understand the issue? etc. <u>In the case of pet care:</u> is</li> </ul>	

<p style="text-align: center;"><b>3. Abstract Conceptualization</b> (Concluding/Learning from experience)</p>	<p>this society generally educated about the animal rights and proper care of pets? Are there any laws that protect animals? Are rules actually enforced? If not, what is the reason? Are animal shelters efforts enough to improve the current conditions of the issue?</p> <p>- <b>E.g. in class:</b> Teacher functions as monitor, coach when necessary, and facilitator. Help them identify specific concepts or theories that relate to the experience, make learners define the concept as they would for someone who is not familiar with it. Intervene when you see learners are struggling to make sense of the situation by it breaking down and even comparing to their own culture or social issue.</p>	<ul style="list-style-type: none"> <li>• Zittoun T., &amp; Brinkmann S. (2012).</li> <li>• Kolb, A. Y., &amp; Kolb, D. A. (2017).</li> </ul>
<p style="text-align: center;"><b>4. Active Experimentation</b> (Planning an action resolution / trying out)</p>	<p>4.1 Focus on enhancing problem-solving, and critical thinking skills by making students collaborate with each other regarding possible (re)solutions or plans to improve the social issue they witnessed.</p> <p>- <b>E.g.</b> Assign learners with small team projects that can be completed within the class such as flyers, video recording, proposals.</p> <p>- <b>E.g. in class:</b> Take the role of a coach, work one-on-one with learners on contrasting ideas and giving feedback. Ask learners to imagine (or assign them a role) they will talk to the Mexican committee and to create a presentation in teams about causes and</p>	<ul style="list-style-type: none"> <li>• Jones, B. F. et al. (2009).</li> </ul>

	<p>consequences of pet abandonment, pet care laws in their countries and Mexico and <u>what they suggest it can be implemented to improve the current situation with abandoned pets in Mexico.</u> Allow learners to search information online if needed. Monitor while learners collaborate in teams and encourage reflection if they seem biased or judgmental. Remember learners are in a stage in which they are trying to go out of their comfort zone, so be sensitive to their opinions and always keep a neutral position.</p>	
<p><b>4. Active Experimentation</b> (Planning an action resolution / trying out)</p>	<p><b>4.2 Give teams the opportunity to present their findings and their project solutions in class.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> Explain learners they should allow teams to present in the given time and then Q&amp;A time for the audience will start.</li> </ul>	<ul style="list-style-type: none"> <li>• McKeachie et al. (1986).</li> </ul>
	<p><b>4.3 Encourage group discussion and giving constructive (non-judgmental) feedback.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g. in class:</b> After each group presents, Q&amp;A begins and the audience (other teams) will give feedback or opinions on what it was presented. If there are no questions or comments, give them some hints or a question to start the group talk or ideas exchange. Give feedback when necessary or if learners have conflict in their opinions. The objective of the discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Jones, B. F. et al. (2009).</li> </ul>

<p style="text-align: center;"><b>4. Active Experimentation</b> (Planning an action resolution / trying out)</p>	<p>Is not only making learners talk but to communicate effectively, understand and respect each other's ideas.</p>	
	<p><b>4.4 Ask learners to keep record of their findings and work for each session.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> this can be in a portfolio or a digital entry (a blog entry or videoblog if they prefer). It is up to the teacher to decide whether they prefer choosing the kind of log learners will use or give them the freedom to choose by themselves.</li> </ul>	<ul style="list-style-type: none"> <li>• Jones, B. F. et al. (2009).</li> </ul>

### III. RESEARCH METHODOLOGY

#### 1. Research Participants

In this study, a panel of five experts participated in the internal validation of the developed principles, and the teacher and learners participated in the field application and response evaluation. Based on the criteria for the selection of experts presented by Grant and Davis (1997), the questionnaire was intended for professionals with a master's or doctorate degree in educational technology or with experience in the field. Two educational technologists, three foreign language experts specialized in language teaching and applied linguistics participated in the first and second expert reviews. The profile of the experts who participated in the expert review and the stage of participation are shown in Table 4.

**Table 4** Demographic characteristics of the expert panel

Expert	Professional Profile				Review Stage	
	Job position	Career	Education	Major Field	1st	2nd
A	Spanish Language Instructor	4 years	Ph.D Candidate	Educational Technology	✓	✓
B	Interim Director of Language Studies	24 years	Ph.D	Educational Technology	✓	✓
C	Researcher & Professor	18 years	Ph.D	Applied Linguistics	✓	✓
D	Researcher	27 years	Ph.D	Applied Linguistics	✓	✓
E	English Language Teacher	19 years	Master's	Teaching English as a Foreign Language	✓	✓

Next, one Spanish language teacher with a master's degree in Spanish language

teaching as a second language and 12 graduate students at a university participated in the field of application and responded to the surveys and questionnaires about the intercultural experiential learning sessions and principles. The teacher who participated in the research has 12 years of teaching experience, she had never used any type of devices in her classes or digital materials but was interested and willing to challenge herself and update her ICT skills. Students who participated in the sessions had experienced using smart devices in class in tasks like submitting assignments and to aid their learning process about culture in the classroom. However, students did not have experience using 360 videos in their classes in general and most of them had never used 360 videos to see or experience environments of the languages they have been learning. Participants have been exposed to other kind of materials that have to do with culture in their language classes such as readings, 2D videos, articles, etc. but not really experienced discussing them or discussing social issues of the countries of the language they are learning. Profiles of instructors and learners who participated in the field application and surveys are shown in Table 5 below.

**Table 5** Demographic characteristics of the participants

Role	Academic Status	Gender	Participants
Teacher	Spanish Language Teacher	Female	1 person
Students	Graduate students	Female Male	11 people (2 people)* 1 person

\* ( ) shows the people who were interviewed.

## **2. Research Procedures**

### **2.1 General Research Procedures**

The purpose of this study is to develop instructional principles for intercultural experiential learning lessons implementing the use of 360 videos to improve intercultural competence in the foreign language classroom. It employs Design and Development Research – Model Research – Type II (Richey & Klein, 2007) which addresses the validity or effectiveness of an existing or newly constructed development model, process or technique (Richey & Klein, 2007). We look for identifying and describing the conditions that facilitate the successful design of experiential learning-based lessons that make use of 360 videos. This study will use model development and model validation combined, Richey & Klein (2007) define model development research as the development of new or enhanced models to guide the ID process and model validation research as the empirical process that demonstrates the effectiveness of a model's use in the workplace or provides support for the various components of the model itself (Richey, 2005). Because of the nature of our study, the purpose of this research is that of an exploratory one, for which we will take well-defined theories such as experiential learning with the support of intercultural competence skills to promote them in the foreign language classroom. Accordingly, after an initial model of instructional principles are constructed on the basis of the literature review, this study revises the model through the feedback derived from mixed methods such as, validation of CVI and IRA for questionnaires, -post Likert-scale questionnaires, video recorded sessions and in-depth interviews. Additionally, although our focus is getting to develop a set of principles based on collected data through interviews and observation, we will complement the experiential learning cycle with activities where they implement or suggest a solution to the given issue they encounter.

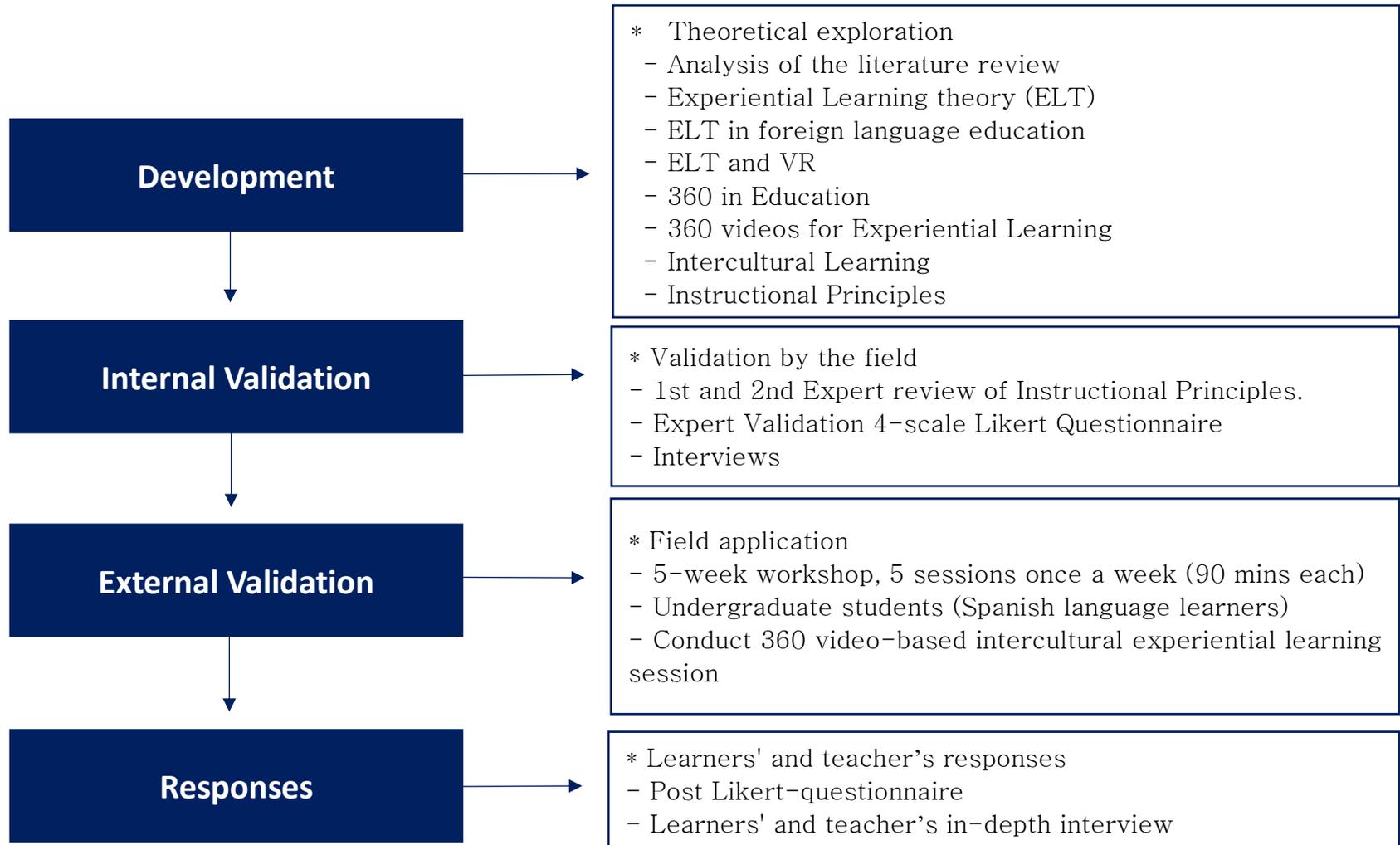
The literature review provided us with the existing research-based evidence about VRLEs and Experiential Learning by several studies around the world. However, this area is still been studied in different contexts and although previous studies have been done with the use of video and virtual worlds, there is still a gap in the learning outcomes in the long-term and the cost of their production and application in classrooms. We greatly benefited from the existent research to delimit our instructional principles and in the same manner we took the experiential learning theory as the reference to address the type of experiences learners will go through in order to activate observation, reflection and the possible resolutions they can suggest or come up with, result of the experiential learning cycle.

This study is conducted by another person than the researcher with respect to its validity. Experts in the field of Educational Technology, Linguistics, and Language Teaching revised and made observations in each iteration to improve them and be able to apply them in the classroom. During the study, we aimed to apply the instructional principles in a group of a 5-week Spanish Language module at the higher education level, consisting of one session a week, 90 minutes duration, one orientation session and four 360-video based intercultural experiential sessions. A total of 12 students enrolled to our first sessions, but eventually only 10 remained for the rest of the sessions. Our instructional principles were continuously revised after each session with the Spanish teacher with the purpose of optimizing them as we conducted the sessions. The steps followed, and the corresponding methods of this study are summarized as follows on the following table.

**Table 6** Research steps and methods used in the study

Components	Steps	Method	Output
Instructional Principles Development	Literature Review	Literature Review	Instructional Principles
	Expert Review	Internal Validity questionnaires & Interviews	Revised Instructional Principles
Instructional Principles Validation	External Validation	Post questionnaire, recorded sessions, and in-depth interview.	Final Revised Instructional Principles

# Research Procedures



## 2.2 Instructional Procedures for Field Application

Previous meetings to the intercultural experiential sessions were held with the teacher to discuss about the principles and details of the class and materials to be used as well as a short training on how to use Google cardboard and the 360 videos in smartphones. While discussing each principle, the teacher brought suggestions or ideas about how she thought learners would react and her expectations as she did not have experience teaching Korean learners, she had a lot of questions regarding cultural background of learners that consulted with the researcher and other professionals in the field in Korea to be able to grasp the most common challenges we could face in general and have possible actions prepared. In each meeting before each session, we discussed the general usefulness and features of the class, the teacher expressed her perceptions and discussed possible variations she wanted to try in the order of the sequence, activities or the dossier and PPT slides. The following table contains the general outline of one of our sessions, lesson plans can be found in Appendix 10.

**Table 7** Intercultural experiential lessons outline

Session Stage	Activity	Activity content	Teaching materials
Stage 1 Concrete Experience	Learning Content	* Learning about the increasing rates of obesity and diabetes in Mexico.	
	Introducing of Topic	* Appreciation and activation of why obesity is present in Mexican society by checking timeline of before and now.  * Looking at newspapers' headlines.	* Printed Photos/ Infographics/Realia * PPT * Unknown Vocabulary
	Practicing	* Guide and	* Google

	using Google cardboard and 350 videos	preparations to use headsets and 360 video app. * Watch 360 video experience.  * Assist in possible technical issues	cardboard per learner * mobiles * spare equipment (earphones, phone, charger)
	Reviewing the experience	* Learners write about how they felt.  * Discussion with peers	* Mind map * Identifying feelings about what they saw * Pair/group discussion
<b>Stage 2</b> Reflective Observation	Reflecting about the experience.	* Learners write what they remember they observed	* Recalling information Worksheet * Individual Reflection * Pair/Group discussion
<b>Stage 3</b> Abstract Conceptualization	Supporting argument with sources.	* Learners read extra resources to find supporting evidence to their arguments	* Extra resources
	Meaning Making	* Learners try to analyze and reshape the concepts learned	* PPT * pair / group discussion
<b>Stage 4</b> Active Experimentation	Resolution of social issue – Contrasting different cultural contexts	* Learners discuss their arguments and negotiate their ideas to reach consensus on a possible resolution or presentation contrasting both countries.	* handouts * markers/post-it presentation * group collaboration
	Presenting Findings	* Learners present their work. * Learners ask and	* handouts * team presentation

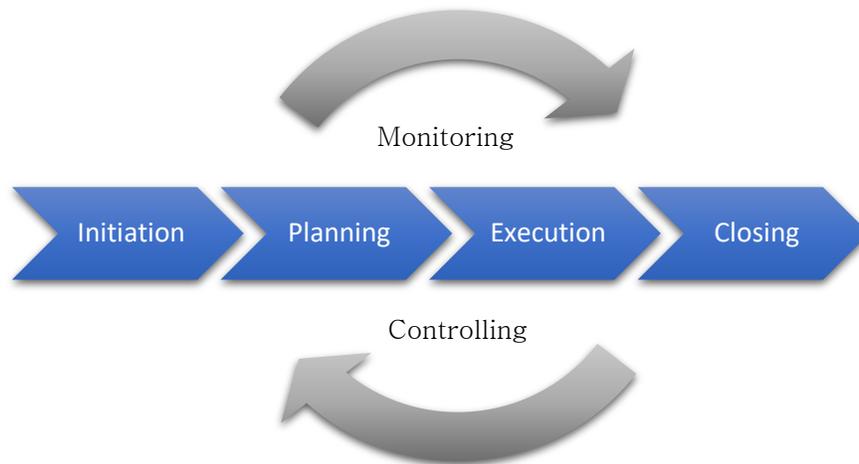
		give their opinion.	* feedback
	Keeping record of their work	* Learners save their progress.	* portfolio / blog /videoblog/ journal, etc.

In this study we conducted five sessions with the 12 participants that joined the study. Before the actual sessions started, we had a first orientation session explaining all the procedures. After orientation, four sessions have been carried out for five weeks including the orientation. Each sessions consisted of 90 minutes in which the learner was given the Google cardboard headset where the 360 video will be experienced, the videos were between 5-8 minutes long. Learners were aided about technical aspects before playing the video, such as the adequate placement of the headset, right posture, and focused vision according to their head and calibration of the video to avoid possible discomfort.

During the experience we expected students to report (as previously instructed) any problem or discomfort that might interfere with the experience, learners were not interrupted as they were using headphones and they were allowed to explore the environment at their own pace. Once the video was finished and the learner has taken off the headset, following the stages of experiential learning, the learners were given tasks that included questions regarding to 1) emotions and feelings, 2) descriptive narration of what happened, 3) mind map to gather main ideas of the social issue in both countries and 4) a task where learners can collaborate and propose a resolution or comparison of their findings. After, we asked learners to keep track of their work from each session in mode of portfolio, which was selected by the teacher as a way of collecting their progress.

## 2.3 Step-by-step Procedures in Intercultural Experiential Lesson

The framework applies the five process groups (Figure 7) defined by Project Management Institute (2017) in conducting the experiential learning projects. Described as a logical grouping of project management processes to achieve specific project objectives.



**Figure 8** Project management process groups

The Intercultural Experiential Learning-based lesson follows four stages from concrete experience to active experimentation while the educator functions as a monitor and facilitator during the session. Kolb (2014) explains educators play these roles as they help learners maximize learning by moving through the four stages of the cycle.

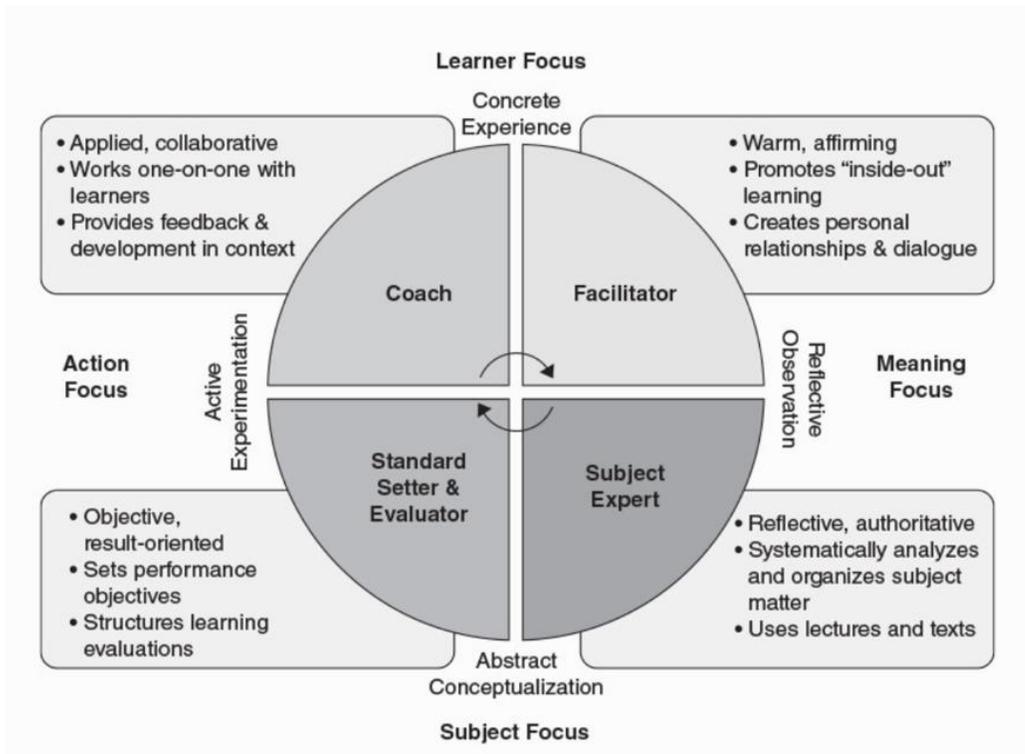


Figure 9 The Educator Role Profile (ERP) (Kolb, 2014)

**Table 8** Instructional framework and procedures for experiential learning

Process group	Description (PMBOK, 2017)	Procedures
<b>Initiating</b>	Those processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.	<ul style="list-style-type: none"> <li>○ Confirm the intended audience</li> <li>○ Identify and determine the main learning goals of your learners</li> <li>○ Identify the required resources (materials, video, readings, articles, etc.)</li> </ul>
<b>Planning</b>	Those processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.	<ul style="list-style-type: none"> <li>○ Verify the desired objectives</li> <li>○ Choose or develop supporting media (360 video) and authentic/adapted reading articles</li> <li>○ Test said supporting materials before executing the plan</li> <li>○ Plan experiential assessment/evaluation strategies</li> <li>○ Identify possible problems and solutions</li> </ul>
<b>Executing</b>	Those processes performed to complete the work defined in the project management plan to satisfy the project requirements.	<ul style="list-style-type: none"> <li>○ Preparing the learning environment</li> <li>○ Implement Plan</li> </ul>

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<b>Monitoring and Controlling</b>	Those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.	<ul style="list-style-type: none"> <li>○ Track learners' responses</li> <li>○ Facilitate proper support and guidance when needed</li> <li>○ Execute the Educator Roles according to Experiential Learning stages (facilitator, subject expert, evaluator and coach)</li> </ul>
<b>Closing</b>	Those processes performed to formally complete or close the project, phase, or contract.”	<ul style="list-style-type: none"> <li>○ Determine evaluation criteria</li> <li>○ Conduct Evaluation/assessment</li> </ul>

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### 3. VR/360 Video Experience in the Intercultural Lessons.

#### 3.1 VR/360 Video Experience Design

For this study, five 360-degree videos were designed, recorded, rendered and worked in post-production. Recordings were made with GoPro Fusion 360 monoscopic camera and a 360 VR microphone, and for post-production various editing software were utilized. The concept of the videos is visiting representative places of Mexico where people or experts in the social issues presented, were interviewed. The style of the videos has a journalist influenced concept, where learners can see their surroundings and witness visual related aspects of the topics or social issues presented in each session. Videos were hosted in VeeR app that supports up to 8K videos, the videos we recorded were uploaded in 4K.

