

# Learning Theories and Cultural Intelligence (CQ): a Literature Review Study and Mapping of CQ Development Method

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## ABSTRACT

*The emerging of globalization makes the importance of cultural intelligence (CQ) acknowledged both by researchers and practitioners. Therefore, many researchers have their focus on how to develop someone's CQ. Although there have been many studies related to methods to develop CQ, but there are still few related to learning theories. whereas learning theories should become references when talking about teaching or developing someone including the development of CQ. Moreover, there is still limited research that tried to map or compare the method used to develop someone's CQ. This paper will try to fill that gap. The paper used systematical literature review of papers related to CQ development. From the review, it was found that the method to develop someone CQ can be categories into traditional class, direct experiential, and indirect experiential. From the mapping process of the CQ development method into these categories, it is known that most of previous research focuses on using direct experiential learning process. However, there is no research of CQ development that combine the direct experiential and indirect experiential as well as combination of the three categories. Through those findings, this paper suggests some possibilities for further research that can benefit both the body of knowledge and people who want to develop CQ.*

**KEYWORDS:** *cultural intelligence (CQ), direct experiential, indirect experiential, learning theories, traditional class.*

**JEL CLASSIFICATION:** *I20, M16*

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## 1. INTRODUCTION

The emergence of the era of globalization has made it important for a person to have good intercultural skills. With good intercultural skills, a person will easily interact and cooperate with people from other countries who have different unique cultures. One of the essential intercultural skills is cultural intelligence (CQ), a type of intelligence that explains why a person can adapt and work well with people from different cultures (Ang et al., 2007; Thomas, 2006; Thomas et al., 2008). The benefits of having a high CQ on one's effectiveness in interacting in environments with different cultures have been recognized by both academicians and practitioners (Clawson, 2019; Fang, Schei, & Selart, 2018; Marr, 2019). Based on this, much research has been done to find out how CQ can be developed. This CQ development process cannot be separated from the learning process.

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In the process of developing CQ, many researchers already tried a different method. For example, Rehg et al. (2012) using traditional approaches which are lecturing class using powerpoint to develop CQ of 110 military and government civilians. Meanwhile, MacNab et al. (2012) developed an experiential approach to develop CQ. Bücken and Korzilius (2015) also tried to develop students CQ using the Ecotonos simulation game. However, even though a lot of researchers talked about how to develop CQ, very little relate the process with learning theories even though it focus the process on how people learn something. Learning is an essential process for humans by which an individual gains new knowledge that can help their lives. To get optimal results, one must understand what kind of learning method is suitable. With the right learning method, a person will absorb the knowledge well and develop to the fullest.

The learning process is a complex process involving the individual capability to process information and interpersonal skills that consider planned and conditional variables (Nygaard, Højlt & Hermansen, 2008). The learning process is affected by internal and external interaction (Illeris, 2009). External interaction refers to the interaction between an individual and its environment, while internal interaction means the acquisition of knowledge itself that involves learning content and incentive function (Illeris, 2009). When talking about learning content, the individual tries to understand something that involves knowledge, skills, opinion, insight, and other processes to create meaning and the ability to face problems that lead to the individual's functionality (Illeris, 2009). At the same time, incentive refers to mental energy that someone gives to a learning process that involves emotion, motivation, and volition to achieve mental balance and develop sensitivity (Illeris, 2009). These two dimensions interact, trigger the learning process, and help individuals integrate with society and develop their sociability (Illeris, 2009).

It becomes clear that the CQ development process is somehow related to learning theory. However, research that tried to link CQ development and learning theories is still limited. This may be caused by the fact that there is some field that has not been explored related to the CQ development process. From that, this paper took initiative to review the method used to develop CQ by previous research and look at them from the perspective of some of learning theories. The review result will then be a guidance in mapping the CQ development method to learning categories. This mapping may be beneficial for both for further research and implementation of CQ development. From this mapping, the categorization of the CQ development method is expected to emerge, which can help further research to understand and explore more about the CQ development process. The mapping and categorization will also help any party that wants to replicate, use, or develop methods in developing someone's CQ.