The videos and social problems used for each session are enlisted as follows:

**360 Video 1:** Demo video for pre-practice session.



Figure 10 Ordering at a Mexican restaurant

360 Video 2: Animal abandonment.



Figure 11 Abandoned pets and adoption groups in Mexico City

360 Video 3: Obesity and Diabetes.



Figure 12 Street food stalls outside the subway

360 Video 4: Artisans and artists in Mexico.

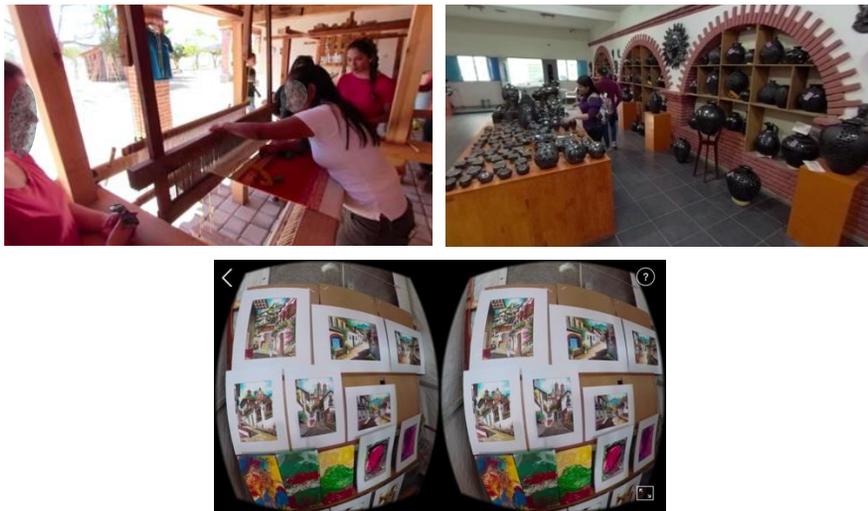


Figure 13 Weaving workshop, black clay pottery and painter's work in Oaxaca

### 360 Video 5: Sexual Diversity.



**Figure 14** LGBT community in their annual march in Mexico City

## **3.2 360 Video-based Intercultural Experiential Lessons in the Field Application**

### **Session 1: Orientation and Pre-Practice of 360 video**

In the first session learners, the teacher and researcher met each other and talked about the purpose of the lessons, what topics we would be talking about in each one and expectations of both parts. Additionally, the main activities of this sessions revolved around the use of the 360 video and Google Cardboard headset, as well as the installation of the required application on different smartphones, and their consent to participate in our study.

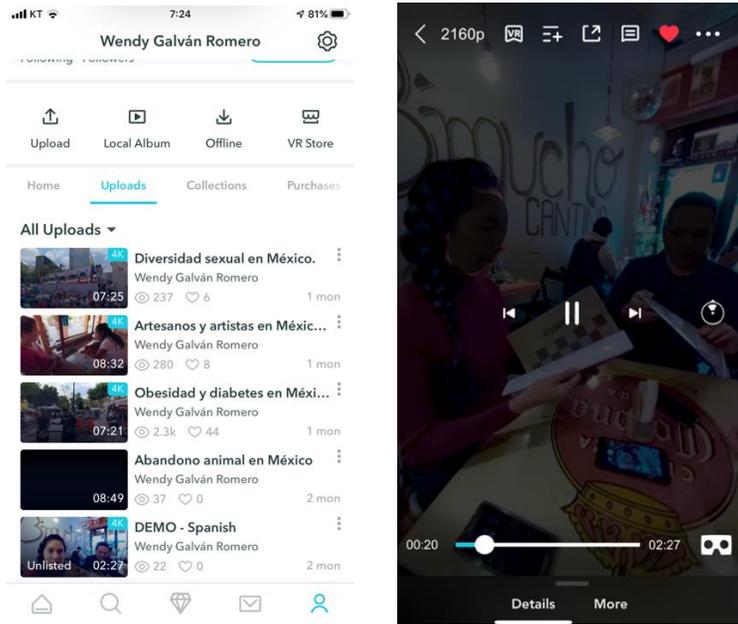


Figure 15 VeeR Application Interface

Learners were guided and assisted on using the main features of the app such as calibration, controls, Google cardboard mode icon, resolution, and how to set up their headsets with their corresponding devices.

Although the teacher and researcher were aiding learners one-on-one, instructions were always displayed on the projector screen at all times during the sessions to help learners who struggled setting up their devices.



Figure 16 Visual support to set up devices and Google cardboard

A demo 360 video experience was prepared for this session and learners were asked to spend time trying the buttons out and calibrating their headsets to minimize the risk of discomfort. To ensure everyone's hygiene, learners were given away an individual headset each, and personal wipes to clean their equipment before each use in each session.



**Figure 17** Google cardboard and 360 video experience pre-practice

### **Session 2: Animal Abandonment in Mexico**

In the second session, learners talked about the animal care and pet ownership they know about or that have been exposed to. Learners were shown photos of dogs in different conditions to contrast the situation in which some pets live.

Learners watched the 360-video experienced and were assisted when needed with guidance on how to set up their devices or providing with extra equipment such as earphones, power banks, or another device when necessary.



Figure 18 Teacher as guide and monitor through group activities

Learners were given a dossier in each session where they could work their main ideas, vocabulary was given prior to watching the 360 videos to make sure everyone had possible unknown words. The following photos display examples of learners' work during the session, after watching the 360 videos learners were asked to identify how they felt at the beginning, during and by the end of the experience.

**Paso 2 – Actividad previa al visionado del video**

**Vocabulario**

1. las mascotas	1. the pets
2. los dueños = los amos del perro	2. the owner
3. abandonar; abandonar a un perro	3. abandonment; abandon a dog
4. perros callejeros	4. stray dogs
5. la asociación civil	5. nonprofit organization
6. el rescate del perro	6. dog rescue
7. el proceso de adopción	7. the adoption process
8. el entrenador canino	8. dog trainer
9. frenar algo = detener algo	9. to stop something
10. esterilizar	10. sterilize
11. los animales maltratados	11. battered/mistreated animals
12. recuperarse de algo	12. recover/heal
13. el presupuesto	13. the budget
14. la alcaldía (o la delegación)	14. the city hall
15. lastrar	15. to profit from something
16. los reglamentos	16. regulations
17. la cuota de recuperación	17. fee (a symbolic fee if nonprofit activities)
18. los lineamientos	18. guidelines
19. fomentar	19. promote
20. el cuidado animal	20. animal care

**Paso 4 – Actividad después del visionado del video**

**¿Cómo me sentí durante la experiencia?**

Al principio	Durante	Al final
<p>Me parece que lo que voy a ver el video será muy interesante. Pero tengo un poco de miedo de tener escucha bien.</p>	<p>Me interesa mucho. Tenía una imaginación de estar en el parque. (ambigüedad) actualizante Me gusta mucho. Pero es difícil para escuchar bien y me lo da un ligero mundo</p>	<p>Si puedo tener la experiencia de usar este equipo más voy a entender mejor. Necesito conocer las maneras de usar el video.</p>

Figure 19 Example of activity in session 1

As it was our first session, we decided giving them some alternative options such as tables where they could identify their feelings better, were provided. Later, they were asked they wrote what they could remember the most about the 360-video experience and were asked to share their ideas.

Sentí...

	1 (poco)	2	3	4	5 (mucho)
alegría	0				
esperanza				0	
ganas cambiar algo				0	
tristeza				0	
dolor			0		
indiferencia		0			
impotencia	0				
coraje	0				

**Paso 5 – Espacio libre para ordenar tus ideas**

Hemos estado en la plaza de España.  
Es un parque muy famoso en la Ciudad de México.  
La gente viene a este parque a pasear los perros.  
Los perros pueden correr, pasear o jugar con los otros.  
Había una campana para ayudar a los perros mal tratados o abandonados (perros callejeros).  
Ha mencionado un caso de Habana acerca de la adopción de perros.  
Me recuerda el caso de Corea del mismo problema.  
Por otro lado, la experiencia del 360 cámara me hace sentir como si estuviera allí.  
He podido comparar los parques de Corea con el parque mexicano.

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Sentí...

	1 (poco)	2	3	4	5 (mucho)
alegría				✓	
esperanza					✓
ganas cambiar algo				✓	
tristeza			✓		
dolor		✓			
indiferencia		✓			
impotencia				✓	
coraje			✓		

No entiendo exactamente pero puedo suponer que es el tema de video porque en mi país también eso es un problema.

**Paso 5 – Espacio libre para ordenar tus ideas**

Aunque no tengo algún animal, hay que pensar este problema. Cuando estuve en España, he escuchado sobre este problema porque ellos pasan las vacaciones casi un mes en verano pero, hay muchos abandonos de sus animales. Creo que cada país tiene mismo problema. Pero, el tema será bien para pensar.

¿Que recuerda?

- las personas y un perro negro de entrevistador
- unas personas que les interesan sobre esta campaña.

- sobre la experiencia.

↳ el video es un poco defectuoso para mí.

↳ me da dolor de cabeza un poquito.

Figure 20 Comparison between two learners' work

## Session 3: Obesity and Diabetes in Mexico.

In this lesson, learners were provided with infographics instead of articles. We decided to try different types of materials to see what learners felt more comfortable with, in the dossier we gave them mind maps and tables to identify information and comprehension questions. Activities of the handout were more controlled as we realized that it was an easier way to express themselves by identifying and recalling information first and then sharing with their classmates.

**Actividad 5.** Después de ver el video me sentí:

El video me dejó:	1	2	3	4	5 (muy)
preocupado por los problemas de salud relacionados con los excesos de comida y bebidas azucaradas y con las tecnologías.					
preocupado al saber que hay tanta obesidad en México por todos lados (obesidad).					

El video me dejó:

El video me dejó:	Entero de energía.	Entero de amor.
Si me sentí así:		
No me sentí así:		

3. Haz una autorreflexión sobre lo que recuerdas del video y sobre tu reacción a la problemática.

**Actividad 6.** Compara tus respuestas de la actividades 4 y 5 con tus compañeros de equipo. ¿Cómo son sus respuestas, similares o muy diferentes? ¿A qué se deben las diferencias de tus respuestas y las de tus compañeros?

4. Hablamos sobre las principales causas de la obesidad en México

**Actividad 7.** Contesta las siguientes preguntas.

Según el estudio de Viable Mente:	Verdadero	Falso
1. Actualmente se implementan medidas para combatir la obesidad en todos los estados de México.		
2. La obesidad infantil es representativa en la edad adulta.		
3. El consumo de los alimentos industrializados es fácil de leer para la población mexicana.		
4. La diabetes es la primera causa de mortalidad en México.		
5. No existe una relación entre la obesidad y la diabetes.		

**Actividad 8.** Según la información del video y lo que sabes sobre el tema, ¿cuáles son las principales causas de la obesidad en México?

Como has trabajado mucho, te mereces una pausa.

Figure 21 Sample of activities with tables and mind map

**6. Analiza el contenido de la información.**

**Actividad 9.** Analiza los siguientes datos de información y confirma las causas de la obesidad basadas en la actividad anterior.

**Panorama del sobrepeso y la obesidad en México**

Desde 1980, la obesidad se ha convertido en una epidemia mundial.

Según el estudio de Viable Mente, el 34% de los mexicanos son obesos y el 71% de ellos son obesos en grado severo.

El 14% de los mexicanos con diabetes, 2 de cada 5, son obesos.

El 25% de los mexicanos con diabetes, 1 de cada 4, son obesos.

**DIABETES EN MÉXICO**

8vo

34% 71%

14 2 de cada 5

25% 1 de cada 4

**Consumo de bebidas azucaradas en México**

México es el tercer consumidor de bebidas azucaradas en el mundo.

El consumo de bebidas azucaradas en México es de 14 litros por persona y día.

El 7 de cada 10 niños en México consume bebidas azucaradas.

**The history of obesity**

El sobrepeso y la obesidad son problemas de salud que afectan a millones de personas en todo el mundo.

El sobrepeso y la obesidad son problemas de salud que afectan a millones de personas en todo el mundo.

**Actividad 10.** Después de analizar el gráfico sobre la obesidad en México del Sur y de la UNICEF, comenta a tu equipo de trabajo: ¿Cuáles son las causas de la obesidad y cómo puedes evitarla? ¿Qué medidas se deben tomar para evitarla?

Si no recuerdas puedes utilizar un diccionario de español.

**10. Respuestas:**

Las causas de la obesidad son: falta de actividad física, comida chatarra, bebidas azucaradas, sedentarismo, y falta de ejercicio.

Para evitarla se deben tomar medidas como: hacer ejercicio regularmente, comer alimentos saludables, reducir el consumo de bebidas azucaradas, y evitar el sedentarismo.

Figure 22 Sample of infographics about diabetes

#### Session 4: Artisans and artists in Mexico.

In session 4, the most representative features were that the number of activities was synthesized, and learners were more focused on interacting with each other. At the beginning of the session learners were given diverse types of handicrafts we brought from Mexico (realia), this activity was one of the preferred ones as they could touch and see the result of artisans work in their own country. The teacher elicited opinions about the labor artisans perform and if they thought it is valued in Mexico. Learners were given newspaper articles one week after about the topic this time, so they had an idea about what we were going to be talking about. Learners responded satisfactorily to these changes and it made a good progression of the class, having enough time to discuss, collaborate and present their findings.



**Figure 23** Learners exploring realia

Regarding the dossier, from previous sessions, we had identified that working with tables, mind maps and some open questions worked best with these learners. Learners were asked to write main ideas and share in groups, discuss about the situation

artisans face in Mexico and then in Korea. A sample of a learner's complete dossier is shown in figure 24, in this session we had concluded that this format and seven activities were right for our sessions.



mejor  
mejor  
etc etc

Los artesanos mexicanos

1. Compartimos lo que sabemos del tema

Actividad 1. Vamos a entrar en el tema

Observa y toca las siguientes artesanías mexicanas y contesta a las siguientes preguntas:  
 ♦ ¿Sabes cómo se llaman?  
 ♦ ¿Sabes para qué sirven?  
 ♦ ¿Compras alguna?  
 ♦ ¿Hay alguna artesanía similar en tu país?

Actividad 2. Vamos a trabajar el vocabulario específico de la temática en contexto

Según los textos que leíste ¿qué ejemplos de artesanías recuerdas asociadas a los siguientes usos?

- uso como instrumentaria tradicional
- uso en los hogares
- uso como instrumento de trabajo
- uso en sus ritos o tradiciones
- usos culturales

Ahora comparte con tus compañeros las palabras nuevas que aprendiste con la lectura de los textos:

El color de las plantas	¿Por qué festejamos a los artesanos en México?	Una pieza que vale doce horas
esfuerzo la naturaleza El agua todos Es hogar herencia	Instrumentaria tradicional	el regateo multitudinarios

Actividad 3. ¿Qué información nueva recuerdas de los textos? Comenta por qué lo recuerdas.

El color de las plantas	¿Por qué festejamos a los artesanos en México?	Una pieza que vale doce horas
fintar los fuertes naturales Pisones	hay una compra de los artesanos	el regateo precio de las cosas artesanos apretar

Según la información leída en los textos:

	V	F
1. Se puede afirmar que los artesanos mexicanos no tienen ningún problema al vender sus productos.		<input type="radio"/>
2. Las artesanías mexicanas no solo se usan en la vida diaria, sino que además tienen valores estéticos.	<input type="radio"/>	
3. En México se valora el trabajo de los artesanos, por lo que normalmente se paga el precio justo por las artesanías.		<input type="radio"/>
4. Cuando compras algo los compradores piden un descuento que mínimo, así que los artesanos ganan muy bien.		<input type="radio"/>
5. El sector de las artesanías es un sector relativamente nuevo y de poca importancia para la economía mexicana.	<input type="radio"/>	
6. Los artesanos mexicanos frecuentemente forman parte de una comunidad indígena y viven de la venta de sus productos.	<input type="radio"/>	
7. Los resultados tras la realización del experimento social realizado por el colectivo fueron sorprendentes: el regateo disminuyó del 70% al 10%.	<input type="radio"/>	

2

2. Visionamos el vídeo

Actividad 4. Actividad después de visionar el vídeo

Completa la siguiente rúbrica. Después de visionar el vídeo recuerda especialmente:

	0 (nada)	1	2	3	5 (mucho)
Los contenidos de la entrevista			<input type="radio"/>		
Los colores de las artesanías				<input type="radio"/>	
A los artesanos				<input type="radio"/>	
El paisaje de fondo (árboles y pueblo típico)		<input type="radio"/>			
El taller familiar de barro negro				<input type="radio"/>	
Los artesanos trabajando				<input type="radio"/>	
Las artesanías que elaboran		<input type="radio"/>			
La gente comprando artesanías		<input type="radio"/>			
A los artesanos entrevistados				<input type="radio"/>	

Antes de visionar el vídeo no sabía que los artesanos mexicanos: sí

Después de visionar el vídeo, a mí lo que me sorprende es:

el artesano no quiere hacer el regateo.  
 el taller de barro negro está lejos del mercado.  
 por eso, ellos tienen dificultad para vender los productos.  
 Aunque la gente que quiere comprar las cosas piensa que los productos de los artesanos son baratos, pero no gana de pagar suficiente.  
 Se tarda mucho tiempo para hacer la pieza.

Actividad 5. Después de visionar el vídeo me sentí:

Me sentí:	0 (un poco)	1	2	3	4	5 (mucho)
triste por los artesanos mexicanos				<input type="radio"/>		
preocupado por los artesanos				<input type="radio"/>		
decepcionado(a) de los mexicanos			<input type="radio"/>			
moleno(a) enojado(a) con los mexicanos	<input type="radio"/>					
sorprendido(a) al saber que hay tantas artesanías en México				<input type="radio"/>		
aburrido(a) por el tema	<input type="radio"/>					

3. Haz una autorreflexión sobre lo que recuerdas del vídeo y sobre tu reacción a la situación de los artesanos mexicanos.

Actividad 6. Compara tus respuestas de las actividades 4 y 5 con tus compañeros de equipo. ¿Cómo son sus respuestas, similares o muy diferentes?

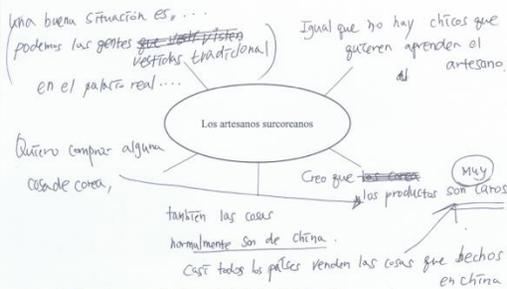
4. A partir de lo que sabes ahora del tema, resumen en grupo lo que han aprendido sobre los artesanos mexicanos.

Actividad 7. Completa los puntos principales de tu resumen en el siguiente diagrama.



5. Comparación de la situación de los artesanos mexicanos con la de los artesanos surcoreanos.

Actividad 8. A partir de lo que han aprendido sobre los artesanos mexicanos y lo que saben de los artesanos de su país, hagan una comparación de la situación de ambos. Completen el siguiente diagrama y comentenlo.



6. Presenta con tu equipo los resultados de la actividad anterior

7. Recapitulamos

Figure 25 Sample of a learner's full dossier

## Session 5: Sexual Diversity in Mexico.

Our last session was characterized for having a well-structured dossier for learners and which they already were used to, this enhanced the pace of the session as they were familiarized with the sequence as well. On the other hand, we delivered readings and the 360-video experience previous to the session, at their homes. Learners were asked to take their headsets with them and were sent the links for the readings by email. In the first activities, learners were asked to recall information from the experience and the readings to be able to discuss about the topic. Learners showed a faster pace and we concluded having the most participative session of all, learners showed true interest to talk about the topic naturally without the teacher having to guide them as much as in previous sessions.

**Las preferencias sexuales**

1. Compartimos lo que sabemos del tema

Actividad 1. Vamos a entrar en el tema

Responde si las siguientes frases son verdaderas o falsas según los textos leídos:

	V	F
1. En los últimos años ha habido avances en cuanto a los derechos de la comunidad LGBT.	✓	
2. Los grupos con preferencias sexuales diferentes a los heterosexuales no están organizados.		✓
3. El artículo 16 de la Constitución de la CDMX tiene un peso cultural y social.	✓	
4. El fallo de la Suprema Corte de Justicia de la Nación ha sido acogido favorablemente por todos los sectores de la población, incluidos la iglesia y todos los partidos políticos.		✓
5. Con el fallo de la Suprema Corte de Justicia de la Nación se equipararon plenamente los matrimonios homosexuales a los matrimonios heterosexuales.	✓	

Actividad 2. Revisión del vocabulario específico de la temática en contexto

Comparte con tus compañeros las palabras nuevas que aprendiste después de la lectura de los textos:

Matrimonio igualitario (Venezuela)	Matrimonio homosexual (El País)	El matrimonio homosexual es ya legal en 30 países (rve)
Biología LGBT CDMX	¿Hay igualdad? PRD, Morena, partido, igualdad, aceptación	de separación

Actividad 3. ¿Qué información nueva recuerdas de los textos? Comenta por qué lo recuerdas.

Matrimonio igualitario (Verne)	Matrimonio homosexual (El País)	El matrimonio homosexual es ya legal en 30 países (rve)
Está prohibido los amigos de los países como sexuales	Hay algunas cosas que están con la resolución de la Suprema Corte de Justicia.	Switzerland es el único país que permite parejas homosexuales en todo África

2. Actividades relacionadas con el visionado del video

Actividad 4. Completa la siguiente rúbrica. Después de haber visionado el video recuerdo especialmente:

	0 (nada)	1	2	3	4	5 (mucho)
Los contenidos de la entrevista				0		
A la persona entrevistada (su apariencia)					0	
Las respuestas de la persona entrevistada						0
La avenida grande típica de la CDMX						0
Los edificios modernos de la CDMX						0
El emblemático Ángel de la Independencia (estatua)						0
A las personas bailando en el desfile						0
Los colores de la bandera LGBT en la marcha						0

Antes de visionar el video no sabía que los homosexuales en México...