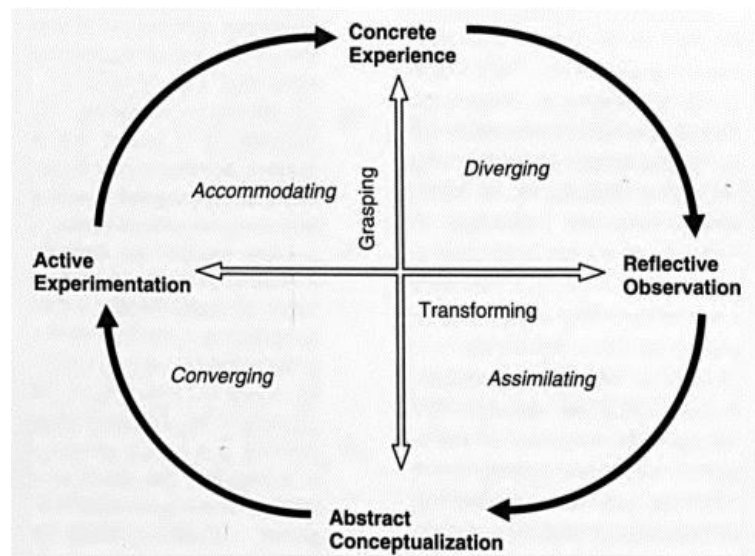
## **2. LITERATURE REVIEW**

There are many learning theories ranging from andragogy to problem-based learning (Minter, 2011). However, this research will focus on cognitive theories, experiential learning, and gamification learning, which are considered relevant to the CQ development process.

Unlike behavior learning theories that emphasize the learner's reaction to a particular treatment, cognitive learning theories focus on how learners construct new knowledge based on pre-existing knowledge (Şanal et al., 2019). Cognitive learning theories talk about the mental process in acquiring, structuring, and creating knowledge (Kay & Kibble, 2016; Şanal, et al., 2019). These theories try to explain how the mind processes information to knowledge.

One of the fundamentals of cognitive theories is constructivism. Constructivism sees that knowledge is a construction of people's minds, which means that people are not just passive receivers of knowledge, but also active in constructing and creating knowledge (Walat, 2014). The assumption of constructivism in cognitive theories is that learners can create knowledge by adjusting their existing knowledge (Şanal et al., 2019). The activity to build knowledge can vary, such as using verbal, practical, intellectual, sensory, receptive, and emotional (Walat, 2014). Another vital method in implementing cognitive theories is giving feedback to learners; thus, they can learn from their mistakes and create new knowledge from the mistake (Şanal et al., 2019). Therefore, it is essential to note that in the cognitive theories approach, the assessment not only assesses the knowledge given but also assesses whether the learner can implement the knowledge in different situations or contexts (Şanal et al., 2019). To facilitate the process, an educator must not act as a source of knowledge; rather, they must act as mediators and facilitators that support learners in a learning process (Walat, 2014).

Meanwhile, experiential learning focuses on how people can learn through experience (Kolb, 1984, p. 41). It has six main foundations, which are (1) Focus on a process, not outcomes; (2) Learning is a re-learning process; (3) Learning is the result of conflict resolution; (4) Learning is an integrated function of adaptation; (5) Learning is a process of interaction between individual and its environment; and (6) Learning is a process of creating and not transmitting knowledge (Kolb & Kolb, 2009). Experiential learning focuses on transforming experience into knowledge; therefore, in its learning cycle, it is based on four stages which are: (1) concrete experiences; (2) reflective observation; (3) abstract conceptualization; and (4) active experimentation (Kolb & Kolb, 2009).



**Figure 1. Experiential learning cycle**

*Source:* adapted from Kolb & Kolb (2009, p. 44)

The different learners' responses toward this cycle result in four types of learning styles. The first is convergent, which emphasizes abstract conceptualization and active experimentation, which puts someone stronger in implementing the theories or ideas (Kolb & Kolb, 2009). The second is accommodating, which combines active experimentation and concrete experience, which make them able to learn from an action or experiment (Kolb & Kolb, 2009). The third learning style is known as diverging, in which people who are dominant in concrete experience and reflective observation can thus reflect, evaluate, and generate ideas about an

event from a different perspective (Kolb & Kolb, 2009). The latter is assimilating, in which people have a strong point in reflective observation and abstract conceptualization that result in the ability to put various information into a logical concept (Kolb & Kolb, 2009).

A different approach from cognitive and experiential learning, gamification learning, is a process that uses game elements or mechanics in a non-game situation (Al-Azawi et al., 2016). Gamification learning focuses not only on finding the methods that make students understand the material and achieve the learning objectives, but also on how students can feel motivated and engage with the learning process (Cheong et al., 2014).

Based on the definition, it is essential to learn about the game elements when talking about gamification. The game elements are any features that indicate the game's characteristics ranging from concrete elements that can be seen in a game, such as a leaderboard, to abstract elements such as enduring play (Cheong et al., 2014). These game elements cannot be separated when people use gamification in a learning context. Some researchers have shown the importance of the game elements in conducting research about gamification. For example, the research conducted by Ault and colleagues focused on rapid and competitive play, timed performance, immediate feedback, and high rates of response (Ault et al., 2015). Meanwhile, other researchers used a combination of levels, points, badges, virtual goods, and a leaderboard to create a framework regarding the effectiveness of social gamification (Simões et al., 2013). Align with that; there is also research that tried to use role-play elements in the education process that include experience point, RPG classes, event encounter, and reward system (Ntokos, 2019). Finally, Toda and colleagues proposed the dimension of game elements that incorporate performance, ecological, social, personal, and fictional (Toda, et al., 2019). These examples showed that the game elements are one of the most important aspects to be considered when trying to implement gamification. These elements have also been tried to be used in developing CQ, such as in simulation, role-play, or avatar method (Bücker & Korzilius, 2015; Fischer, 2011; Kirste & Holtbrügge, 2019).

In addition, gamification also shows favorable results regarding its effectiveness in the learning process. Regarding the learning process, the most visible effect of gamification is the increased level of students engagement (Chen, 2020; Khaleel et al., 2020; Sun & Hsieh, 2018). Aligned with that, the implementation of gamification also showed a positive effect on learners' motivation (Bicen & Aydogan, 2020; Gómez-Carrasco et al., 2019; Sun & Hsieh, 2018). Moreover, gamification can also increase learners' attention (Sun & Hsieh, 2018). Related to knowledge, using gamification can increase the participants' mastery and retention of knowledge (Chen, Lu & Lien, 2019; Putz et al., 2020). In addition to that, gamification can also positively affect learners' skills and competencies, such as communication and argumentation skills (Bicen & Aydogan, 2020; Chen et al., 2019; Tsai et al., 2019).

Looking back on the CQ development process, some researchers use learning theory to develop a method to improve someone's CQ. For example, the lecturing approach, as an embodiment of cognitive theory, is used to develop CQ (Bobanovic & Grzanic, 2019; Rehg et al., 2012), or MacNab (2012) who developed a framework of experiential learning for CQ development that consists of seven stages which are (1) awareness development of CQ and cultural differences; (2) giving instruction to participants about experiential learning; (3) checking participants status prior to the experience; (4) experiencing cross-culture environment; (5) internalizing the experience; (6) getting feedback from the instructor; and (7) having a group discussion and social sharing with other participants (MacNab, 2012). Additionally, the CQ development process that used Ecotonos aligned with gamification learning has also been done (Bücker & Korzilius, 2015).

### 3. RESEARCH METHODOLOGY

To map the previous research regarding the CQ development process, the first thing to be done is to search the literature related to the CQ development process. In doing this, the researcher used the ProQuest database because it combines several databases. Therefore, it is considered that ProQuest has comprehensive coverage regarding literature review on the CQ development process.

In order to find the relevant literature, some keywords are generated. There are five keywords used in this search process that are considered to have high relevance to the topic of CQ development. These keywords are ‘Cultural Intelligence’; ‘Development’; ‘Training’; ‘Education’; and ‘Improving’. To get optimum results, those keywords are combined into a single keyword, which is (‘Cultural Intelligence’) AND (‘Development’ OR ‘Training’ OR ‘Education’ OR ‘Improving’). By using this keyword, the search engine will find literature related to CQ development, CQ training, CQ education, and CQ improvement, which is the terminology used by previous research to the process in developing CQ.

From the search, 2,434 literatures match the keywords. After finding the literature, the following process is the screening process. The screening process is needed to filter all the literature to get the literature that matches the objective of this research. There are several steps in the screening process. First, the literature must be a research article or scholarly journal written in English. This screening is used to guarantee the quality of the literature and make it easier for a researcher to read and understand the content of the paper. The following screening process is to find the literature that focuses on cultural intelligence context so it will avoid literature that has other variables as their research object to be included in this research. Finally, from those journal papers, the screening process is done to find a paper that focuses on developing someone’s CQ. After conducting the screening process, there are 39 articles of literature that are considered relevant to the CQ development process.