Después de haber visionado el video, a mí lo que me sorprendió fue...

Figure 26 Sample of recalling information from readings and 360 video

## **4. Data Collection and Analysis**

### **4.1 Literature Review**

We firstly identified the key terms, searched for related papers, selected appropriate papers considering the reliability of sources and relevance to the research problem. The literature review was conducted by analyzing the major authors of the field to later follow what other researchers have published in recent years following the same theories, a process of synthesis and extraction of main supporting arguments was done as well. In this study the key terms used are 'Experiential Learning', 'Intercultural Learning', 'Foreign Language Education', '360/VR video', and 'Teaching Social Issues'.

Searching platforms such as Web of Science (<https://login.webofknowledge.com/>), Google Scholar (<http://scholar.google.com>) and diverse journals specialized in publishing Educational Technology, Psychology, and Language Teaching related papers. The set of principles in this study derived mainly from the literatures of Experiential Learning and Intercultural Learning with supportive examples of language teaching.

## **4.2 Expert Review**

A questionnaire for the panel of experts was developed in order to examine the validity of the instructional principles. The questionnaire consists of two parts, 1) Overall Instructional Principles Validity and 2) Individual Validity for each principle. The questionnaire included a brief summary of the research explaining the main purpose, research questions, methods and the developed set of principles.

The questionnaire for validity review was 4-likert scale type, being Strongly Disagree = 1 and Strongly Agree = 4, we also collected additional opinions and suggestions of the panel on overall and individual principles to support the intercultural experiential lessons with the use of 360 videos in the foreign language classroom.

As some experts from the panel were located in different countries, they were contacted via e-mail to arrange the most suitable option to conduct the validation depending on time difference and their own schedules. Three of them were met in person on a one-to-one interview for the second validation while two of them preferred answering the questionnaire online and sending their feedback by email and in the open question in both rounds. In the first-round feedback was gathered from the panel and contrasted, the results showed that overall they agreed the principles needed further explanation and examples on each principle to improve the clearness and easiness of the application if they were the teacher who would use them. The second expert review was conducted similarly with the improvements based on the first-round feedback.

**Table 9** Expert Review for the Overall validity of Instructional Principles for Intercultural Experiential Learning with the use of 360 videos in the classroom

Domain	Question
Understanding	Overall, the instructional principles are clear and easy to follow.
Explanation	The instructional principles provide you with helpful examples or extra information for better understanding where necessary.
Usefulness	The instructional principles are helpful to develop intercultural competence through the technologically assisted experiential learning cycle.
Feasibility	The instructional principles are practical and possible to be carried out successfully without much difficulty.
Appropriateness	Overall, the instructional principles are appropriate to develop intercultural competence through the experiential learning cycle (1. Concrete Experience, 2. Reflective Observation of the New Experience, 3. Abstract Conceptualization, 4. Active Experimentation)

To measure the validity of our expert reviews, we obtained the mean and standard deviation, the Content Validity (CVI) and Inter-rater agreement (IRA). The CVI and IRA are indexes that indicate the internal validity of the items and to determine the extent to which the experts are reliable in their ratings (Rubio et al., 2003). CVI is calculated by dividing the number of experts who scored 3 or 4 points by the total number of experts who answered positively among all questions. IRA is calculated. The IRA is measured by considering how many experts answered positively among all questions, showing how much homogeneity, or consensus there is in the ratings given by

experts. As we are looking to obtain both values, CVI and IRA with at least .80, when the experts review was lower than the desires scale, we would make modifications based on the feedback given in the interviews.

### **4.3 The survey Questionnaire**

The purpose of the -post survey questionnaire (Appendix 4) is to gather the different perceptions of students on how intercultural experiential learning and the use of 360 videos in the classroom have been present (or not) in their school classes before and after the study and how they respond to it. The questionnaire in order to measure the reliability of the Likert-scale questionnaire, for the validation of the learners' questionnaire, two of the raters could participate, among them one with language learning and teaching background and one in educational technology with experience in language teaching. An initial questionnaire of twelve items was develop with questions regarding the previous experience with technology and 360 videos, intercultural experience in class, cultural perceptions when learning a language, the raters agreed that some items should be modified or omitted and that items regarding the satisfaction of the class should be added as well as their perceptions on the use of 360 video in class. Experts were asked to rate from 1 to 4 if each item represented the category they intended to belong to. We grouped the following items in each category:

Previous Experience with Technology and 360 videos in the classroom (Q001, Q003, 1004, Q008, Q009), Culture/Intercultural class experience (Q005, Q006, Q007), and Culture perception when learning a language (Q010, Q011, Q012).

**Table 10** Initial validation of post survey questionnaire for learners

Question	Expert 1	Expert 2	CVI	IRA
Q001	3	2	0	.83
Q002	4	3	1.00	
Q003	4	4	1.00	
Q004	2	3	0	
Q005	4	4	1.00	
Q006	4	4	1.00	
Q007	4	4	1.00	
Q008	1	2	1.00	
Q009	4	4	1.00	
Q010	4	4	1.00	
Q011	4	4	1.00	
Q012	4	4	1.00	

The raters suggested that items Q001 and Q002 did not represented the categories they were placed in and added that even though some items did represented it, they thought it was better to leave them out of the -post questionnaire as it might confuse learners, they also suggested running a pilot test to verify they were clear to understand and decide which items should be left out. Although IRA showed an overall result of .83, we continued with the modifications of a second version.

In the second validation, two categories were added as suggested by the experts, intercultural experiential class satisfaction and perceptions of 360 videos. Once the items were added, a complete set of 25 questions were pilot tested in a one-to-one interview to take notes while they were answering and hear to possible improvements or confusion they could have. Three people took the survey and gave feedback that confirmed that items related to previous experiences in class in the post survey was confusing and a bit odd to have at the same time where items related to after class results were being surveyed. They suggested, the following items should be left out or reworded for the post survey and that they could be asked during the orientation sessions as part of questions while introducing the study and orientation activities, items suggested were: Q001, Q002, Q003, Q005, Q006, 007. Other items were thought to be broken down into too many and synthesizing into one was advised, this items particularly was related to how many times the learner felt discomfort or dizziness during the sessions and it has been left into one item and asked about it in the interview.

Items Q001, Q002, Q003 were removed from the final survey, and items Q005, Q006, Q007 were reworded or replaced by new items and put into the category of After class satisfaction. The name of three categories were reassigned with the following items: Class satisfaction (Q008, Q009, Q012, Q1013), Perception of Intercultural Experiential Principles (Q003, Q004, Q005, Q006, Q007), and Perception of 360 videos in language class (Q001, Q002, Q010, Q011, Q014, Q015, Q016, Q017)

The second version was given back to the two experts with a total of 17 items and two categories as suggested, which were focused on the perceptions of the use of 360 videos as supportive tool and after class satisfaction.

**Table 11** Second validation of post survey questionnaire for learners

Question	Expert 1	Expert 2	CVI	IRA
Q001	4	4	1.00	1.00
Q002	4	4	1.00	
Q003	3	4	1.00	
Q004	4	4	1.00	
Q005	4	4	1.00	
Q006	4	4	1.00	
Q007	4	4	1.00	
Q008	4	3	1.00	
Q009	4	4	1.00	
Q010	4	4	1.00	
Q011	4	4	1.00	
Q012	4	4	1.00	
Q013	4	4	1.00	
Q014	4	4	1.00	
Q015	4	4	1.00	
Q016	3	3	1.00	
Q017	3	4	1.00	

After second validation, experts agreed with most of the items left and replaced as representative items of the category and intended purpose to gather data about the perception of learners after the intercultural experiential lessons as well as the use of 360 video during the sessions. CVI and IRA obtained were of 1.00 in both of them. The raters as well, agreed that the items left out could be considered to be asked in a warm-up activity during the orientation or at the end of that session. Both survey questionnaires are attached in Appendix 4 for

further details on each item.

#### **4.4 Observation and Interview**

Class observations and interviews were conducted to complement the responses of the teacher and learners, sessions were recorded and revised with the teacher for recalling information about the class when necessary. During the sessions, the researcher took notes of each stage of the lesson and kept track of comments of behaviors, time, and responses from learners as well as interactions among the participants. Next, interviews with the teacher were conducted in person after each session finished, we asked for permission to record voice of the interview to be able to transcript later on the analysis stage of this study. Teacher's interview consisted on questions regarding overall satisfaction of the class with the applied principles, use and effectiveness and suggestions to improve next sessions.

Learners were given a Likert-scale post-questionnaire and after that, we asked for volunteers among the participants for one-to-one interviews on the side of the learners, two participants volunteered, and accepted to be recorded for analysis. The categories involved in the question are about the overall satisfaction of the class, perception of the use of 360 videos in intercultural lessons and what they enjoyed the most as well as what challenges they faced. The interviews had a duration of approximately 20-30 minutes each. Interview questions for learner and the teacher can be found in

Appendix 5 and Appendix 3 respectively.

In the case of qualitative data, the teacher's and learners' responses were transcribed and analyzed based on thematic analysis proposed by Braun, V, & Clarke, C (2006). After the data was coded into smaller representative sentences, representative or repeating concepts were highlighted and created categories derived from codes to later group them into themes and refine them by going through the transcriptions again until we got out main thematic analysis map for the teacher and the learner.

## **IV. RESULTS**

The purpose of this study is to develop instructional principles for intercultural experiential learning and the use of 360 videos that supports the development of intercultural competence in the foreign language classroom. This set of principles is aimed to be used by teachers in order to promote observational, reflective, analytical skills and resolution of problems/social issues that are present in the culture of the target language (L2).

This study first develops an initial set of instructional principles that is based in the literature review of the experiential learning cycle, considering the characteristics of what makes a teacher interculturally competent, and how it can help develop intercultural competence in learners. In addition, these principles went through internal validation with a panel of experts in the field, after, a teacher applied the principles in her intercultural experiential lessons. Subsequently, the effectiveness and limitations of the developed principles were verified through the research on the teacher's responses and learners' perception about the sessions.

In the following section, we describe the final instructional principles for intercultural experiential learning with the use of 360 videos, after we present the results of experts' validation and the results of the teacher's and learners' responses.

# 1. Intercultural Experiential Instructional Principles

## 1.1 Final Instructional Principles after the Field Application

During the 5-week study, the researcher and the teacher met after the end each session to discuss about the sequence of the class and the observed reactions and behavior of learners in the classroom. Following the experiential learning cycle (Kolb, 1984) as the base of our lessons, we focused our principles application mainly on the preparation for the concrete experience and active experimentation, without leaving reflective observation and abstract conceptualization out of the equation.

The following diagram shows how instructional principles were distributed along the cycle at each stage, we coded each stage in different colors for better visual categorization.

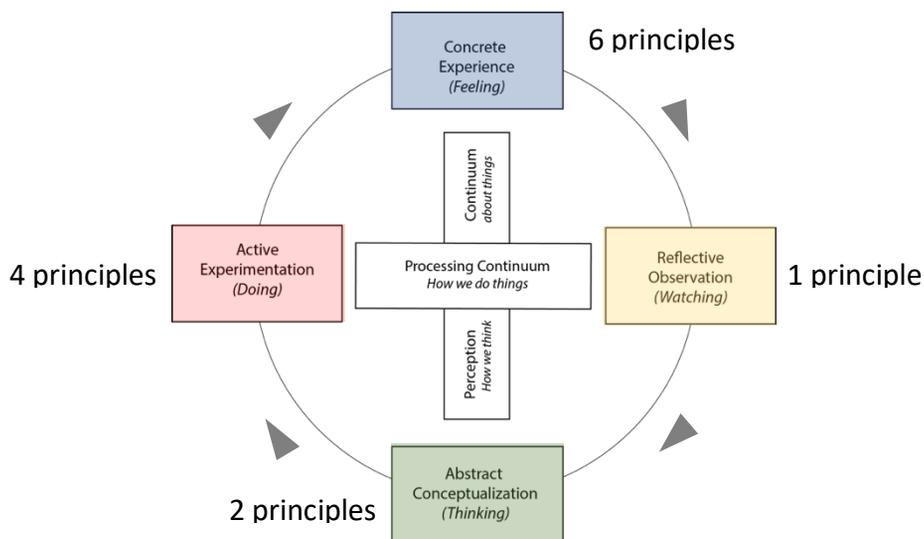


Figure 27 Instructional principles for each stage on the experiential learning cycle

Depending on the current needs and major challenges, we agreed on synthesizing or leaving out some principles as time constraints were heavily impacting the sessions at the beginning. Instructional principle 1.1, which belongs to promoting mindfulness (D. A. Kolb & Kolb, 2017) was suggested to be time-consuming for the teacher, her comment centered in that if left as an individual task, students would take longer to transition to the actual topic of the lesson, and she wanted to try whether starting with principle 1.2, which belongs to questioning and discussion encouragement among learners (Moreno-López et al., 2017), was more convenient for the sequence of the class. We observed learners could adapt and follow this structure without having principle 1.1 applied; however, during the one-on-one interviews with the learners, both learners expressed and made particular emphasis on the importance and need for rapport and a more comfortable environment due to the shy nature of students when it comes to speaking a foreign language in front of others and/or interacting with native speakers. Thus, the researcher ultimately disagrees with leaving anxiety reduction activities out of the tasks applied in the language classroom, especially in more conservative cultures where people are not used to express themselves, their beliefs or opinions and that they can feel exposed or evaluated. For this matter, time consideration is the solution when elaborating the curriculum or intercultural programs, as advised in our discussion chapter, time allotted to intercultural lesson is vital for the comfortable development of learners' skills.

The next instructional principle that was discussed, was principle 1.6, the teacher pointed out that we started applying the principles into individual tasks and that it would be better synthesizing two principles into one task to be able to shorten the number of activities in the dossier and get a concise lesson as breaking down tasks into many affected the pace and sequence of the lesson. Principle 1.6 belongs to identifying emotions (Herault et al., 2018), which the teacher considered as not too relevant to the experiential learning cycle, in our discussions, we agreed on changing the activity from an open question (where learners had to freely write about how they felt during the experience) to tables that provided them with sentences that reflected diverse types of emotions and a scale from 0 to 5 (0= nothing, 5= very, a lot) to determine the degree of each emotion. In this way we could see an improvement in learners' identification and expression of their emotions; however, during class the teacher decided to focus the discussion more on what they remembered than talking about how they felt. While feelings and emotions are not tangible or very obvious, we do consider they could impact in how learners transfer this skill into other parts of their life, such as developing empathy for others' cultures and how they influence in their emotional intelligence when facing and handling interpersonal relationships. We concluded that the subjects of this study did not depend on this principle as they had been learning Spanish for a longer time and their natural interest for a different culture did not interfere with their beliefs and perceptions, they showed more openness to

hear and talk about the difference in the environment and people around them. We would like to see how instructional principle 1.6 impacts learners who have never been exposed to other cultures and that lack previous knowledge or experiences with the target culture of the sessions.

Following, figure 28 displays the color-coded principles that comprehend each stage in detail. The shadowed boxes represent the principles discussed above, the application of this set of instructional principles can vary greatly from task to task, for this, it is important to select different types of strategies that can convey the purpose of each principle and taking learners' background and previous knowledge into consideration. See Appendix 7 for further details of each principle.

**Figure 28** Final set of instructional principles after the application field

- |   |   |   |
|---|---|---|
| <p><b>1.1</b></p> <p><b>PROMOTE MINDFULNESS</b><br/>Reduce Language anxiety to maximize a comfortable environment when participating in class using the L2. Build rapport with learners.</p>                            | <p><b>1.2</b></p> <p><b>ENCOURAGE QUESTIONING &amp; DISCUSSION</b><br/>Prepare learners for the 360 video by eliciting simple ideas or completing mind maps.</p>  | <p><b>1.3</b></p> <p><b>EXPLAIN LEARNERS ABOUT THE PURPOSE OF 360 VIDEO EXPERIENCES</b><br/>Inform learners about observing in detail and exploring their environment.</p>  |
| <p><b>1.4</b></p> <p><b>MONITOR POSSIBLE TECHNICAL PROBLEMS</b><br/>Guide &amp; rehearse with learners about the right use of Google cardboard and 360 videos. Inform of possible technical problems and solutions.</p> | <p><b>1.5</b></p> <p><b>EXPOSE LEARNERS TO A 360 VIDEO EXPERIENCE</b><br/>Familiarize learners with the learning topic (social issue).</p>  | <p><b>1.6</b></p> <p><b>GUIDE LEARNERS TO REVIEW THE 360 VIDEO EXPERIENCE</b><br/>Hint learners with questions that help them think about how they felt and identify emotions.</p>  |
| <p><b>2.1</b></p> <p><b>GUIDE LEARNERS TO DESCRIBE &amp; REFLECT</b><br/>Learners will describe what they remember from their experience and reflect on it and their opinions.</p>                                      | <p><b>3.1</b></p> <p><b>PROVIDE THEM WITH EXTRA RESOURCES</b><br/>The main objective of this stage is learners have to make sense of what has happened by interpreting events and understanding the relationships between them.</p> | <p><b>3.2</b></p> <p><b>PROVIDE THEM WITH EXTRA RESOURCES</b><br/>The main objective of this stage is learners have to make sense of what has happened by interpreting events and understanding the relationships between them.</p> |

**Figure 29** (continued) Final set of instructional principles after the application field

**4.1**

**FOSTER  
COLLABORATION**

Focus on problem-solving and critical thinking tasks to make learners help each other to reach a solution or propose ideas to improve the issue.

**4.2**

**SHARE FINDINGS**

Give teams the opportunity to present their findings in class.

**4.3**

**ENCOURAGE  
ARGUMENTATION  
& FEEDBACK**

Q&A time is useful to share opinions and constructive (non-judgmental) feedback among learners.

**4.4**

**SHARE FINDINGS**

Portfolios or digital journals are some example of logs where students can keep and check their progress.

## **2. Expert Validation of Instructional Principles**

### **2.1 First Round Expert Review**

A first expert review was conducted to verify the internal validity of the instructional principles for intercultural experiential learning with the use of 360 videos. Two educational technologists, three foreign language experts specialized in language teaching and applied linguistics participated in the expert review. The results are shown in Appendix 8.

Based on the results of the first expert review, the overall validity that raters gave to the domains on understanding, explanation, usefulness, feasibility and appropriateness of the instructional principles was from 3 to 3.40, the CVI obtained in understanding, usefulness, and appropriateness was .80 and .60 in explanation which suggests the content validity is lower than the desired one in this point. IRA shows a result of .64 which confirms that overall, the set of principles need further detailed on examples and how to apply them in the classroom.

The average responses for the individual principles for intercultural experiential based lessons ranged from 2.80 to 3.20 which shows that on average the ratings among experts varied in great manner in some of the principles such as that of reflective observation and encouraging group commenting, familiarizing learners with the topic and guiding learners to review the experience, although the CVI obtained ranged from .80 to 1.00, the IRA .76 and the averages overall

pointed that a revision and more detailed explanation needed to be done. The feedback obtained from the panel of experts from the questionnaires and one-on-one interviews, corroborated these results. Three of the experts highlighted that explanations, examples were needed as well as a brief description of how it could be applied in a lesson plan.

## **2.2 Second Round Expert Review**

The instructional principles were revised one by one and examples of possible strategies and activities were added. One of the experts suggested breaking down the principles regarding the use of technology in the classroom and discussion and progressed were added as well. The comments of the raters mainly focused on the explanation if details for each of the principles as there could be different ways to apply them and in order to be easier to grasp the idea of the principle, the example of how it could look on a lesson plan, was implemented. Another consideration when revising the principles was the wording in some of them, it seemed confusing for some of the raters, they were shortened and simplified to avoid future misunderstandings on what they actually mean. Appendix 7 contains the modified and the added principles as discussed in chapter I.

After the first expert review, we made the pertinent modifications based on the feedback received from the raters, main changes were adding a variety of examples and a brief description on how the principle can be applied when planning a lesson, for the

purpose of offering better comprehension, each description follows the sequence of what actual lesson could be like if they wanted to present the social issue of “Animal Abandonment” in Mexico. We decided to facilitate a general view for the raters and for the teacher who participated in this study.

The results for the overall expert reviewed obtained averages from 3.60 to 4.00, the divisions of understanding, explanation and appropriateness all reached 4.00 while feasibility and usefulness showed a result of 3.60 and 3.80 respectively. The CVI for all the divisions obtained 1.00, meaning that the content validity reached on average a positive agreement among the raters and the IRA was 1.00 as well, IRA is an index that measures inter-rater agreement among the raters, and it shows to which extent how much homogeneity or consensus there is in the ratings given by the experts. Thus; having obtained CVI and IRA of 1.00 in the overall review, leads us to the expert review of the individual principles next.

**Table 12** Results of the second expert review of overall principles for intercultural experiential based lessons with the use of 360 videos

Question	M	SD	CVI	IRA
Overall, the instructional strategies are clear and easy to follow.	4.00	.00	1.00	
The instructional strategies provide you with helpful examples or extra information for better understanding where necessary.	4.00	.00	1.00	1.00

The instructional strategies are helpful to develop intercultural competence through the technologically assisted experiential learning cycle.	3.80	.44	1.00
The instructional strategies are practical and possible to be carried out successfully without much difficulty.	3.60	.54	1.00
Overall, the instructional strategies are appropriate to develop intercultural competence through the experiential learning cycle (1. Concrete Experience, 2. Reflective Observation of the New Experience, 3. Abstract Conceptualization, 4. Active Experimentation)	4.00	.00	1.00

\* See Appendix 9 for further details.

After the second round of expert review for the intercultural experiential instructional principles was conducted with the modifications based on the received feedback on the first validation review. Table 12 displays the results on ratings and CVI and IRA indexes obtained. For visual purposes of the data analyzed, the explanatory details of examples are omitted in this table, see Appendix 7 to see the full table.

The averages for the individual principles ranged from 3.20 to 4.00, showing an increase in the ratings of the experts compared to the first review. It is noticeable that the lack of further details gave room to confusion or even not appropriate understanding of what the principle meant, impacting greatly in the scored assigned. The experts feedback on the second review was brief and concise alluding to the

clearer scenario on how to apply the principles on a lesson, one expert commented on the active experimentation stage, the expert suggested to consider having learners actually exposed to an authentic experience by the end of the lesson, this way they would be able to actually apply what it was experienced and discussed about before. We totally agree with the expert that real moments are enriching, however due to the conditions in which the study is conducted, we had some limitations on the managing procedures of the university and time given. For this reason, we suggest a different type of task that allows learners reach the goals of the lesson without risking the time of the class we have been provided with.

For the second expert review, the values of CVI and IRA increased to 1.00, considering that experts scored only 3 and 4 among the items (being 3 = Agree and 4 = Strongly Agree), the raters expressed being satisfied with the explanations and examples as they could visualize the class, we have to mention that although some of the experts have professional experience in educational technology, four of them also have previous studies in language teaching or education. We think this a feature of the raters that is worth noting as they understand both fields but especially that of foreign language education.

**Table 13** Results of the second expert on individual principles for intercultural experiential based lessons with the use of 360 videos

Experiential Learning Component	Principles	M	SD	CVI	IRA
1. Concrete Experience	1.1 Promote mindfulness to overcome or/and reduce language anxiety to enable an experience through mindful awareness and attention.	3.80	.44	1.00	
	1.2 Prepare learners for the 360-video experience by encouraging questioning and discussion by sharing their experiences about the learning topic.	3.40	.54	1.00	
	1.3 Inform and explain students about the experience they are about to have with the 360 video and VR headset. Explain the purpose of said experience is to observe in detail, hear and explore the environment they are witnessing as if they travelled to the country they are learning about.	3.40	.54	1.00	1.00
	1.4 Check any technical problem that learners can	3.80	.44	1.00	

	possibly be exposed to.			
	1.5 Familiarize learners with the learning topic (social issue) by exposing learners to the 360-video experience.	3.60	.54	1.00
	1.6 Guide learners to replay (review) the experience in their mind and to elicit what they felt through the experience.	3.60	.54	1.00
2. Reflective Observation	2.1 Guide learners to briefly describe and reflect about what happened in the experience.	3.60	.54	1.00
3. Abstract Conceptualization	3.1 Provide learners with extra sources to prepare and support their arguments.	3.60	.54	1.00
	3.2 Induce learners to form their own hypotheses and to make meaning out of them.	4.00	.00	1.00
4. Active Experimentation	4.1 Focus on enhancing problem-solving, and critical thinking skills by making students collaborate with each other regarding possible solutions or plans to improve the social issue they witnessed.	3.20	.44	1.00

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4.2 Give teams the opportunity to present their findings and their project solutions in class.	3.60	.54	1.00
4.3 Encourage group discussion and giving constructive (non-judgmental) feedback.	3.40	.54	1.00
4.4 Ask learners to keep record of their findings and work for each session, this can be in a portfolio or a digital entry (a blog entry or videoblog if they prefer). It is up to the teacher to decide whether they prefer choosing the kind of log learners will use or give them the freedom to choose by themselves.	3.80	.44	1.00

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\* See Appendix 9 for further details.

### **3. Instructor's and Learners' Responses**

#### **3.1 Teacher's Responses to 360 Video-Based Intercultural Experiential Lessons**

In order to analyze the teacher's responses to applying the instructional principles in the class, the interview with the teacher was categorized into advantages and suggested improvements of the principles applied in the conducted sessions. The analysis results are summarized in Table 14 as follows:

**Table 14** Teacher's responses to conducted sessions

Division	Teacher's response	Details
<b>Advantages</b>	The cycle and principles promote diverse skills in the interactions among learners	Principles help learners to practice collaboration, reflection, deductive reasoning, contrasting cultures and exchange of ideas.
	Learners can work on the resolution of given problems or analysis of social problems	Mexican social problems were presented to the class in order to analyze and compare with learners' culture. In teams, learners work together to present their findings.
	Learners make use of L2 in context	Materials used in class such as 360 video and extra resources (newspaper articles or magazines) are authentic materials that put learners into real use of the language.
<b>Improvements</b>	Difficulty due to learners' background	Learners' proficiency in L2 (Spanish) differed from each other which made it hard for them to express fluently.
		Academic culture environment differs in each country; thus, learners were shy to openly talk in front of the class.
	Difficulty in activities	Learners struggled taking the initiative to start talking with open questions and open discussion.
	Time constraints	The available time for the session was rather short (90 minutes) to complete all the principles considering the pace of the class.

360 videos	Setting up and using 360 videos in the session is time-consuming and it feels disruptive at times.
	Design should consider shorter length (max 4 mins), style of production, audio and level of the topic. Some technical issues arose.

One of the most important advantages according to the teacher is that the principles promote a varied set of skills in the intercultural experiential cycle, among all, she emphasizes that principles help learners to practice collaboration, reflection, deductive reasoning, contrasting cultures and exchange of ideas. In accordance with our findings, Kohonen et al. (2001), state learners constantly compare new experiences with old ones, new linguistic phenomena with those of his mother tongue, and new information, meaning that intercultural learning is a process where the picture of culture grows wider and increases the learner's consciousness of the special features of his own culture and language. The teacher commented on the usefulness of the principles and contribution to the intercultural competence through reflection and analysis to be able to become aware of differences and come up with their own hypothesis and conclusions through comparison of both cultural contexts.

As a teacher, I think reflecting is very important, going through that introspection process and analyze the social problem, make them identify not only the foreign culture but contrasting how

different or similar it is in their own country. Also, presenting their findings in groups, I think that comes from their reflection and analysis.

I think not only having the materials but reflecting on them, they contrast with what they know, and I think it has worked pretty well, they are building their own concepts and conclusions. I think that is the most important, it is changing the way we do things in the classroom, they deductively shape the concepts without me having to tell them "it is this way or the other, believe me, accept it like this"

The teacher commented further on the Active Experimentation stage, where resolution of a given problem or social issue is given to learners in order to encourage analysis and collaboration skills among the participants in order to reach consensus of what can be proposed or presented in class, however; we found out that even though it was a different approach in the language classroom, social problems not always lead to an easy solution but rather a resolution of conflicts that are present in society. In the Handbook on teaching social issues, Evans & Saxe (1996) talk about how many classroom discussions end when the class is over, and how teachers have a responsibility to end discussions in a manner that maximizes learning. (p. 86.) For this reason, the focus of this principle was reformulated into contrasting both Korean and Mexican cultural social contexts to work through each topic without expecting an actual definite answer from learners, giving

the space to ideas and discussion to emerge during the session. The authors go onto explaining that discussion involves a variety of opinions and that learners need an opportunity to tie the different viewpoints together, in this way teachers can help learners by asking them to analyze and create a summary of what was said. The teacher expressed that making them present their findings was an easier way to give closure to the sessions as it is the result that comes from their reflection and analysis of comparing the target culture and their own with deduced conclusions they have materialized along the process.

You have a social problem and looking for a solution, that could be a difference, other models to develop intercultural competence do not go so far.

I think learners having the concrete experience with 360 video and them applying what they learned, I do think it has helped them reflect on the topic/social problem we are introducing, it also helps them comparing and analyze in the end. I am willing to say, or I bet that they leave the class with many new ideas and new knowledge.

I would say "active experimentation" because you can see the result clearly, what they learnt or how they put it into practice.

Korean learners of Spanish language showed a process of adaptation to the cycle and type of activities through the conducted sessions where open discussion and expression was required from the beginning. On this matter, the teacher observed learners needed adapted activities to transition between the stages of the experiential cycle, offering cloze multiple choice with tables to identify feelings and key moments in the experience they may remember and adding an open question at the end to allow them add other perspectives on their own. Furthermore, learners needed constant encouragement and reminder about collaboration and interaction as they tended to do activities individually even though the delivered instruction stated to do it together.

The principle 1.6 (Guiding learners to review the experience and elicit what they felt), I think in this one, it was good we adapted the type of activity because if it is an open question only they feel shy or scared to talk, but the tables worked well and it was easier for them.

Working with the material already prepared (adapted) because I think that helped them to be more organized, more guided. Use of tables with options to identify feelings and what they observed.

Something that gets my attention is that learners are used to work individually, and I have to remind them about interacting and collaborating often in the class, it seems like if they were

programmed to do the same thing all the time and they forget. So, I have to remind them about it and highlight the importance of collaboration in class.

Besides the type of activities, the use of L2 (second language) was a key feature in the intercultural experiential sessions, for the teacher it is important to make learners aware of the real use of the language in real context. This represents one of the challenges in the classroom as learners possess different levels of proficiency when it comes to speaking, they also feel shy and exposed even doing it in their mother tongue, therefore, we expected learners' reaction in the first session, leading to deliver materials in a different way in the following sessions which helped them in great manner to take off and start actively speaking in Spanish from the beginning.

Because I believe that the way you are speaking, the language you are using conditions you to behave differently, to think in a different way and that is why I think it is a very important part of the class, it is conditioning you, it is helping you to have a perspective, of the situation, of the problem. You are also more empathetic, as if you had a Spanish speaker's lens there for a moment, or at least try to understand it.

Research has shown that bilinguals express different personalities when they speak in different languages and that individuals shift values and attributions in the presence of culture-relevant stimuli (Ramírez-Esparza et al., 2006). Therefore, with more

reason, teachers should encourage the use of L2 in the foreign language classroom, so learners can not only practice the acquired language, but they are situated within context.

On the other hand, the major suggested improvements revolved around the time constraints experienced during the first sessions, our 90-minute sessions demonstrated that intercultural experiential learning lessons need time to develop effectively and successfully. The challenges regarding time are affected and affect each of the elements of the class, from the application of principles, the setting up of the headsets and 360 videos to the dynamics of the class itself. Considering learners' needs, the teacher expressed learners needed to familiarize with the sequence of the class, and that other improvements could be made such as synthesizing activities into one or smaller chunks and adapted materials as well as delivering materials (extra resources and 360 video) before the session.

We spend a lot of time at that stage of warming-up. I also didn't want to interrupt them so much because you think "they are warmed up, they are participating, they are interacting, so I can't interrupt them just like that".

I trust that the next session, now that they also understood the cycle, because It will be easier to save time in that part, then they might participate more in Spanish from the beginning.

That would be a ... mmmm ... about the extra resources, due to time constraints, I would ask you to do it previously at home because 90 minutes is very little, or they can be asked to prepare it because that would also work. Or that they investigate or send them materials, short texts or give them as previous work because that already makes them get to the class with the subject ready, they will be more familiarized, you can imagine the sequence and what the discussion is about.

I think we can see learners are familiarized with the cycle already, we have simplified it as well, so I think that helped a lot in our session 3. We could achieve the goals of the lesson and time management was perfect too. It felt there was a good distribution in the class, learners took advantage from the extra resources and when we went through them together so they could write better ideas and discuss about them.

Lastly, the teacher went through a process of discovery using 360 videos in class, which was heavily impacted by the time constraints as setting up headsets and preparing learners to watch the experience on their phones take a considerable amount of time and minor technical issues arose during some sessions such as Wi-Fi network not working properly, equipment incompatibility or learners forgetting charging their phones in advance as well as bringing earphones, but they were solved in relatively short time as we were prepared for these possible problems.

Learners struggle with following instructions, for example standing up to use the Google cardboard, they take long to set it up and time is wasted while they managed to start watching the video. I saw some learners had troubles with the Wi-Fi and the video was taking time to load.

The teacher expressed she thinks 360 videos are an option for the use of authentic materials that portrays real cultural content; however, she felt it was time-consuming and that made her feel not too comfortable as it felt it affected the dynamics of the class and learners progressed at a different pace. She also highlighted that some people are more sensitive to sickness motion and that would deter them from the experience.

I think 360 video shows real cultural content. It is an authentic material; it shows what is happening and the interview.

I did not feel too comfortable having to manage Google cardboard and phones because I saw some people go faster than others, so they don't have the same pace and I think the pace of the class in general was disrupted.

It also seems like some people are more sensitive (including me) to feel dizzy than others. So, I feel that deters me from wanting to use it again because my first experience it got me dizzy.

Her suggestions regarding 360 videos can be organized into two

sub-groups: a) technical management and b) 360 video design. On the technical management side, she proposed allowing learners to watch the video at home before the session to counteract the inconvenience of time and technical issues in the classroom, as well as giving them the freedom to enjoy and prepare themselves before the session to arrive and focus on the production of discussion, analysis and collaboration.

Well we have mentioned about trying to watch the 360 videos in advanced, at home instead. I think Korean learners like planning and knowing what they will say in advance and if we allow them to access the video experience and extra resources in advance, they will have more time to prepare.

Nevertheless, extra resources such as online links to articles about the topic was successfully adopted by learners, but the majority of them forgot they had to watch the video before the session even though they took the headsets with them. Overall, the teacher went through a process of exploration and was not into using 360 videos at the beginning, but eventually showed a positive attitude as a supportive tool once learners had gotten familiarized with the setting up of their phones and headsets. Regarding the design of the video she also suggested that shortening the length of the video should be considered and to record interviews audio in a quieter place as it could be distracting and too noisy at times because of the natural environment of the city in which it was recorded.

Learners were more familiarized and knew what to do so it was easier for everyone, including the preparation time to use the Google cardboard. It is also very interesting seeing how we deliver the content and materials and how each learner takes different perspectives and focus on different things. When we asked them what they remembered about the 360 video or what it got their attention, they had different interpretations and different things were interesting for each of them.

The only one challenge in this session (session 4) was having to improvise and adapt the plan because many did not watch the video before class. What I did not like the most was that they did not watch the video, I was curious and waiting to see how the class develops if everyone had watched it previous to the class.

If they had to always watch the 360 experience in the classroom, I would analyze the design of the video and make it shorter maybe no more than 4 minutes long so it does not take long and see how it improves the dynamics in that stage where they have to prepare the headset and watch it.

### **3.2 Teacher's Response to Individual Instructional Principles**

An initial set of 11 principles was given to the teacher to be applied in a group of 12 learners of Spanish language. The teacher started by planning the session by following the previously validated principles, in our meetings she asked for some clarification of suggested examples and to confirm she was applying the principles correctly. After conducting the sessions, these are the main comments made and discussed along the 5-week period the sessions lasted in total.

Firstly, the teacher carried the first session without any modification and her main observations revolved around the time of the session we had available, for this reason she suggested we should consider eliminating a couple of principles and synthesizing some of the activities in class. Her first observation was that during the Concrete Experience Stage, there were already a lot of principles to follow that covered extensively the activation of learners previous to the 360-video experience. For this reason, the principle 1.1 - Promote mindfulness to reduce language anxiety - was left out in the following sessions as the teacher perceived the following principles were broken down into many more, so it was not really necessary to be so repetitive.

I think I would modify 1.1 (Promote mindfulness to reduce language anxiety), I don't think it is very necessary as we are already giving a lot of time to the activation of questioning and

discussion with other activities, we introduce some vocabulary so we are already covering some essentials of the topic they will see in the video. So, I think they would be ready by the time we have to watch the video.

Following, we found that overall, the teacher had a positive attitude towards most principles and her perception was that they were useful and eventually effective to help learners develop intercultural competence skills. She explained her perceptions based on her expertise and her experience teaching Spanish to multicultural groups. on the Concrete Experience stage of the cycle, the teacher focused on principle 1.2 which refers to encouraging questioning and discussion about the topic, she expressed that learners would feel motivated as they are engaged watching at some photos, images or realia brought into the classroom; thus, making learners curious before experiencing the 360-video. Although she did not explicitly mentioned principles 1.3 and 1.4 which are about the use and management of 360 videos in the classroom, we can extract her perceptions from other sections in the interview and as well have previously been discussed in this paper. She expressed feeling not too comfortable when it came to be managing the Google cardboard headset in class as it made her feel the time was being wasted and the pace of the class was interrupted, she also encountered the same feeling when minor technical problems arose.

The 1.2 principle (encourage questioning and discussion about the topic).

Motivating them by asking what they imagine the topic is about and triggering their curiosity. The 1.5 (Familiarize learners with the social issue by watching a 360 video).

I did not feel too comfortable having to manage Google cardboard and phones because I saw some people go faster than others, so they don't have the same pace and I think the pace of the class in general was disrupted.

... Technical problems I can be or feel ready but when it comes to Wi-Fi networks it is something it is beyond my solution. As a teacher you feel it is not something you can fix immediately by yourself.

In principle 1.6 she suggested we could synthesize it into next stage of the cycle (Reflective observation) as it was extensively broken down into many steps, this would allow learners to reflect on feelings while remembering the experience at the same time, her reasoning to do this, is that learners will cannot really detach one from the other but that they are connected and affect each other. The teacher tried asking learners to associate both cultures if there was a chance to do so. In the following sessions she tried eliciting emotions and associations through the recall of the observed experienced learners did.

This one, 1.6 (Guiding learners to review experience and elicit what they felt), I think we can change it a little bit and not have it all broken down into smaller questions, I think instead of focusing too much on how they felt and what other people felt too, I tried asking "what do you associate about this topic with your country?" I think we should remove it too and I think we implicitly can elicit that information in 2.1 (Describe and reflect what happened about the experience) as we are asking what their reaction was and you cannot really detach emotions and I don't think it is too relevant.

The 1.6 (Guiding learners to review the experience and elicit what they felt), I think in this one, it was good we adapted the type of activity because if it is an open question only they feel shy or scared to talk, but the tables worked well and it was easier for them.

For the Reflective Observation that the teacher expressed synthesizing emotions and associations while recalling information worked well during the next sessions after modifying her plan, her perception was that it allowed learners focused more into the observation and briefly identify how the experience and social issue made them feel without interrupting the flow on the activities in class.

2.1 (Describe what happens in the experience, what they observed) this one was also adapted into tables and it worked better. Yes, the way we have the principles now has worked

very well, we synthesize some of them and in some activities, we merged them, so I think the way it is now works really well.

In the abstract conceptualization stage, the teacher commented mainly in the order in which learners are exposed to extra resources that help them support their arguments, considering the sessions where 90 minutes long and that the main purpose is they produce interactions and collaboration in the session, the teacher suggested trying delivering materials like texts or online resources they could read previous to the session. Initially the proposed principles follow the experiential cycle, as Kolb (1984) views learning as an integrated process with each stage being mutually supportive of and feeding into the next. It is possible to enter the cycle at any stage and follow it through its logical sequence.

Providing learners with extra resources to support their arguments. that would be a ... mmmm ... about the extra resources, due to time constraints, I would ask you to do it previously at home because 90 minutes is very little, or they can be asked to prepare it because that would also work. Or that they investigate or send them materials, short texts or give them as previous work because that already makes them get to the class with the subject ready, more familiar, you can imagine the model and where the debate goes. I think Korean learners like planning and knowing what they will say in advance and if we allow them to access the experience and extra resources in

advance, they will have more time to prepare.

To conclude, the teacher commented on the last stage of the cycle, active experimentation, highlighting that it is a very important part of the cycle as learners will spend most of the time applying their reflected experience with supportive arguments into collaboration with their peers, the teacher's perception is that bringing the cultural background of students into play would be more suitable as they would compare and associate their ideas in both contexts, and that presenting their findings would give closure while integrating general discussion with the entire group. After the 5-week sessions finished, she expressed agreement and believes that the set of strategies she applied worked well and brought better results while some modifications were done considering the class' characteristics. We point out that principle 4.4 intends to gather and revise the progress of learners' in each session so they can reflect on it; however, the assessment of the gathered progress was severely affected by the time constraints and will have to be considered for future research as part of the learners' development.

Making learners collaborate to offer a possible solution is useful as well. As a teacher, I think reflecting is very important, going through that introspection process and analyze the social problem, make them identify not only the foreign culture but contrasting how different or similar it is in their own country.

Also, presenting their findings in groups, I think that comes from their reflection and analysis.

I think the way we have simplified the principles so far could be applied in the foreign language classroom and be used to improve/develop intercultural competence. Yes, I definitely think these principles and 360 videos contribute to the improvement of intercultural competence.

### **3.3 Learners' Questionnaire Responses to 360 Video-Based intercultural experiential lessons**

After applying the principles in the to develop intercultural competence in the classroom, the learners' the learners responded the -post questionnaire, out of 12 initial participants, 2 only went to the first session, we found that after, they were only temporary students and the next sessions 10 enrolled students participated, however, in the last session only 5 participants were able to attend class. The questionnaire was sent online to all the students and 8 answered questionnaires were received. We asked for volunteers to conduct the one-to-one interview, where 2 participated. The descriptive statistics analysis results for the questionnaire are shown in Table 15.

**Table 15** Descriptive statistics of learners' questionnaire.

Item category	Number of items	M	SD
Class Satisfaction	4	4.59	0.48
Intercultural Experiential Instructional Principles Perception	5	4.37	0.63
360 videos usefulness as supportive tool	8	3.75	0.75

The 5-Likert scale questionnaire with a total of 17 questions was analyzed, the category for class satisfaction of intercultural experiential learning was 4.59, the responses were generally positive with learners answering that, the given tasks that were based on the instructional principles, were helpful to think about other cultures and considered useful for understand others' better. The perception of the use of 360 videos as a supportive tool in class obtained an average of 3.75, learners' answers were satisfactorily about using 360 videos to see authentic context and feel more immersed than traditional materials in class, however, some of them mentioned they felt discomfort when using the headset and watching the video.

Next, table 16 displays the main items that were asked into the Intercultural Experiential Instructional Principles Perception and 360 videos usefulness as supportive tool in the sessions. The items belonging to satisfaction have been omitted in this table.

Averages show different values, the lowest ones being 1.25 and 1.63 for items 16 and 14, that refer to whether or not they think 360 videos are disruptive and if they experienced discomfort during the sessions. On average they expressed that discomfort was not regularly experienced while using 360 videos with the headset and the  $SD = .916$  tells us they are far from the mean. For the 360 videos being disruptive to class the  $SD = .463$ , which tell us they are closer from the mean, a couple of learners expressed they agree they feel they disrupt the class.

**Table 16** Learners' Perception of tasks based on Instructional Principles and the use of 360 videos

Question		M	SD
1)	I think 360 videos can make me feel I travel to places I cannot easily/ frequently visit.	4.50	.535
2)	I think 360 videos make me feel more immersed than other forms of media. (e.g. normal video, audio, text, printed material, still pictures).	4.88	.354
3)	I think the more I am exposed to more immersive classes, I could benefit from it, and I would feel more confident when interacting with native speakers of the language I am learning. (e.g. cultural trips, debate or speaking groups with native speakers, abroad trips, simulations, culture workshops, etc.)	4.50	.535
4)	I think it is important to learn about the culture of the language we are learning.	4.38	.744
5)	I think if I learn and understand more about culture, I would feel more confident when interacting with native speakers of the language I am learning.	4.50	.535
6)	I think discussing about social issues from other cultures is important to broaden my knowledge, change the way of seeing life, and understanding others.	4.38	.744
7)	I think looking for resolution of social issues helps me analyze the topic better.	4.13	.641
10)	I think 360 videos can be a supportive tool in the foreign language classroom.	4.75	.463
11)	I think 360 videos are easy to use in class.	4.38	1.40
14)	I regularly experienced discomfort while using 360 videos during the sessions.	1.63	.916
15)	I did not experienced discomfort at all when I used the 360 videos in class.	4.13	1.35
16)	I think 360 videos are disruptive to the class environment.	1.25	.463
17)	I would like to continue using 360 videos in other classes. (not on a daily basis necessarily, once or twice in a while).	4.50	.535

### **3.4 Learners' Responses in One-to-One Interviews**

After surveying learners about the overall satisfaction and perception of the class, they were asked whether they would like to participate in an interview with the researcher, two of them volunteered to do it. The interview was conducted on the phone due to learners' class being conducted too late at night as part of their available schedule at university and jobs. The two learners and researcher had a 25-minute interview where detailed questions related to the overall satisfaction of the class, usefulness of principles and 360-degree videos, learning outcomes and suggested improvements of principles were discussed. A total of 13 questions were discussed with both students in Spanish, after the conversations were transcribed and translated into English for analysis.

The results were organized into Advantages and Improvements expressed by the learners, each division includes the most representative themes obtained from the Thematic Analysis previously conducted. Table 17 summarizes as follows.

Table 17 Thematic Analysis Summary of Learners' responses

Division	Learners' response	Details
Advantages	The type of class is interesting	The Intercultural Experiential Lessons with 360 videos are perceived as different, interesting, new, indirect experience.
		Class interaction between learners and teacher was received positively.
	The type of class is interesting and offers authentic materials.	
Advantages	The class is challenging but not difficult	Learners struggle to express their opinions in front of groups of people.
		Language Proficiency of each learner affects the participation in class even though they have ideas in mind.
	360 videos are a new different experience	360 videos offer an option for more immersive authentic materials.
Improvements	The class environment is important to feel comfortable	It was easy to use.
		Academic culture environment differs in each country; thus, learners were shy to openly talk in front of the class.
	Varied type of activities where all levels can participate	Activities where learners with different proficiency levels can join is advised.

Firstly, on the advantage division, learners commented the class was interesting and different from other classes they have had in their language classes, although they have been exposed to cultural activities, they often have traditional methodologies and materials that

does not go beyond an image or readings. Thus; the intercultural experiential learning sessions were perceived positively different to the interviewed learners. There is emphasis in the interaction between learners and the teacher which leads to eliciting opinions from learners based on the materials that were prepared for each class. Learner A highlighted that especially in these classes, there is no definite answer, meaning that answer do not need to be a perfect or right answer as opinions as varied, she further explained this gets them confused as they are waiting for a conclusive answer, but due to the nature of the topics, social problems usually will not lead to one, instead, they are used as tools to spark debate or discussion among learners and negotiate their arguments. Another comment is the materials offer authenticity in the 360 video experiences and the readings they were given, the learner expressed that a valuable resource that can be taken advantage of to show other learners how things look in real context. Learner B from her own experience, mentioned she these lessons would help her understand western cultures better as it not only makes them think about the foreign country's culture but that of their own.

First, I liked your class because we could have the opportunity to work with other resources in class and I liked the interaction between the students and the teacher. The way you asked things and we participated in class with more materials, I think that, in comparison to how we originally do things in class in Korea, I think you have more diversity, more things in class. In my opinion, the type of class you have is like... there is no

definite answer, can you understand what I am saying? Instead, there are different answers you can think about.

In Korea, there is always a definite answer. If you don't do that, the students get confused. Usually professors would say a definite answer to finish the class, but in this class, it is like an intercultural topic. (Learner A)

It was very interesting because I had never used this type of activities and I was thinking, I think 360 video or photo is valuable for students who cannot go to Mexico or other countries and they can experiment by watching them, we can show to them. (Learner A)

Of course, I think this type of class help us because when I was in Spain, we had a class about culture too, but they were too hard for me because I did not know about western cultures. I think these topics are good for me, it makes me think more and I can compare my own culture, so I am very interested in these topics. (Learner B)

Second, the class was perceived as challenging but not hard to follow, learners expressed that it is hard for Korean learners to express their opinions in front of the class (Learner A) and that due to the proficiency level at the moment, it was hard to speak her ideas even though she was very interested in the topic. From this we can say that learners perceive the topics as interesting and the type of class as different, but their previous academic experience and

background needs to be considered when selecting the teaching strategies and activities in class.

Challenging... I would say that expressing our opinions in front of everyone, it is a cultural difference, everyone is quiet and nobody says anything, that's why I tried to volunteer because I knew that if I did not do it, the rest of the class would be very quiet. I think this is the most important during all the session. (Learner A)

I liked all the topics of the classes, I was interested a lot in them, but it was a bit hard for me sometimes because I have forgotten some of my Spanish and we have to speak Spanish all the time, so it was challenging. The most challenging was remembering the interview from the video, I could not understand all of it, so sometimes I could not understand and remember well. (Learner B)

Third, 360 videos experiences have not been experienced previously in class by most learners that participated in the study, for this reason, learners showed a lot of interest in testing what the class would be like using them as a supportive tool. Both learners expressed it was an interesting experienced that allowed them to feel closer to Mexican social environment as they could witness with their own eyes and control where or what to observe, both learners expressed sense of presence through 360 videos and one of them categorized it as a valuable feature of the technology. Learner B, who had commented on

the challenges she encountered, especially because of her proficiency level, expressed that 360 videos were easy to use, and she was interested. However, bringing back her previous opinion on challenges, she noted that it was hard to remember what people said because she could not understand all the information completely.

I think 360 video or photo is valuable for students who cannot go to Mexico or other countries and they can experiment by watching them, we can show to them. The Google cardboard, I have never seen it and it was very interesting. It is like an indirect experience. With a normal photo or video there is a limit, you can only see a limited view but with 360 you can observe your surroundings while you are listening to the conversation, you can look around and see what people are doing, and that has value. (Learner A)

I think so, usually professors in our classes would talk and show some pictures but that's it, but I think 360 video allows students to look around, observe how things are happening around me, look to other places, behind and in front of you and they can visualize things so they feel like they were right there in the place, that is valuable I believe. (Learner A)

360 videos are very interesting to see people around you and feel like you are there. Well it was very new for me, very interesting and the topic as well. I was always interested in the topics as well as how to use the 360 videos and the Google

cardboard. It was my first experience, so I was very interested  
(Learner B)

The easiest was watching the 360 video and looking for more  
information. (Learner B)

Fourth, on the improvement's division, learners commented mainly in the class environment and the variety of activities in order to include learners with lower proficiency of the language. As when discussing the teachers' response, the cultural background of learners plays a big role on how sequence of the class moves in the given time, we expected this behavior as we did our research on how Korean learners usually interact in classes, however, as the main purpose of these principles is to trigger discussion and collaboration, a lot of communicative production is involved. As we mentioned before, learners started the first sessions using Korean Language (L1) to do the activities but as the session went by, we could see how from the big decrease in participation, learners started recovering and their participation noticeably increased by the fourth session. However, it is important to highlight that building rapport with students showed to be essential in creating the right environment where learners feel relaxed and get rid of shyness and language anxiety that creates a barrier between the main goal of the lessons and the outcomes we get. Learner B, suggested adding more inclusive activities where other learners who struggle to speak in class, can actively participate, she mentioned making things, for example in the session of the artisans,

she suggested they could have an activity where they create a small Mexican craft as they do understand the general ideas but participation is lower compared to their peers.

I think that the environment needs to be more comfortable, relaxed before starting the class. I was embarrassed because you are foreigners for us and I know all the girls in my class can speak Spanish, but we are embarrassed or shy and it would be good if you get rid of that before starting the class. I think a comfortable environment should be created. I am pretty sure they were thinking answers in their mind, but they were shy to speak in front of everybody. I think this is the most important during all the session, participation of the students, if they don't talk, the class does not progress. (Learner A)

It can be that we do other physical activities where we can exchange culture, make something with our hands. The class I liked the most was the artisans because we could touch the Mexican handicrafts, they were real and that is more interesting than other classes. Mmm improvements? It can be that we do other physical activities where we can exchange culture, make something with our hands because people like me who wants to say something, but I don't have the same level, maybe we can do something together and make it easier. (Learner B)

## **V. DISCUSSION AND CONCLUSION**

### **1. Discussion**

The purpose of this study was to develop instructional principles that could be applied in intercultural experiential-based lessons to support intercultural competence development among learners of a foreign language with the use of 360 videos as the concrete experience, and to verify its validity and effectiveness. For this, the instructional principles were developed and revised through literature review and expert review, and the effectiveness was confirmed by in-depth interviews with the teacher after each session and gathering perceptions of both teacher and learners through surveys and one-on-one interviews with volunteers. Lastly, this chapter discusses the implications of the essential results of the study as follows.

#### **1.1 Differentiation from Existing Principles**

The main differentiation of this study from existing principles in experiential learning or intercultural learning is that it gathers the main features of both type of theories and brings 360 video as part of the experiential learning cycle, merging them into a model that does not necessarily need to have learners travel to immersive courses abroad or arranging cultural trips which involve a lot of logistics and availability of budget. While there are courses and schools that are able to provide such conditions, there certainly are others that are not,

and VR technology is in constant development and improvement, 360 videos being on ongoing increasing popularity among users and platforms, the immersive potential that can bring to a classroom should be exploited and researched further. In agreement with Pantelidis (2010), virtual reality provides learners with “new forms and methods of visualization” (p. 62), learners can control the way they look at the environment they are immersed in and develop observational skills by examining features or objects they would not normally be able in conventional video formats, the authors also discusses VR motivates learners as it requires more interaction and allows them to take the role of a person in different cultures as well as it offers inclusion of learners that cannot easily participate otherwise.

Existing studies related to interculturality and/or experiential learning in different fields have made use of ICT skills such as blogging or creating digital logs of learners’ experiences; however, 360 videos were not applied in these studies. In a study, (Deardorff, 2009) tested different experiential learning approaches, among them, a traditional face-to-face classroom, face-to-face classes with a community-based component, face-o-face with telecollaborative language-learning component, and study abroad. The authors found out that incorporating various forms of experiential learning models did not have differentiate in learners’ results when talking about developing language, meaning that one model was not better than the other and that all learners showed they were equally prepared to

continue into higher level courses. In addition, the qualitative data

showed that adding experiential learning approaches to language courses boosts learners' curiosity and interest about cultural similarities and offering different options help learners personalize their preferences when meeting graduation requirements, they also mention the Spanish courses have maintained a higher registration of students compared to other languages in the same institution every semester.

This study as well, brings qualitative data from the teacher and learners where improvements on the design are suggested, user experience is not the main topic of this study, however it is related to the outcomes in how the video is experienced by learners, in comparison with other studies from different fields, while doing the literature review, a gap in the design of 360 videos is common to be found. For instance, in a study on collaborative training for nursing students in patient trauma treatment (Woodrow, 2006), the researchers designed and evaluated 360 videos in the medical field, their analysis concluded that while the activity was perceived as good and very good, the use of touch screens to manipulate 360 video was perceived as less enjoyable and some students had troubles using it, as well as pressing some buttons on it or pressing the correct spots, they also encountered sound recording issues and placement of recording equipment when preparing the videos (Zhang et al., 2018). They point out, the system should be responsive to mobiles, tables and large touch screens and that quality of cameras should be considered

to offer higher quality video and students are able to see details around

them.

In our study, we as well confirmed, the design has an effect in the outcome of the experiences people have, such as motion sickness or points of interest. Personalized tools such as language and subtitles, and possible buttons and visuals that are yet to be researched deeply from the cognitive and human interaction design perspective, as well as how we can offer more interactive experiences in this very specific multimedia format. We recall some of the main 360 design features that arose in this study in the suggestions section.

## **1.2 Effects of 360 Video-Based Intercultural Experiential Lessons**

As a result of analyzing the responses of both the teacher and learners in the conducted sessions, we could observe learners' interactions with the teacher gradually improved each session, mainly because during the first two sessions, learners were experiencing the sequence of the lessons for the first time. The teacher pointed out that once they got used to the activities and knew what was expected from them, the pace of the class was faster, and learners would take the initiative to participate more naturally than the first sessions. From the instructional strategies applied, learners' observational skills were diverse, and showed how each learner would take different angles and perspectives while watching the video experience. We concluded that 360 videos have different impact in each learner because they have the control what they want to watch or look at, and that allows them

to watch the same video but from different perspectives. Kolb (1984) states that Experiential Learning the experience plays a critical role in knowledge construction and that learning occurs when someone creates knowledge through experiential transformations. This means that each learner will shape or reshape knowledge depending on how they experience each situation. Learners expressed they felt sense of presence and that they felt like if they could feel people for real just as in an in-person experiential activity. While 360 videos might be a limiting technology regarding other senses such as smell, taste or touch, 360 video experiences can provide sight and hearing as primary senses, which helps the brain making it feel they are immersed enough to trick it and make it respond to the stimuli encountered during the experiences. In other studies, other senses such as smelling and touch have been added externally, but these are features that learners cannot find normally in common headsets.

Another part of the intercultural experiential lesson that projected a notorious impact that stems from the 360 video experience, is during the active experimentation stage, where learners can contrast their perspectives from what they observed, and they can realize that even though some of them have reflected in different ways, they go through a negotiation process to hear everyone's opinions and exchange their points of view until they reach a group consensus that is the result of their collaboration.

Learners' analytical skills start once they have reflected on the experience of the target culture and their own perspective, but they increase in activity when learners start wondering about their main culture and comparing both to build their own conclusions.

In comparison with other type of lessons where communicative approaches are applied, intercultural experiential learning goes beyond the discussion of a topic, it opens the door to discussion based on a personal perspective that emerges from a real or simulated experience that makes learners situate themselves into a foreign environment and allows them to become aware of their own thinking before and after the experience.

At a different level, learners are not only able to apply these skills into the foreign language classroom, in humanities or society studies, but they are able to transfer reflection, observational, self-awareness, and identifying emotions into other areas. So, we can say that intercultural experiential principles can also be applied to other social environments such as History, International relations, Arts, Economy and Politics. As the base of the experiential learning theory has a constructivist perspective and its core come from psychology studies, whether the context is formal or informal education, learners can develop these skills and use them in their everyday lives as part of their soft skills.

### **1.3 Implications on Intercultural Experiential Learning Instructional Principles**

The initial instructional principles were developed based on the experiential learning cycle and the characteristics of what makes a teacher interculturally competent in the foreign language classroom. (Kohonen et al., 2001). The main idea is to provide educators and teachers with a set of principles that can guide them on how to make their sessions more active and where learners can make use of their observational, analytical, reflective and collaborative skills as well as negotiating their ideas and arguments to reach a consensus resolution with their classmates. While these instructional principles are aimed to be applied by teachers and educators, we cannot detach learners from the equation of the study, for this reason we gathered data on their perceptions of the class and 360 videos, to compare with the teacher's perceptions and results could be contrasted and integrate a better model of instructional principles when building curriculum for intercultural lessons.

Overall, from the point of view of the traditional language classroom in South Korea, this study provides with an insight of what the teacher's and learners' perceptions and awareness of their environment are and how to work towards adaptation and refinement of the sequence of the class as well as the process of building rapport with learners and providing a comfortable environment previous to initiating the actual tasks (Kohonen et al., 2001). In this study, the teacher decided that in order to save time, language anxiety reduction

principle should be removed, however, learners' interviews and outcomes of the sessions let us see they are aware of their limitations in personality and social behavior in the Korean classrooms. On the other hand, we could see how Korean learners progressed in this respect in each of the sessions, in the end, they increased their participation in oral activities using entirely the target language (Spanish/L2), and even though they started very shy and quiet in the first session, by the third and fourth session they were truly and naturally engaged with the class topics and discussions from the beginning to the end. This talks a lot about how learners' adaptation is put into practice (Kohonen et al., 2001), and it could be expected as they had never experienced intercultural experiential lessons, these principles are based on a constructivist approach so it is reasonable they were in a period of shock and confusion as it was something new and different from what they are used to from their language classes, but eventually they knew what the sequence and dynamics of the class were and what the goals of each stage were as well and how to take action.

Considering the main challenges, we faced during our study, we can advise learners background and the time allotted to each session is vital to develop intercultural skills in a comfortable environment without making feel learners in a rush or pressured. Learners need time to not only carry their activities smoothly, but they also need time to process information, analyze, think and make meaning out of the shared opinions when collaborating and to be able to work in teams where the participation is balanced.

## **2. Conclusion**

### **2.1 Limitations of the Study**

One major limitation of this study is that the instructional principles lie more on the teacher development of an intercultural experiential lesson, and further research needs to be done to address the development and especially assessment of learners' intercultural competence (Kohonen et al., 2001), while we used a dossier with reflective activities and gathered the evidence in a portfolio, in order to see a more evident progress would be giving self-reflection checklists where learners are more conscious of their own progress, and where they can write a summary of what they achieved in each session. As language is a complex phenomenon, there is plenty of opportunities in the topic of interculturality and the use of ICT in the classroom, particularly, with the use VR technologies.

Another limitation is regarding the advancements of 360 video and its related software to provide a more immersive and interactive experience. This study initially had considered using interactive features, however, platforms available are private and license from the biggest smartphones stores is required to publish the content in the version of an application that can be downloaded to devices, meaning that the process is lengthy, costly at the moment and time is essential to not only create content but for editing and interactive features to be added.

Lastly, one more limitation was the design of the video itself, through literature review, we found a gap in past studies related to the design of 360 videos. Taking those into consideration, this study attempted to improve and overcome common mistakes in design to provide a better experience, but the journalistic style we chose, lacks the recording of the interviews in separately and in quieter places which indirectly altered the initial design of the video. Recording in a different country with limited time, certainly gives no space to try again once the videos are in the second country. The design of the videos is essential as learners are the ones interacting directly with them.

360 videos are a tool that can offer more benefits using the right software to provide learners with more control and interaction within the environment. It is a time-consuming task the one of the content designers, and this study found out it mainly requires a budget for external tools such as the publication of apps in different official smartphone stores and third-party software.

## **2.2 Future Recommendations for Educators and Teachers of Intercultural Experiential Curriculum**

Firstly, it is highly important considering the cultural background of learners, even though they might want to participate and have great ideas, these can be deterred by social behavior that is influenced by their upbringing. In these sessions, the researcher and teacher were aware of the challenge that using this type of lesson would represent for the learners in class, especially expressing opinions and taking the initiative to speak in front of others, however, we also believed that we could try ways to encourage them and little by little make them improve as the sessions went by. Results showed that the pace in which learners move along the session is heavily impacted by factors such as shyness, educational previous experiences, social skills, and speaking ability, but it also showed that learners are capable of going out of their comfort zone to experience adaptation, something likely to happen in different cultural settings they might encounter when travelling or going abroad.

Secondly, the thematic analysis showed time constraints was one of the biggest concerns of the teacher, and although learners did not mention anything about it, time of the session should be well thought and planned when applying these principles as the cycle requires skills to put into practice without pushing learners to finish as soon as they can, the results showed that the model is ambitious if time is not something you can afford in the curriculum, and the time is set up mainly by the characteristics of the learners, for this study, the

time initially proposed was initially longer than what we could actually get as the group and participants were part of a an actual formal course at a university and it was the last session of the day very late at night, thus; there was no flexibility to test in a prolonged time or even request more as the building was closed soon after the time schedule by the university. The researcher and teacher believe that a session of 120 minutes would suffice a similar sequence and under similar conditions to the one tested in this study. However, if suggested improvements were to be applied in new studies, the time would need to be assessed around the background of the learners and the selected teaching strategies and activities to be carried out.

Thirdly, another relevant suggestion is the ICT skills of teachers and learners, South Korea is more used to interact with smartphones in different settings of everyday life than other countries, if this same study is placed in Latin America for instance, the probabilities that more extensive training is required, are high. This should be considered previous to starting the sessions as teachers mainly, need to be ready for possible technical problems that might arise and is capable of taking immediate action by being prepared and extra equipped with spare items such as headphones, even a couple of smartphones that can be used in case of incompatibility or if a learner forgets his phone.

If the teacher is not familiarized with the use of technological devices, they might feel reluctant to apply it in the classroom and this could mean that teaching practices will not vary or be tested as we

would like to. A training period with the teachers involved is crucial not only for them to familiarized and understand the technology better, but to encourage learners (and teachers themselves) to make use of it for educational purposes as well and that they can take advantage of a tool that is already present in their everyday lives and that has increasingly become a necessary item in people's lives. Notwithstanding, this study revealed that there are times in which nothing can be done against major technical problems that are out of the hands of the teacher to solve such as an unstable network in a place where it has always been good, there will be times in which teachers need to bring plan B into action, whether this is having a way to display the 360 video on a projector and work with the class or learners being very sensitive to motion sickness, we cannot force them to feel affected physically by this, then teachers need to know they should look for ways to adapt his/her sequence and activities to the needs of the class and each learner, if learners are extremely sensitive to motion sickness, we suggest they watch the video on their devices without the headset and that control it with their finger or gyroscope if preferred.

Lastly, the design of 360 videos and how the cognitive process works with different parameters tested in conventional formats (2D videos) is still an ongoing topic of research, in the literature review we discussed about the features that ideally would be considered a suitable 360 video at the moment, however, as 360 cameras have become cheaper and more popular, there is a vast amount of videos

from unexperienced users, we recommend selecting videos from official sources depending on the field, for example National Geographic or Discovery Channel to mention some examples. If the educator, teacher or designer wishes to adventure him/herself into the design, production and postproduction process of making their own materials for education, we highly advise to go to the literature review of this study and take a look at the original sources of each component in the design of 360/VR videos, there are growing communities of professionals and amateurs that help each other and are constantly active on social media and video platforms that host tutorials from professionals in the field for free. From this study, the main suggestions for future studies who wish to create their own 360 video experiences are 1) the length of the video should be tested and compare outcomes in class, the literature review on this point has tested 360 videos on marketing and results showed consumers usually would prefer a video of about four minutes long than a longer one, however, studies applied in education are still ongoing, our study suggests that depending on the style of video (journal, documentary, high end production or animated) and time available, video should be no longer than five minutes, but we also would like to advise that planning, recording, production and post production of such videos require different levels of resources such as actors, storytelling, budget, 360 cameras and other necessary equipment like advanced computers that are compatible with the format and that can support the editing and rendering process as well as platforms that are

compatible with the final product obtained, for instance the technical features of the format will determine whether it is compatible with the existing 360 hosting platforms. It is recommended to research about the available platforms and features of each one as well as the limitations that can bring to display your videos. As 360 videos is constantly developing and being improved, all other technical aspects surrounding this technology it is as well, and what might work at the moment this study was conducted, might have as well be outdated in the near future.

Additionally, during the interview and observation of the first sessions, we could see the effect of an overloaded experience as the first video did not have the original audio that was recorded from the interviewee, we took the audio from the camera only and the natural sounds of the environment were really loud that it was hard for learners to concentrate on what the person was saying, the teacher's perception is as well, that having so many things happening around was distracting to learners both aurally and visually, but on the other hand, learners did not mention there were distractors that interfered with the experience but expressed interest in how one can decide where to look from different angles and each person have different perceptions of the experience. We do advise, testing the video with different people if the time allows, and to modulate extremely loud noises as much as possible, if interviews, to be recorded in a quiet place and be inserted on the video and reduce the original volume while the person is talking.

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# **APPENDIX**

APPENDIX 1 Learner Consent Form

APPENDIX 2 Teacher Consent Form

APPENDIX 3 Teacher Interview Questionnaire

APPENDIX 4 Learner Survey Post Questionnaire

APPENDIX 5 Learner Interview Questionnaire

APPENDIX 6 Initial Instructional Principles

APPENDIX 7 Final Instructional Principles

APPENDIX 8 First Round Expert Review Results

APPENDIX 9 Second Round Expert Review Results

APPENDIX 10 Lesson Plan

# APPENDIX 1

## RESEARCH CONSENT FORM

I agree to participate in the study "A Developmental Study on Instructional Design Principles for Intercultural Experiential Learning With 360 Videos to Develop Intercultural Competence" conducted by Wendy Galvan Romero from the Department of Education.

The purpose of this study is to evaluate the design of principles for intercultural experiential learning lessons with the use of 360 videos as concrete experience in the cycle to develop intercultural competence.

The procedure involves the monitored use of the 360 videos by using Google Cardboard head-mounted display in a 5-week workshop for the duration of 5 weeks, 90 minutes once a week.

I understand that the information, video and audio recording are for research purposes only and that my name and image will not be used for any other purpose. All information collected in the study is confidential, and my name will not be exposed at any time. I consent the collection of recorded data during the sessions and questionnaires.

I understand that participation in this developmental study is voluntary and I agree to immediately raise any concerns or areas of discomfort during the session with the study administrator.

I understand that participation involves active participation and expression of opinions through a process of reflection and understanding each other as well as respecting other peoples' points of view without judging and harming their wellbeing.

Please sign below to indicate that you have read and you understand the information on this form and that any questions you might have about the session have been answered.

Thank you!

I sincerely appreciate your participation and time given for this study.

**Name and signature of research participant:** \_\_\_\_\_

**Date:** \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

	Researcher: Wendy Galvan Romero. Department of Education, Seoul National University.
	Contact: 010-6531-0092

## APPENDIX 2

### RESEARCH CONSENT FORM

I agree to voluntarily participate in the study "A Developmental Study on Design Principles for Intercultural Experiential Learning With The Use Of 360 Videos" conducted by Wendy Galvan Romero from the Department of Education. My participation is totally free of any kind of monetary compensation and my function is only to volunteer during the stipulated sessions without being linked to any kind of working contract and no hiring by the university.

The purpose of this study is to evaluate the design principles of intercultural experiential learning lessons with the use of 360 videos as concrete experience in the cycle to develop intercultural competence.

The procedure involves, the written planning of each session and creation of supporting materials, as well as the monitored use of the 360 videos by using Google Cardboard head-mounted display in a 5-week workshop for the duration of 5 weeks, 90 minutes once a week.

I understand that the information, video and audio recording are for research purposes only and that my name and image will not be used for any other purpose. All information collected in the study is confidential, and my name will not be exposed at any time. I consent the collection of recorded data during the sessions and interviews.

I understand that participation involves active participation and expression of opinions through a process of reflection and understanding each other as well as respecting other peoples' points of view without judging and harming their wellbeing.

Please sign below to indicate that you have read and you understand the information on this form and that any questions you might have about the session have been answered.

Thank you!

I sincerely appreciate your participation and time given for this study.

**Name and signature of research participant:** \_\_\_\_\_

**Date:** \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

	Researcher: Wendy Galvan Romero. Department of Education, Seoul National University.
	Contact: 010-6531-0092

## APPENDIX 3

### **A DEVELOPMENTAL STUDY ON DESIGN PRINCIPLES FOR INTERCULTURAL EXPERIENTIAL LEARNING WITH THE SUPPORT/USE OF 360 VIDEOS**

#### Teacher Interview Questionnaire

##### **1. Overall satisfaction of the class.**

**TQOS101** - What are the overall impressions of the experiential learning process in the foreign language classroom?

**TQOS102** - What are the overall impressions of 360 video in the experiential learning process to improve intercultural competence in the classroom?

**TQOS103** - What was the most satisfying part of the class?

**TQOS104** - What are you more dissatisfied with during your class?

##### **2. Usefulness of principles and 360-degree videos.**

**TQUSV205** - Are our principles and 360-degree videos easy to use in class?

**TQUSV206** - What did you find the the easiest when using these principles and 360-degree videos in the classroom?

**TQUSV207** - What challenges have you encountered in using these principles and 360-degree videos in the classroom?

**TQUSV208** - Which features of the principles and the use of 360-degree videos are most important for you?

**TQUSV209** - Which features of the principles and the use of 360-degree videos are the least important for you?

##### **3. Learning outcomes**

**TQLO310** - Do you think these principles and 360-video contribute to improving intercultural competence in the foreign language classroom?

**TQLO311** - In what ways did each principle and 360-video help?

**TQLO312** - In what ways did each principle and 360-video did not help?

##### **4. Improvement of the principles**

**TQIS413** - What additional considerations do you need to increase the effectiveness of the principles and 360-video as a supportive tool in the experiential-based lessons in order to improve intercultural competence?

- Please leave any additional comments you have for improvements.

## APPENDIX 4

### In the Foreign Language Classroom Questionnaire

The purpose of this study is to examine and provide instructional design principles that guide educators and teachers who want to conduct intercultural experiential learning-based lessons with the use of 360 videos to promote and/or develop intercultural competence in the foreign language classroom. **This questionnaire asks about your perceptions on the experienced lessons when learning a foreign language.**

Do NOT write your name on this questionnaire. Your responses will be anonymous and will never be linked to you personally. If there are items you do not feel comfortable answering, please skip them. Thank for your cooperation.

#### Part 1. Bio Data

- Please provide the appropriate answer. (Circle where necessary and write in the blanks).

- Gender: Male    Female
- Nationality: \_\_\_\_\_
- Please write your age: \_\_\_\_\_
- How long have you been learning Spanish? \_\_\_\_\_
- I speak other languages: Yes    No
- Other languages I have learned and can speak:  
\_\_\_\_\_

- Indicate your agreement or disagreement with the following statements by **circling your response** using this scale:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

	In my foreign language lessons...	SD				SA
1)	I think 360 videos can make me feel I travel to places I cannot easily/frequently visit.	1	2	3	4	5
2)	I think 360 videos make me feel more immersed than other forms of media. (e.g. normal video, audio, text, printed material, still pictures).	1	2	3	4	5
3)	I think the more I am exposed to more immersive classes, I could benefit from it, and I would feel more confident when interacting with native speakers of the language I am learning. (e.g. cultural trips, debate or speaking groups with native speakers, abroad trips, simulations, culture workshops, etc.)	1	2	3	4	5
4)	I think it is important to learn about the culture of the language we are learning.	1	2	3	4	5
5)	I think if I learn and understand more about culture, I would feel more confident when interacting with native speakers of the language I am learning.	1	2	3	4	5

6)	I think discussing about social issues from other cultures is important to broaden my knowledge, change the way of seeing life, and understanding others.	1	2	3	4	5
7)	I think looking for resolution of social issues helps me analyze the topic better.	1	2	3	4	5
8)	The class was easy to follow.	1	2	3	4	5
9)	Overall, I enjoy this type of sessions about intercultural learning.					
10)	I think 360 videos can be a supportive tool in the foreign language classroom.	1	2	3	4	5
11)	I think 360 videos are easy to use in class.	1	2	3	4	5
12)	I would like to have more classes like these ones in my language classes.					
13)	The class kept me interested in the topic.					
14)	I regularly experienced discomfort while using 360 videos during the sessions.	1	2	3	4	5
15)	I did not experienced discomfort at all when I used the 360 videos in class.	1	2	3	4	5
16)	I think 360 videos are disruptive to the class environment.	1	2	3	4	5
17)	I would like to continue using 360 videos in other classes. (not on a daily basis necessarily, once or twice in a while).	1	2	3	4	5

**Please write any comments you would like to add.**

## APPENDIX 5

### A DEVELOPMENTAL STUDY ON DESIGN PRINCIPLES FOR INTERCULTURAL EXPERIENTIAL LEARNING WITH THE SUPPORT/USE OF 360 VIDEOS

#### Learner Interview Questionnaire

#### 1. Overall satisfaction of the class

**LQOS101** - What is the overall impression of the experiential learning process in the foreign language classroom?

**LQOS102** - What's your opinion or impressions of the 360 videos in your sessions?

**LQOS103** - What did you like the most?

**LQOS104** - What did you like the least?

#### 2. Usefulness of principles and 360 degree videos.

**LQUSV205** - What was different in these sessions from other language classes you have had?

**LQUSV206** - What was the easiest to do during your sessions?

**LQUSV207** - What was the most challenging?

**LQUSV208** - Is 360 video easy to use in class?

**LQUSV209** - Did you have any problems while using 360 videos?

#### 3. Learning outcomes

**LQLO310** - Did you learn anything new about Mexico or Mexican culture or society?

**LQLO311** - Do you think 360 videos can help us have experiences in different ways than traditional video when it comes to learning?

**LQLO312** - We had different stages in our sessions, do you remember them? Do you think we can use them in other Spanish lessons?

#### 4. Improvement of principles

**LQIS413** - Any additional comments that you would like to express or suggestions for intercultural classes in Spanish language learning?

## APPENDIX 6

### Initial instructional principles for intercultural experiential learning with the use of 360 videos in foreign language education.

Experiential Learning Component	Instructional Principles	Related Studies
3. Concrete Experience	1.1 Promote mindfulness to overcome automaticity, reduce language anxiety and to reach pure experience through mindful awareness and attention. E.g. hear to a piece of music with extreme attention, reading something aloud, observing an interesting object, a riddle or puzzle.	<ul style="list-style-type: none"> <li>• Kolb, 2017.</li> <li>• Yeganeh, B., 2007.</li> <li>• Mortimore, L., 2017.</li> </ul>
	1.2 Prepare learners for the 360-video experience by encouraging questioning and discussion by sharing their experiences about the learning topic.	<ul style="list-style-type: none"> <li>• Bonwell, 1991.</li> </ul>
	1.3 Check any technical problem that learners can possibly be exposed to. E.g. Ask learners about right visualization of the video (blurriness), sound working properly, comfort of the headset, use of the headset, etc.	<ul style="list-style-type: none"> <li>• LaValle, 2017.</li> </ul>
	1.4 Familiarize learners with the learning topic (social issue) by exposing learners to the 360-video experience.	<ul style="list-style-type: none"> <li>• Bonner, E. &amp; Reinders, H., 2018.</li> </ul>
	1.5 Guide learners to replay (review) the experience in their mind. E.g. hint learners with questions that help them think about what they felt, their perceptions and thoughts about the social issue they saw.	<ul style="list-style-type: none"> <li>• Kolb, A. Y., &amp; Kolb, D. A., 2017.</li> </ul>

2. Reflective Observation	<p>2.1 Guide learners to briefly describe and reflect about what happened in the experience. E.g. What did they observe? how did others view the situation and what did it mean to them? What can they learn about themselves when they compare both cultures? How would a neutral observer have seen and heard?</p>	<ul style="list-style-type: none"> <li>• Kolb, 2017.</li> </ul>
3. Abstract Conceptualization	<p>3.1 Provide learners with a bank of extra sources to prepare and support their arguments.</p>	<ul style="list-style-type: none"> <li>• Iakovos, T., 2011.</li> <li>• Zare, P &amp; Othman, Moomala., 2013.</li> </ul>
	<p>3.2 Induce learners to form their own hypotheses a make meaning out of them. E.g. Help them identify specific concepts or theories that relate to the experience, make learners define the concept as they would for someone who is not familiar with it. What is the issue or problem examined? What variables can learners identify in the resources that help them understand the issue? etc.</p>	<ul style="list-style-type: none"> <li>• Kolb, A. Y., &amp; Kolb, D. A., 2017.</li> </ul>

<p>4. Active Experimentation</p>	<p>4.1 Focus on enhancing problem-solving, and critical thinking skills by making students collaborate with each other in a possible solution or plan to improve the social issue they witnessed.</p> <p>4.2 Give teams the opportunity to present their findings and outcome in class.</p> <p>4.3 Encourage group commenting or giving constructive (non-judgmental) feedback.</p>	<ul style="list-style-type: none"> <li>• Jones, B. F. et al., (2009)</li>   <li>• Jones, B. F. et al., (2009)</li> </ul>
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## APPENDIX 7

Final Instructional Principles after the Second Review of Experts.

Experiential Learning Component	Instructional Principles
<p><b>1. Concrete Experience</b> (Doing, Having an experience through 360 video)</p>	<p><b>1.1 Promote mindfulness to overcome or/and reduce language anxiety to enable an experience through mindful awareness and attention.</b></p> <ul style="list-style-type: none"> <li>- <b>E.g.</b> Make learners listen to a short piece of music with extreme attention, reading something aloud, observing an interesting object, a riddle or puzzle, an ice breaker or warm-up activity.</li> <li>- <b>E.g. in class:</b> If the students were to experience a lesson about pet care in different countries, the activity can be related to this topic. Make learners listen to a background audio where dogs are in a park or people playing with dogs around and have them tell you where they think the dogs are and what they are doing. Another option can be playing “what’s in the bag?” and have photos of different dogs in different contexts such as playing, eating, destroying things, in a shelter or on the street. Ask learners to take one photo randomly and assign them names in Spanish. Would they like to have a dog like that one?</li> </ul>

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**1.2 Prepare learners for the 360–video experience by encouraging questioning and discussion by sharing their experiences about the learning topic.**

- **E.g.** Elicit information based on the previous principle and relate the topic to warm up.
- **E.g. in class:** Teacher acts as facilitator and mediator. Ask learners to discuss in pairs about the reasons why people like having pets at home and the pros and cons of owning one. Ask them to share their thoughts with the class. Give them a worksheet where they can take notes or make a mind map.

**Other possible questions:** Do you have a pet? Do people usually buy or adopt? Which one is better (buying or adopting) and why? What responsibilities are there behind owning a pet? Do pets have rights? Are there many pets abandoned in the country you are right now? If so, where are they? Are there many animal shelters? Are there programs to educate/inform people about animal care?

---

**1.3 Inform and explain students about the experience they are about to have with the 360 video and VR headset. Explain the purpose of said experience is to observe in detail, hear and explore the environment they are witnessing as if they travelled to the country they are learning about.**

- **In class:** 360–degree videos allow learners to control where and what they look at. Ask learners to observe not only people but the environment, interactions, hear people and other sounds in detail.

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#### 1.4 Check any technical problem that learners can possibly be exposed to.

- **E.g.** Ask learners about right visualization of the video (blurriness), sound working properly, comfort of the headset, use of the headset, etc.
  - **in class:** Before giving them the headsets. Explain to learners that there are possibilities of discomfort to be experienced while watching the 360 video and that it is totally normal as their brain and sight are getting used to the environment. If they feel very sick, they can stop and let you know anytime, if this is the case, we need to check for blurriness correction, calibration of the headset, etc. If none of these seems to be the problem, the learner will have to take a rest for a couple of minutes before trying again. Be prepared with a different way to display the video in case learner(s) are not able to use the headset or are unable to stand the motion sickness.
  - **Other possible problems to consider in advance:** No access to a stable Wi-Fi connection, equipment malfunction, lack of earphones. We highly advise to test the video yourself before each session starts to identity it can run smoothly.
-

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**1.5 Familiarize learners with the learning topic (social issue) by exposing learners to the 360-video experience.**

- **E.g. in class:** Allow learners to watch the video without interrupting the experience. Learners should be given the time to be immersed and observe the environment they are in. The teacher should be monitoring learners in case they experience motion sickness or have any technical issue.

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**1.6 Guide learners to replay (review) the experience in their mind and to elicit what they felt through the experience.**

- **E.g.** Hint learners with questions that help them think about what they felt, their perceptions and thoughts about the social issue they just saw.
- **E.g. in class:** Prepare handouts or an assignment to help learners write down what they felt during the experience. Kolb suggests we first ask learners to replay the experience in their mind. After, they can write a short report of what they saw, heard, felt, thought and saw others doing. In this part of the session, they will focus on the feelings they sensed and felt during the experience. Ask learners the right questions to elicit feelings such as: what did you feel when you saw the people? What was your perception of people and dogs/pets at the beginning? Did your feelings and perception towards people or the situation change after? Why? And How did you feel by the end of the experience?

**2. Reflective  
Observation**  
(Reflecting,  
reviewing on an  
experience)

**2.1 Guide learners to briefly describe and reflect about what happened in the experience.**

- **E.g.** What did they observe? how did others view the situation and what did it mean to them? What can they learn about themselves when they compare both cultures? How would a neutral observer have seen and heard? Try to figure out why people behaved the way they did, what can you learn about them and you looking back on the experience?
- **E.g. in class:** Ask learners to first think about their own reaction to the experience and their opinion. Then ask them to discuss with other classmates about others' opinions. The teacher functions as monitor and coach that will encourage students' reflection through appropriate questions as shown above.

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**3. Abstract  
Conceptualization**  
(Concluding/Learning from experience)

a. **Provide learners with extra sources to prepare and support their arguments.**

- **E.g.** articles, authentic materials, statistics, songs, phrases, newspapers, short videos available online, etc. The teacher can adapt materials or use authentic ones if they are available.
  
  - **E.g. in class:** Teachers functions as a standard setter who sets the performance objectives. Explain learners they will now try to find out information that supports their opinions and those from others that help them understand why “x” society has specific social issues and how they are related to their culture. The main objective of this stage is learners have to make sense of what has happened by interpreting events and understanding the relationships between them. They should be able to scan a couple of articles and choose what suits best.
-

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**b. Induce learners to form their own hypotheses and to make meaning out of them.**

- **E.g.** What is the issue or problem examined? What variables can learners identify in the resources that help them understand the issue? etc. In the case of pet care: is this society generally educated about the animal rights and proper care of pets? Are there any laws that protect animals? Are rules actually enforced? If not, what is the reason? Are animal shelters efforts enough to improve the current conditions of the issue?

- **E.g. in class:** Teacher functions as monitor, coach when necessary, and facilitator. Help them identify specific concepts or theories that relate to the experience, make learners define the concept as they would for someone who is not familiar with it. Intervene when you see learners are struggling to make sense of the situation by it breaking down and even comparing to their own culture or social issue.

**4. Active Experimentation**  
(Planning an action resolution / trying out)

**4.1 Focus on enhancing problem-solving, and critical thinking skills by making students collaborate with each other regarding possible solutions or plans to improve the social issue they witnessed.**

- **E.g.** Assign learners with small team projects that can be completed within the class such as flyers, video recording, proposals.
- **E.g. in class:** Take the role of a coach, work one-on-one with learners on contrasting ideas and giving feedback. Ask learners to imagine (or assign them a role) they will talk to the Mexican committee and to create a presentation in teams about causes and consequences of pet abandonment, pet care laws in their countries and Mexico and what they suggest it can be implemented to improve the current situation with abandoned pets in Mexico. Allow learners to search information online if needed. Monitor while learners collaborate in teams and encourage reflection if they seem biased or judgmental. Remember learners are in a stage in which they are trying to go out of their comfort zone, so be sensitive to their opinions and always keep a neutral position.

**4.2 Give teams the opportunity to present their findings and their project solutions in class.**

- **E.g.** Explain learners they should allow teams to present in the given time and then Q&A time for the audience will start.

#### **4.3 Encourage group discussion and giving constructive (non-judgmental) feedback.**

- **E.g. in class:** After each group presents, Q&A begins and the audience (other teams) will give feedback or opinions on what it was presented. If there are no questions or comments, give them some hints or a question to start the group talk or ideas exchange. Give feedback when necessary or if learners have conflict in their opinions. The objective of the discussion  
Is not only making learners talk but to communicate effectively, understand and respect each other's ideas.

#### **4.4 Ask learners to keep record of their findings and work for each session.**

- E.g. This can be in a portfolio or a digital entry (a blog entry or videoblog if they prefer). It is up to the teacher to decide whether they prefer choosing the kind of log learners will use or give them the freedom to choose by themselves.

## APPENDIX 8

Results of the first expert review of overall principles for intercultural experiential based lessons with the use of 360 videos

Question	Expert					M	SD	CVI	IRA
	A	B	C	D	E				
Overall, the instructional principles are clear and easy to follow.	4	2	4	3	3	3.20	.83	.80	
The instructional principles provide you with helpful examples or extra information for better understanding where necessary.	3	2	4	4	2	3.00	1.00	.60	
The instructional principles are helpful to develop intercultural competence through the technologically assisted experiential learning cycle.	3	2	4	3	3	3.00	.70	.80	.64
The instructional principles are practical and possible to be carried out successfully without much difficulty.	4	2	4	3	2	3.00	1.00	.80	
Overall, the instructional principles are appropriate to develop intercultural competence through the experiential learning cycle (1. Concrete Experience, 2. Reflective Observation of the New Experience, 3. Abstract Conceptualization, 4. Active Experimentation)	3	2	4	4	4	3.40	.89	.80	

Results of the first expert on individual principles for intercultural experiential based lessons with the use of 360 videos

Experiential Learning Component	Principles	Expert					M	SD	CVI	IR A
		A	B	C	D	E				
1. Concrete Experience	1.1 Promote mindfulness to overcome automaticity, reduce language anxiety and to reach pure experience through mindful awareness and attention. E.g. hear to a piece of music with extreme attention, reading something aloud, observing an interesting object, a riddle or puzzle.	3	3	4	3	3	3.20	.44	1.00	.76
	1.2 Prepare learners for the 360-video experience by encouraging questioning and discussion by sharing their experiences about the learning topic.	4	2	4	3	3	3.20	.83	.80	
	1.3 Check any technical problem that learners can possibly be exposed to. E.g. Ask learners about	4	3	4	3	2	3.20	.83	.80	

	right visualization of the video (blurriness), sound working properly, comfort of the headset, use of the headset, etc.								
	1.4 Familiarize learners with the learning topic (social issue) by exposing learners to the 360-video experience.	3	2	4	3	3	3.00	.70	.80
	1.5 Guide learners to replay (review) the experience in their mind. E.g. hint learners with questions that help them think about what they felt, their perceptions and thoughts about the social issue they saw.	3	2	4	3	3	3.00	.70	.80
2. Reflective Observation	2.1 what happened in the experience. E.g. What did they observe? how did others view the situation and what did it mean to them? What can they learn about themselves when they compare both cultures? How would a neutral observer have seen and heard?	3	1	4	3	3	2.80	1.09	.80

	3.1 Provide learners with a bank of extra sources to prepare and support their arguments.	3	3	4	4	2	3.20	.83	.80
3. Abstract Conceptualization	3.2 Induce learners to form their own hypotheses a make meaning out of them. E.g. Help them identify specific concepts or theories that relate to the experience, make learners define the concept as they would for someone who is not familiar with it. What is the issue or problem examined? What variables can learners identify in the resources that help them understand the issue? Etc.	3	3	4	4	2	3.20	.83	.80
4. Active Experimentation	4.1 Focus on enhancing problem-solving, and critical thinking skills by making students collaborate with each other in a possible solution or plan to improve the social issue they witnessed.	3	3	4	3	3	3.20	.44	1.00

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4.2 Give teams the opportunity to present their findings and outcome in class.	3	2	4	4	3	3.20	.83	.80
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4.3 Encourage group commenting or giving constructive (non-judgmental) feedback.	3	2	4	4	2	3.00	1.0 0	.60
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## APPENDIX 9

Results of the second expert review of overall principles for intercultural experiential based lessons with the use of 360 videos

Question	Expert					M	SD	CVI	IRA
	A	B	C	D	E				
Overall, the instructional strategies are clear and easy to follow.	4	4	4	4	4	4.00	.00	1.00	
The instructional strategies provide you with helpful examples or extra information for better understanding where necessary.	4	4	4	4	4	4.00	.00	1.00	
The instructional strategies are helpful to develop intercultural competence through the technologically assisted experiential learning cycle.	4	3	4	4	4	3.80	.44	1.00	1.00
The instructional strategies are practical and possible to be carried out successfully without much difficulty.	4	4	4	3	3	3.60	.54	1.00	
Overall, the instructional strategies are appropriate to develop intercultural competence through the experiential learning cycle (1. Concrete Experience, 2. Reflective Observation of the New Experience, 3. Abstract Conceptualization, 4. Active Experimentation)	4	4	4	4	4	4.00	.00	1.00	

Results of the second expert on individual principles for intercultural experiential based lessons with the use of 360 videos

Experiential Learning Component	Principles	Expert					M	SD	CVI	IRA
		A	B	C	D	E				
1. Concrete Experience	1.1 Promote mindfulness to overcome or/and reduce language anxiety to enable an experience through mindful awareness and attention.	3	4	4	4	4	3.80	.44	1.00	
	1.2 Prepare learners for the 360-video experience by encouraging questioning and discussion by sharing their experiences about the learning topic.	4	3	4	3	3	3.40	.54	1.00	1.00
	1.3 Inform and explain students about the experience they are about to have with the 360 video and VR headset. Explain the purpose of said experience is to observe in detail, hear and explore the environment they are witnessing as if they travelled	3	3	4	4	3	3.40	.54	1.00	

	to the country they are learning about.								
	1.4 Check any technical problem that learners can possibly be exposed to.	4	4	4	4	3	3.80	.44	1.00
	1.5 Familiarize learners with the learning topic (social issue) by exposing learners to the 360-video experience.	3	4	4	3	4	3.60	.54	1.00
	1.6 Guide learners to replay (review) the experience in their mind and to elicit what they felt through the experience.	3	4	4	4	3	3.60	.54	1.00
2. Reflective Observation	2.1 Guide learners to briefly describe and reflect about what happened in the experience.	4	4	4	3	3	3.60	.54	1.00
	3.1 Provide learners with extra sources to prepare and support their arguments.	3	4	4	4	3	3.60	.54	1.00
3. Abstract Conceptualization	3.2 Induce learners to form their own hypotheses and to make meaning out of them.	4	4	4	4	4	4.00	.00	1.00

	4.1 Focus on enhancing problem-solving, and critical thinking skills by making students collaborate with each other regarding possible solutions or plans to improve the social issue they witnessed.	3	3	4	3	3	3.20	.44	1.00
	4.2 Give teams the opportunity to present their findings and their project solutions in class.	4	4	4	3	3	3.60	.54	1.00
4. Active Experimentation	4.3 Encourage group discussion and giving constructive (non-judgmental) feedback.	4	3	4	3	3	3.40	.54	1.00
	4.4 Ask learners to keep record of their findings and work for each session, this can be in a portfolio or a digital entry (a blog entry or videoblog if they prefer). It is up to the teacher to decide whether they prefer choosing the kind of log learners will use or give them the freedom	3	4	4	4	4	3.80	.44	1.00

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to choose by  
themselves.

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APPENDIX 10

LESSON  PLAN	Teacher: Norma Medina	Day: October 2, 2019	Week: 1	Time: 90 minutes
	Level: B2.2	Number of students: 12	Classroom:	
	Topic: Animal Abandonment			

**STEP 1: Warm-up activity**

**Objective:** Activate prior knowledge of the group and introduce the theme (corresponds to instructional principle 1.1)

**Time:** 5 minutes

**Groupings:** Four groups of three students Student

**task:** Brainstorm from the exhibition of images related to the theme of the session.

**Teacher's task:** Supervise the work of the team and summarize the information in full.

**Correction:** -

**Anticipation of problems:** Little participation or lack of group interaction.

**Solution:** Provide ideas or examples.

**Materials and resources:** Student dossier, as well as files with images of dogs in different conditions.

**Procedure:** Once the teacher finishes the introduction of the session, the images are presented and in group the students make a brainstorm and complete the diagram on page 1 of the dossier.

**To what extent has it worked and what would change the next time?**

**STEP 2: Activity prior to viewing the 360 videos about animal abuse**

**Objective:** Prepare students to view the 360 video (corresponds to instructional principle 1.2)

**Time:** 10 minutes

**Groups:** Four groups of three students Student's

**task:** Brainstorm and complete the mental map about the students 'expectations regarding the 360 videos.

**Teacher's task:** Activate the students' prior knowledge. Test the expectations of students in relation to the theme of the session. Work on the specific lexicon that appears in the video in order to facilitate its understanding. Explain that the objective of the experience is to observe in detail (instructional principle 1.3)

**Correction:** -

**Anticipation of problems:** Difficulties in understanding the video; technical difficulties (instructional principle 1.4)

**Your solution:** Use the video transcript

**Materials and resources:** Video 360, viewer, student dossier (page 3 with specific vocabulary and page 2- mind map)

**Procedure:** Brainstorm ideas place the student in the context of the video. In full the specific lexicon of the subject is reviewed.

**To what extent has it worked and what would it change next time ?:**

**STEP 3: Watching 360 video**

**Objective:** To familiarize students with the theme of the session through experiential learning (corresponds to instructional principle 1.5)

**Time:** 10 minutes

**Groupings:** Individual

**Student task:** Watch the video and observe the environment in detail.

**Teacher's task:** Supervise students during the viewing of the video.

**Correction:** -

**Anticipation of problems:** Students experience physical problems, such as dizziness or vision problems.

**Your solution:** A variation is made to the activity; Students can use only the audio or mobile phone version without using the viewfinder.

**Materials and resources:** Viewer, 360 video, computer, headphones, mobile phone, internet.

**Procedure:** Each student uses the application *VeeR* and their account to access the 360-video made by Wendy Galván. Students put on the viewfinder and hearing aids and concentrate on viewing.

**To what extent has it worked and what would it change next time ?:**

#### **STEP 4: Activity after viewing the video**

**Objective:** Students express their **feelings** by watching the 360 videos about animal abuse (corresponds to instructional principle 1.6)

**Time:** 5 minutes

**Groupings:** Individual

**Student's task:** Write a short text expressing their feelings when viewing the 360 videos.

**Teacher's task:** Supervise students during the activity.

**Correction:** -

**Anticipation of problems:** Students do not write much due to lack of inspiration or knowledge about the subject.

**Your solution:** Complete the file on page 5 of the dossier

**Materials and resources:** Dossier (pages 4 and 5)

**Procedure:** Students write a short text in the section designated for this on page 4 of the dossier. If necessary, complete Table XX.

**To what extent has it worked and what would it change next time ?:**

#### **STEP 5: Self-reflection activity**

**Objective:** Students make a self-reflection of their reaction to the experience lived with video 360 (corresponds to experiential principle 2.1)

**Time:** 10 minutes

**Groups:** Individual and in groups of three.

**Student's task:** First, the student will describe orally in the most neutral way possible what he saw in video 360. Then, he will share his description with the other members of the group and analyze his reaction (possible reactions: surprise, indifference, etc.).

**Teacher's task:** Monitor the work of the groups. Motivate students to analyze both cultures to foster understanding of the situation.

**Correction:** -

**Anticipation of problems:** Little student participation.

**Your solution:** Explain to students the importance of this part of self-reflection in the development of intercultural

competence. If it is necessary to do the activity in writing before doing it orally.

**Materials and resources:** Dossier, page 6 space to organize your ideas (write down only key points)

**Procedure:** Students do self-reflection individually. Then in groups, they share and comment on their individual reflections and compare their observations.

**To what extent has it worked and what would it change next time?:**

#### **STEP 6: Activity of hypothesis formulation**

**Objective:** From the previous activity, students **formulate their hypotheses that explain the possible causes** of the problem addressed in video 360. This activity is in turn an activity prior to the activity in step 7 (corresponds to the experiential principle **3.2**)

**Time:** 10 minutes

**Groupings:** Four groups of three students Student

**Student's task:** Share and discuss the possible hypotheses of the causes of the problematic by consensus, propose the hypotheses formulated by the team and write them down.

**Teacher's task:** Supervise the work of the groups.

**Correction:** -

**Anticipation of problems:** Little student participation; Little interaction between team members.

**Your solution:** Explain to students the importance of this part of debate and consensus in the development of intercultural competence.

**Materials and resources:** Dossier, page 7

**Procedure:** Students formulate in a group hypothesis of the possible causes of the problem addressed in video 360.

Then, they discuss them and pose in writing.

**To what extent has it worked and what would it change next time ?:**

### **STEP 7: Activity of hypothesis analysis**

**Objective:** From the previous activity, students **analyze their hypotheses** to explain the possible causes of the problem addressed in video 360 This activity is in turn an activity prior to the activities of steps 8 and 9 (corresponds to the experiential principle 3.1)

**Time:** 10 minutes

**Groupings:** Four groups of three students Student

**task:** Read additional information provided by the teacher and Look for arguments that support your hypotheses.

**Teacher's task:** Supervise the work of the groups.

**Correction:** –

**Anticipation of problems:** Difficulties in understanding additional texts.

**Your solution:** Clarify in full the possible difficulties of understanding.

**Materials and resources:** Dossier, pages 8,9 and 10

**Procedure:** Students read the texts individually (pages 9 and 10 of the dossier) and look for arguments in favor of the hypotheses. Then, in group they comment. If necessary, modify the hypotheses.

**To what extent has it worked and what would change next time ?:**

#### **STEP 8: Resolution activity to the problem raised**

**Objective:** From the previous activity, students search and analyze information on the Internet from other sources in order to **find a proposal of solution** to the problem addressed in the session (corresponds to the experiential principle 4.1)

**Time:** 15 minutes

**Groupings:** Individual and in groups of three students Student

**task:** Search the Internet for additional information on the subject and review it in order to raise A proposed solution. Discuss and agree on the team's proposal.

**Teacher's task:** To propose a fictional situation in which students will imagine that they will participate as guests in a session of the Mexican government to discuss animal rights. Supervise the work of the groups.

**Correction:** -

**Anticipation of problems:** Lack of time to perform the Internet search. Difficulties in the realization of the proposal.

**Your solution:** Students must make the solution proposal based on the steps previously highlighted, that is, without searching for additional information on the Internet.

**Materials and resources:** Dossier, page 11

**Procedure:** Students look for information related to the topic on the Internet, share it and, by consensus, prepare a proposal to solve the session's problem.

**To what extent has it worked and what would it change next time ?:**

**STEP 9: Presentation of the results**

**Objective:** From the previous activity, the students will present the results of their work in a proposal to solve the problem addressed in the video 360. (corresponds to the experiential principle 4.2)

**Time:** 15 minutes

**Groups:** Four groups of three students.

**Student task:** Expose the proposed solution to the problem.

**Teacher's task:** Supervise the work of the groups.

**Correction:** -

**Anticipation of problems:** Lack of time to present all exposures.

**Your solution:** Randomly choose the order of presentation of the equipment.

**Materials and resources:** Dossier, page 11

**Procedure:** The students present in full their proposal for a solution to the problem addressed by video 360.

**To what extent has it worked and what would change next time?**

**FINAL STEP: Recapitulation of what was learned in the session**

The teacher will be in charge of giving some final words as a recap of the session.

LESSON	Teacher: Norma Medina	Date: October 16, 2019	Week: 2	Time:
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PLAN	Level: B2.2	Number of students: 10	Classroom:	90 minutes
	Subject: Obesity and diabetes			

**STEP 1: Warm-up activity including activities prior to viewing 360 videos on obesity**

**Objective:** Activate prior knowledge of the group, introduce the topic and prepare students to view video 360 (corresponds to instructional principles **1.1** and **1.2**). Raise awareness among students of the requirements necessary to obtain the best results of the experience, both technical (instructional principle **1.4**.) And instructions for working with the video (corresponds to instructional principle **1.3**).

**Time:** 10 minutes

**Groupings:** Individual and in groups of three students Student

**task:** The student will analyze the headings and images related to the topic of the session in order to activate their knowledge on the subject and start from what they know. Then, a brainstorm will take place in groups and the diagram will be completed in writing (page 2 of the dossier). Subsequently, the specific lexicon that appears in the video is worked in order to facilitate its understanding.

**Teacher's task:** Activate the previous knowledge of the students. Test the knowledge and attitudes of students in relation to the theme of the session. Explain that the objective of the experience is to observe in detail (instructional principle **1.3**). Supervise both individual and teamwork and fully summarize the information.

**Correction:** -

**Anticipation of problems:** Little participation or lack of group interaction.

**Solution:** Provide ideas or examples. Guide students in their teamwork.

**Materials and resources:** Student dossier; newspaper headlines on the subject are shown on page 1; on page 3 is activity 3 and on pages 4 and 5 there is the specific vocabulary of the session with examples of contextualized use as it appears in the video.

**Procedure:** The teacher presents headings and images on the subject and raises some questions in order to test attitudes and knowledge on the subject. As a group, students brainstorm and answer what they associate with obesity and overweight (activity 1). Indirectly, students are being prepared to answer what they think are the main causes of obesity, an issue that will be raised in step 3.

**To what extent has it worked and what would it change next time?**

## **STEP 2: Activity of viewing 360 videos**

**Objective:** Introduce students to a current problem of Mexican reality through experiential learning with 360 videos (corresponds to instructional principle 1.5).

**Time:** 15 minutes

**Groupings:** Individual and in groups of three students Student

**task:** Watch the video and watch closely what happens. At the end of the course, students must complete activity 4 (page 6 of the dossier) by completing the rubric on which they will work on what they remember about the video after

viewing the video. Then they will compare their rubrics in groups and discuss their results.

**Teacher's task:** Supervise students during the viewing of the video and during the activity. Summarize in full the comments of the groups.

**Correction:** -

**Anticipation of problems:** Difficulties in understanding the video; technical difficulties (instructional principle 1.4). Students experience physical problems, such as dizziness or vision problems. Little participation or lack of group interaction.

**Your solution:** A variation is made to the activity; Students may use only the audio or mobile phone version without a viewer. Also, in case of physical discomfort, students could use the video transcript to carry out the activities.

**Materials and resources:** Video 360, viewfinder, computer, headphones, mobile phone, Internet; student dossier.

**Procedure:** Each student uses the application *VeeR* and their account to access the 360 video made by Wendy Galván. The students put on the viewfinder and the headphones. Then they stand up and start viewing by paying attention.

**To what extent has it worked and what would it change next time ?:**

### **STEP 3: Self-reflection activity after viewing the video**

**Objective:** Compare the different reactions and attitudes of students to the subject. Raise awareness of the different perspectives of the problem.

: Groups Individual and in groups of three.

**Student's task:** The student will make a self-reflection of what he felt after watching the video, that is, his **emotions**

(corresponds to instructional principle 1.6) and the possible cause of his reaction to the problem. For this, it will carry out activity 5 (page 7 of the dossier). Then, in groups, students will analyze their different reactions in activity 3 (page 7 of the dossier). With this activity, students should become aware of the different perspectives of the problem and try to reflect on the differences in their reactions (corresponds to the experiential principle 2.1)

**Time:** 10 minutes

**Teacher task:** Supervise students during the activity. Solve doubts.

**Correction:** -

**Anticipation of problems:** Little student participation; Little interaction between team members.

**Your solution:** Provide examples and guide them in their self-reflection.

**Materials and resources:** Dossier

**Procedure:** See student's homework.

**To what extent has it worked and what would it change next time ?:**

#### **STEP 4: Hypothesis formulation activity including a previous activity**

**Objective:** The student will analyze the problem addressed in the session and once the analysis is done, he will formulate in hypothesis groups the main ones Causes of obesity in Mexico (corresponds to the experiential principle 3.2).

**Time:** 5 minutes

**Groupings:** In groups of three and in full

**Student task:** In groups they will carry out activity 4 (page 7 of the dossier) in which they will answer a series of questions related to the problem that will serve as a guide. Through group consensus they will formulate the hypotheses of the group and carry out activity 8 (page 8 of the dossier). Upon completion, students will share their answers and discuss possible causes of the problem.

**Teacher's task:** Supervise students during the activity.

**Correction:** –

**Anticipation of problems:** Little student participation; Little interaction between team members.

**Your solution:** Explain to students the importance of conducting debate and consensus in the development of intercultural competence.

**Materials and resources:** Dossier

**Procedure:** See student's homework

**To what extent has it worked and what would it change next time?**

#### **STEP 5: Activity of hypothesis analysis**

**Objective:** The student will critically analyze information from other sources and expand their knowledge about the problem in Mexico.

**Time:** 15 minutes

**Groupings:** Individual and in groups of three

**Student task:** The student will analyze information additional on obesity in Mexico. Then you will carry out activity 9

(page 9 of the dossier). Subsequently, it will look for arguments that support the hypotheses raised in the previous step.

**Teacher's task:** Monitor the work of the groups.

**Correction:** -

**Anticipation of problems:** Problems in understanding the information.

**Your solution:** Modify the activity so that it is done collaboratively.

**Materials and resources:** Dossier

**Procedure:** Starting from the previous activity, the student will review in groups the additional information on the problem in Mexico in order to find arguments that allow him to support the approaches made in the previous step (corresponds to the experiential principle **3.1**). Then, in groups, students will share and comment on their individual approaches.

**To what extent has it worked and what would it change next time?**

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**PAUSE:** 5 minutes

## **STEP 6: Learning transfer activity**

**Objective:** Prepare a proposal for a solution to the problem seen in the session.

**Time:** 15 minutes

**Groupings:** Individual and in groups of three

**Student task:** The student will analyze additional information, such as, infographics about obesity in South Korea in order to compare the problem in both countries and propose a solution solution to Mexico problem. Then, in groups, students will discuss and by consensus they will develop a group proposal.

**Teacher's task:** The teacher will ask the following question: If we talk about obesity and overweight, what can Mexican society learn from South Koreans? In addition, the teacher will supervise the work of the groups and motivate the students to analyze the theme in both cultures to foster understanding of the situation.

**Correction:** -

**Anticipation of problems:** Lack of time to carry out the activity. Difficulties in conducting the group debate.

**Your solution:** The teams could be regrouped; those who are more advanced could work with the other teams taking advantage of collaborative learning.

**Materials and resources:** Dossier, pages 9-11

**Procedure:** The student will analyze information on obesity in South Korea in order to compare the problem in both countries and develop a proposal of possible measures carried out in South Korea that could be implemented in Mexico to combat the problem (corresponds to the experiential principle 4.1).

**To what extent has it worked and what would it change next time ?:**

### **STEP 7: Presentation of the results**

**Objective:** The students will present the results of their analysis in a solution proposal to the problem addressed in video 360 (corresponds to the experiential principle 4.2)

**Time:** 15 minutes

**Groupings:** Groups of three students

**Homework student:** Expose the proposed solution to the problem.

**Teacher's task:** Supervise the work of the groups.

**Correction:** -

**Anticipation of problems:** Lack of time to present all exposures.

**Your solution:** Randomly choose the order of presentation of the equipment.

**Materials and resources:** Dossier

**Procedure:** Students will present their proposal for a solution to the problem addressed in video 360.

**In what way has it worked and what would it change next time ?:**

### **FINAL STEP: Recapitulation of what was learned in the session**

The teacher will be in charge of recapitulating what was learned in the session.

LESSON PLAN	Teacher: Norma Medina	Date: October 30, 2019	Week: 3	Time: 90 minutes
	Level: B2.2	Number of students: 10	Classroom:	
	Theme: Mexican artisans			

**STEP 1: Warm-up activity including activities prior to viewing 360 video about Mexican artisans**

**Objective:** Activate the group's prior knowledge, introduce the topic and prepare students to view video 360 (corresponds to instructional strategies **1.1** and **1.2**) . Raise awareness among students of the requirements necessary to obtain the best results of the experience, both technical (instructional principle **1.4.**) And instructions for working with the video (corresponds to instructional principle **1.3**).

**Time:** 15 minutes

**Groupings:** Individual and in groups of three students Student

**Student's task:** The student will work with different real Mexican crafts (**activity 1**), in addition to observing the presentation images related to the theme of the session worked through reading of journalistic texts in the presence of an inverted class. Both activities will be carried out with the purpose of activating the student's knowledge about the subject and starting from what he knows. Then, the points mentioned by the students will be fully summarized. Subsequently, the new lexicon related to the theme that appears in the reading material (**activity 2**) will be worked on.

In addition, reading comprehension (**activity 3**) will be carried out as activities prior to viewing the video in order to familiarize the student with the context of the video, and at the same time, facilitate the understanding of it.

**Teacher's task:** Activate the previous knowledge of the students. Test the knowledge and attitudes of students in relation to the theme of the session. Supervise both individual and teamwork and fully summarize the information.

**Correction:** -

**Anticipation of problems:** Little participation or lack of group interaction.

**Solution:** Provide ideas or examples. Guide students in their teamwork.

**Materials and resources:** Real Mexican handicrafts, class presentation and student dossier; On page 1 there is a table to work on the lexicon related to the subject that is significant for the student. Three journalistic texts on the subject.

**Procedure:** The teacher will distribute different Mexican handicrafts and raise some questions in order to test the knowledge on the subject, as well as the student's attitudes towards artisans. In a group, students will answer what they associate with artisans and their working conditions. Indirectly, students will be prepared to answer what they think are the difficulties that Mexican artisans face.

**To what extent has it worked and what would it change next time?**

## **STEP 2: 360 video viewing activity**

**Objective:** Introduce students to a current problem of Mexican reality through experiential learning with 360 videos (corresponds to the principle instructional 1.5).

**Time:** 15 minutes

**Groupings:** Individual and in groups of three students Student

**task:** Watch the video and watch closely what happens. At the end of the course, students must complete **activity 4** of the dossier by completing the rubric on which they will work what they remember from the video after viewing. Also, the student will have a space to freely complete two open-ended questions. Then, in a group, students will compare their rubrics and discuss their results.

**Teacher's task:** Supervise students during the viewing of the video and during the activity. Summarize in full the comments of the groups.

**Correction:** -

**Anticipation of problems:** Difficulties in understanding the video; technical difficulties (instructional principle 1.4). Students experience physical problems, such as dizziness or vision problems. Little participation or lack of group interaction.

**Your solution:** A variation is made to the activity; Students may use only the audio or mobile phone version without a viewer. Also, in case of physical discomfort, students could use the video transcript to carry out the activities.

**Materials and resources:** Video 360, viewfinder, computer, headphones, mobile phone, Internet; student dossier.

**Procedure:** Each student uses the application *VeeR* and their account to access the 360 video made by Wendy Galván. The students put on the viewfinder and the headphones. Then they stand up and start viewing by paying attention.

**To what extent has it worked and what would it change next time?**

### **STEP 3: Self-reflection activity after viewing the video**

**Objective:** Compare the different reactions and attitudes of students to the subject. Raise awareness of the different perspectives of the problem.

Grouping: Individual and in groups of three.

**Student's task:** The student will perform in **activity 5** a self-reflection of what they **felt** after watching the video (corresponds to instructional principle **1.6**). Then, he will carry out **activity 6**, and later in groups, students will compare their different responses to activities 4 and 5. With this activity students should become aware of the different perspectives of the problem and try to reflect on the differences in their reactions. (corresponds to the experiential principle **2.1**)

**Time:** 10 minutes

**Teacher task:** Supervise students during the activity. Solve doubts.

**Correction:** -

**Anticipation of problems:** Little student participation; Little interaction between team members.

**Your solution:** Provide examples and guide them in their self-reflection.

**Materials and resources:** Dossier

**Procedure:** See the student's homework.

**To what extent has it worked and what would it change next time?**

#### **STEP 4: Activity to recap the observations and knowledge acquired**

**Objective:** The student will summarize in groups the social, cultural, economic conditions, etc. Mexican artisans based on reading material and 360 videos (corresponds to an adaptation of experiential principle **3.2** for educational purposes).

**Time:** 15 minutes

**Groupings:** In groups of three and in full

**Student task:** In groups they will carry out **activity 7** (page 3 of the dossier) in which they will complete a diagram summarizing the main points of their analysis. This activity will be carried out by group consensus. Upon completion, students will share their answers and deepen the problem.

**Teacher's task:** Supervise students during the activity.

**Correction:** -

**Anticipation of problems:** Little student participation; Little interaction between team members.

**Your solution:** Explain to students the importance of performing this activity in order to recap what they learned in the session, in addition to emphasizing the importance of interaction in the development of intercultural competence.

**Materials and resources:** Dossier

**Procedure:** See the student's homework

**To what extent has it worked and what would change next time?**

### **STEP 5: Learning transfer activity**

**Time:** 15 minutes

**Objective:** Prepare a comparison of social, cultural, economic conditions, etc. of Mexican artisans and South Korean artisans

**Grouping:** In groups of three

**Student task:** Based on what you have learned in the session and what you know about artisans in your country, The student will comment in group the information he has on the subject, analyze it and complete a diagram summarizing this information.

**Teacher's task:** The teacher will ask the following questions: What are the social, cultural, economic conditions of South Korean artisans? What problems do artisans in both countries face? What are their challenges? In addition, the teacher will supervise the work of the groups and motivate students to analyze the subject in both countries.

**Correction:** -

**Anticipation of problems:** Lack of time to carry out the activity. Difficulties in performing group dynamics.

**Your solution:** The teams could be regrouped; those who are more advanced could work with the other teams taking advantage of collaborative learning.

**Materials and resources:** Dossier, page 4, paper sheets, *post-its* in which each student summarizes their ideas using keywords that complete the team diagram.

**Procedure:** See the student's homework (corresponds to a modification of the experiential principle **4.1** for didactic purposes).

To what extent has it worked and what would it change next time ?:

**STEP 6: Presentation of the results**

**Objective:** The student will present in group the results of the previous activity (corresponds to an adaptation of the experiential principle 4.2)

**Time:** 15 minutes

**Grouping:** Groups of three students Student

**task:** Collaboratively expose the team's work.

**Teacher's task:** Supervise the work of the groups.

**Correction:** -

**Anticipation of problems:** Lack of time to present all exposures.

**Your solution:** Randomly choose the order of presentation of the equipment.

**Materials and resources:** Dossier, sheets of paper with the main ideas of your presentation.

**Procedure:** Students will present their comparison of the problem that video 360 addresses in both countries, Mexico and South Korea.

To what extent has it worked and what would it change next time ?:

**FINAL STEP:** Recapitulation of what was learned in the session

**Time:** 5 minutes

The teacher will be responsible for recapitulating what was learned in the session.

LESSON PLAN	Teacher: Norma Medina	Date: November 6, 2019	Week: 4	Time: 60 minutes
	Level: B2.2	Number of students: 10	Classroom:	
	Subject: Sexual diversity			

**STEP 1: Warm-up activity and review of the contents worked in the pre-session**

**Objective:** Activate the previous knowledge of the group and place the students in the context of the theme of the session

**Time:** 7 minutes

**Groupings:** Individual and in groups of three students

**Task of the student:** The student will see images related to the theme of the session in the presentation, describe them and comment in full. Also make reading comprehension exercises(**activity1**) and lexical(**activity2**) of the articles read in the pre-session. That is, we will continue with the methodology of the inverted class implemented in session 3. Both activities will be carried out with the purpose of activating the student's knowledge about the subject (**activity 3**), based on what he knows and confirming that He has understood well the subject addressed both in the reading material and in the 360 video that the student will also see in the pre-session.

**Teacher's task:** Activate the previous knowledge of the students. Test the knowledge and attitudes of students in

relation to the theme of the session. Supervise both individual and teamwork and fully summarize the information.

**Correction:** -

**Anticipation of problems:** Little participation or lack of group interaction. Not all students perform the tasks assigned for the pre-session.

**Solution:** Provide ideas or examples. Guide students in their teamwork. Assign the role of experts to the students who better prepare the contents and form the groups in such a way that there are always experts and not so experts in a group.

**Materials and resources:** Visual resources related to the subject, the presentation of the class and the student's dossier; In activity 2 on page 1 there is a table to work on the lexicon related to the subject that is **significant** for the student. Three journalistic texts on the subject.

**Procedure:** The teacher will show different images related to the topic and raise some questions in order to test the knowledge on the subject, as well as the student's attitudes towards people who have different sexual preferences. As a group, students will answer what they associate with images and what they know about the living conditions of people who have different sexual preferences. Indirectly, students will be prepared to answer what they think are the difficulties facing members of the Mexican LGBT community.

**To what extent has it worked and what would it change next time?:**

**STEP 2: Activity on the viewing of the 360-video made in the pre-session**

**Objective:** To deepen the work of analysis and reflection of a current problem of Mexican reality addressed with 360 videos through experiential learning.

**Time:** 7 minutes

**Groupings:** Individual and in groups of three students Student

**task:** The student must complete **activity 4** of the dossier by completing the rubric on which he will work on what he remembers from the video after having done the viewing. Also, the student will have a space to freely complete two open-ended questions. Then, in a group, students will compare their rubrics and discuss their results.

**Teacher's task:** Supervise students during the activity. Summarize in full the comments of the groups.

**Correction:** -

**Anticipation of problems:** Difficulties in understanding the video; not all students do the viewing activity in the pre-session; Little participation or lack of group interaction because it is a controversial issue in South Korea.

**Your solution:** Students who complete the tasks will be the experts of the subject and will share what they learned with the other members of the team.

Likewise, the teacher should guide the students' work by asking questions that encourage reflection.

**Materials and resources:** Student dossier

**Procedure:** Students will carry out the dossier activities individually and then compare their responses with the members of their group.

**To what extent has it worked and what would it change next time ?:**

### **STEP 3: Self-reflection activity**

**Objective:** Compare the different reactions and attitudes of students to the subject. Raise awareness of the different perspectives of the problem.

Grouping: Individual and in groups of three.

**Student's task:** The student will perform in **activity 5** a self-reflection of what they **felt** after watching the video (corresponds to instructional principle **1.6**). Then, you will perform **activity 6** in which Students will compare their different responses to activities 4 and 5. With this activity students should become aware of the different perspectives of the problem and try to reflect on the differences in their reactions (corresponds to the experiential principle **2.1**)

**Time:** 7 minutes

**Teacher's task:** Supervise students during the activity. Solve doubts.

**Correction:** -

**Anticipation of problems:** Little student participation; Little interaction between team members.

**Your solution:** Provide examples and guide them in their self-reflection.

**Materials and resources:** Dossier

**Procedure:** See the student's homework.

**To what extent has it worked and what would it change next time ?:**

#### **STEP 4: Activity to recap the observations and knowledge acquired**

**Objective:** The student will summarize in groups the current situation of the Mexican LGBT community based on the reading material and the Experiential learning with the 360 video (corresponds to an adaptation of the experiential principle 3.2 for educational purposes).

**Time:** 7 minutes

**Groupings:** In groups of three and in full

**Student task:** In groups they will carry out **activity 7** in which they will complete a diagram summarizing the main points of their analysis. This activity will be carried out by group consensus. Upon completion, students will share their answers and deepen the problem.

**Teacher's task:** Supervise students during the activity.

**Correction:** -

**Anticipation of problems:** Little student participation; Little interaction between team members.

**Your solution:** Explain to students the importance of performing this activity in order to recap what they learned in the session, in addition to emphasizing the importance of interaction in the development of intercultural competence.

**Materials and resources:** Dossier

**Procedure:** See the student's homework

**To what extent has it worked and what would it change next time?:**

### **STEP 5: Learning transfer activity**

**Time:** 14 minutes

**Objective:** Prepare a comparison of the situation and problems of the Mexican and South Korean LGBT community.

**Grouping:** in groups of three

**Student's task:** Based on what you have learned in the session and what you know about the gay / LGBT community in your country, The student will comment in group the information he has on the subject, analyze it and complete a diagram summarizing this information (**activity 8**).

**Teacher's task:** The teacher will ask a series of questions (**activity 8**) in order to guide the student's reflection, for example, is the LGBT community organized in South Korea? Is it discussed at the political level and as a society about the rights of the South Korean LGBT community? What are the main problems that South Korean homosexuals face? In addition, the teacher will supervise the work of the groups and motivate students to analyze the subject in both countries.

**Correction:** -

**Anticipation of problems:** Lack of time to carry out the activity. Difficulties in performing group dynamics.

**Your solution:** The teams could be regrouped; those who are more advanced could work with the other teams taking advantage of collaborative learning.

**Materials and resources:** Dossier, paper sheets, *post-its* in which each student summarizes their ideas using keywords that complete the team diagram.

**Procedure:** See the student's homework (corresponds to a modification of the experiential principle **4.1** for

educational purposes).

To what extent has it worked and what would it change next time ?:

#### **STEP 6: Presentation of the results**

**Objective:** The student will present in group the results of the previous activity (corresponds to an adaptation of the experiential principle 4.2)

**Time:** 14 minutes

**Groupings:** Groups of three students Student

**task:** Collaboratively expose the team's work.

**Teacher's task:** Supervise the work of the groups.

**Correction:** -

**Anticipation of problems:** Lack of time to present all exposures.

**Your solution:** Randomly choose the order of presentation of the equipment.

**Materials and resources:** Dossier, sheets of paper with the main ideas of your presentation.

**Procedure:** Students will present their comparison of the problem that video 360 addresses in both countries, Mexico and South Korea.

To what extent has it worked and what would it change next time?

**FINAL STEP: Recapitulation of what was learned in the session**

**Time:** 4 minutes

The teacher will be responsible for recapitulating what was learned in the session.

# 외국어 수업에서 360 비디오를 활용한 문화 간 체험 학습을 위한 수업 원리 개발 연구

세계적으로 새로운 기술이 개발되면서, 국가 간 이동이 더욱 쉬워졌으며 새로운 의사소통 수단이 생겨났다. 학습자들은 교실 안과 밖에서 외국어 또는 제2외국어를 사용해야 하는 상황에 있으며, 이전보다 더 세계화된 환경이 그들에게 요구하는 것은 더욱 분명해지고 있다. 그러므로 외국어 교사들은 학습자들이 언어 구조를 뛰어넘어 자신이 배우고 있는 언어에 자신감을 가지고 실제 언어 세계를 마주하고, 치열한 취업 시장에서 적합한 지원자가 되어 더 나은 기회를 가질 수 있도록 독려해야 한다. 무엇보다도 사람들이 서로의 차이점을 이해하고 수용할 수 있도록 문화적 장벽과 고정관념을 극복할 수 있어야 한다.

본 연구는 교육자들과 교사들이 외국어 교실에서 간문화적 역량을 기르고 개발하는데 적용할 수 있는 360 비디오 경험을 지원하는 13개의 수업 원리를 개발하였다. VR/360 비디오를 통해 학생들을 일상적으로 방문하기 어려운 곳으로 데리고 갈 수 있으며, 더 나아가 많은 교육과정에서 직면하게 되는 비용적, 공간적 한계를 극복할 수 있다. 추가적으로, 본 연구는 360 비디오 콘텐츠 선택 혹은 제작의 특징, VR 기술에 대해 수행된 선행 연구, 응용 분야에서 360 비디오 경험에 대한 결과를 간략하게 보고한다.

수업 원리는 경험학습 이론과 간문화적 학습 이론에 기반을 두고 있다. 내적 타당화와 피드백 인터뷰는 전문가 검토, 파일럿 테스트, 수업 적용에 의해 각각 실행되었다. 개발된 수업 전략은 어떻게 효과적으로 제안된 수업 원리를 외국어 교실에 적용해야 하는지에 대해 유용하게 안내할 것이다.

연구 문제는 다음과 같다.

1. 외국어 교육에서 360 비디오를 활용한 문화 간 체험 학습에 대한 수업 원리는 무엇인가?

2. 360 비디오를 활용한 문화 간 경험 학습에 대한 수업 원리는 내적으로 타당한가?
3. 360 비디오 기반 문화간 경험 학습 수업에 대한 교사와 학습자의 반응은 어떠한가?

연구 절차는 다음과 같다. 우선 문헌 검토를 실시하였다. 다음으로, 수업 원리가 타당한지 5명의 교육공학 및 언어학 분야의 전문가와 외국어 교사에게 내적 타당성을 검토 받았다. 마지막으로 수업 원리를 스페인어 교사 1명과 대학원생 10명으로 구성된 수업에 적용하였다. 모든 세션 동안 개별 학생에게 Google 카드보드 헤드셋을 제공하였고, 디바이스를 설정하고 기술적 오류에 대처하는 방법에 대한 오리엔테이션을 실시하였다. 5주 간의 모듈 동안 한 번의 오리엔테이션과 90분짜리 문화 간 경험 수업이 주에 한 번씩, 총 4번 실시되었다.

경험학습 순환 과정의 네 요소 혹은 단계는 지식, 태도, 기술을 이해하는 간문화적 역량을 기르기 위한 수업 원리에 의해 지원된다. 13개의 수업 원칙과 적용 사례, 단계적 수업 절차와 360 비디오 경험이 개발되었다.

학습자와 교사는 경험학습 순환 과정의 첫 번째 단계로 헤드셋과 360 비디오를 사용하였다. 구체적 경험 단계는 여섯 원리를 포함하며, 이는 ‘동기 유발’, ‘질문 및 토론 촉진’, ‘360 비디오의 사용 목적 설명’, ‘기술적 문제 점검’, ‘360 비디오 경험을 학습과 연결’, ‘학습자가 느낌과 감정을 규명하는 것을 안내’이다. 이후 다음 단계를 진행하였다. 다음 단계인 성찰적 관찰 단계는 학습자가 그들이 관찰한 것과 인식과 의견에 대해 성찰한 것에서 정보를 회상하도록 하는 한 원칙에 초점을 두는 단계이다. 세 번째 단계는 추상적 개념화의 단계로 두 원칙이 이 단계를 지원하며, 이 두 원칙은 ‘학습자에게 추가적인 자원을 제공’, ‘학습자가 자신만의 가설을 형성하도록 유도’이다. 마지막으로, 능동적 실험 단계에서 교사는 네 가지 원칙을 적용하였으며, 이는 ‘협력 촉진’, ‘결과 공유’, ‘논변과 피드백 장려’, ‘진척 기록 유지’이다. 각 세션마다 학습자들에게 학습자의 성찰과 관찰을 위한 노트 작성을 촉진하고, 이후 동료들과 토론할 수 있는 활동이 포함된 학습지를 제공하였다. 수업 내 상호작용은 일대일 대화에서부터 소그룹 협력, 발견한 내용을 발표하는 모든 학생이 참여하는 토론에

이르기까지 다양하게 이루어졌다.

인터뷰와 설문조사 결과에 따르면 5주 모듈 종료 후 교수자와 학습자는 긍정적인 반응을 보였으며, 이들은 모두 새로운 학습 환경에서 발견하고 탐구하였다. 학습 중인 언어를 사용하면서 주변 장소와 사람들을 볼 수 있는 실제적인 자료를 외국어 수업에 활용하였기 때문에, 학습자들은 360 비디오 경험에서 실재감을 느꼈다고 하였으며 실제 맥락에서 진짜 사람을 보고, 유용할 수 있다고 생각하였다. 교사 인터뷰는 수업의 순서와 역동성을 향상시키기 위해 순환 과정에 어떤 원칙이 적용되어야 하는지를 중심으로 진행되었으며, 각 원리를 적용하는 통찰력 있는 방법과 각 세션에 대한 피드백과 제안이 제시되었다. 해당 교사는 적용되는 일련의 원리는 학습자가 문제 해결, 관찰, 의미 형성하기 및 분석 기술을 개발하고 동시에 수업에서 학습자 간 협력을 촉진하는데 도움을 줄 수 있다고 하였다. 그러나, 학습자의 목표 언어 (L2) 학습 시간, 문화적 배경 및 숙련도는 현장 학습과 같은 원대한 계획에 적용하려는 경우 문제점으로 작용될 수 있으므로 고려하여야 하는 주요 요소라는 점이 지적되었다.

본 연구는 외국어 수업에서 문화 간 경험 학습과 360 비디오를 적용해보고자 하는 교육자들과 교사들에게 수업 원리를 제공한다. 마지막으로, 문화 간 경험 학습과 360 비디오의 적용과 수행된 수업 세션의 결과에 따라 권장 사항이 제공된다. 문화 간 경험 학습과 360 비디오의 사용은 학습자들이 토론하고, 분석 기술을 활용하도록 하고, 토론을 위한 논증을 이끌고, 논의되는 사회문제에 대하여 학생들이 의견을 일치시킬 수 있도록 하기 위해 교실을 떠나지 않고도 학습자들에게 다른 장소로 이동할 수 있는 비교적 쉬운 방법을 제공한다는 점에서 실용적이다. 또 다른 측면에서는 다른 사람들의 문화와 사안에 대하여 학습자들의 문화와 상황을 비교함으로써 이해할 수 있도록 하며 학습자들의 사회, 관습 등 타인들에 대한 인식을 자각할 수 있도록 도와준다.

**Keywords:** 경험 학습, 간문화적 학습, 360 비디오, 가상 현실, 개발 연구, 외국어 교육

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