After finding these articles, the researcher conducted a review with a focus on the method in developing CQ. From this review, the categorization and mapping were made, which will be discussed in subsequent sections.

### 4. RESEARCH RESULTS AND DISCUSSIONS

In order to be able to map the method in developing CQ, the review was conducted on 39 papers. The review focuses on identifying what methods the previous researcher used (or considered capable of developing a CQ) to develop someone’s CQ. The result of this review can be seen in Table 1.

**Table 1. Method in Developing CQ**

No	Author(s)	How CQ is developed
1	Gertsen & Sørderberg (2010)	Expatriate assignment
2	Fischer (2011)	Lecture and simulation game
3	MacNab et al. (2012)	Experiential training
4	MacNab & Worthley (2012)	Experiential training
5	Rehg et al. (2012)	Lecturing class using powerpoint
6	MacNab (2012)	Experiential training
7	Eisenberg et al. (2013)	Lecturing and study abroad

No	Author(s)	How CQ is developed
8	Erez et al. (2013)	International project
9	Rosenblatt et al. (2013)	Lecturing class and interaction with people from different culture
10	Taras et al. (2013)	International project
11	Goerlich (2014)	Lecturing, case study, and role plays
12	Sahin et al. (2014)	International assignment
13	Buchtel (2014)	Traditional class
14	Tuleja (2014)	cross-cultural immersion
15	Stewart et al. (2014)	International service programs
16	Reichard et al. (2014)	Two-hour training sessions
17	Wood & St. Peters (2014)	Short-term cross-cultural study tours
18	Varela & Gatlin-Watts (2014)	International student exchange program
19	Bücker & Korzilius (2015)	Simulation game
20	Reichard et al. (2015)	International assignment and classroom training
21	Ko et al. (2015)	The global link project
22	McRae et al. (2016)	Canadian-European exchange program
23	Kurpis & Hunter (2016)	Classroom and interview international students
24	Mayer et al. (2016)	Intercultural competence training course (theoretical study, group discussions, individual reflections, case study analysis and the development of best practices)
25	Ramsey & Lorenz (2016)	Classroom (the use of a text book and current event discussions)
26	McClinton & Schaub (2017)	Class training (traditional lecture, homework/reading assignments, presentations, panel discussions, and journaling)
27	Chao et al.n(2017)	International exchange program
28	Presbitero & Toledano (2017)	Cross-cultural training (Lecturing, role playing, and case study)
29	Young et al. (2018)	Mentoring refugee
30	Gustomo et al. (2018)	Short field trip
31	Sheetal et al. (2018)	Reciprocal mentoring
32	Bengoa et al. (2018)	Classroom and international project
33	Alexandra (2018a)	Experiential cross-cultural training
34	Alexandra (2018b)	Experiential cross-cultural training
35	Azevedo & Shane (2019)	Classroom and team project
36	Bobanovic & Grzinic (2019)	Lecturing, reading literature, sharing session, game, role-play, and focus group discussion
37	Kirste & Holtbrügge (2019)	Simulation with digital avatar
38	Pierce & Longo (2019)	Classroom
39	Stoian (2020)	Case studies, discussions and simulations

From Table 1, it is known that the methods that are used in developing CQ vary, ranging from classroom to using a digital avatar. To map those methods, first the categories need to be created. The categories must be general, so they can become references in mapping the method. After analyzing the methods, three categories emerge, which are 'Traditional Class', 'Direct Experiential', and 'Indirect Experiential'. The traditional class is a category that accommodates traditional methods such as lecturing, reading a book, presenting, or watching movies. In contrast, the direct experiential category involves methods that allow participants to interact with other people from different countries. The indirect experiential category is where participants can still experience the interaction with other people from different countries without directly interacting, such as using simulation or role-play.

After deciding the category, the mapping is done based on these categories. The result of the mapping can be seen in Table 2.

**Table 2. Categorization of Methods in Developing CQ**

No	Author(s)	Category
1	Gertsen & Sørderberg (2010)	Direct experiential
2	Fischer (2011)	Traditional class and Indirect experiential
3	MacNab et al. (2012)	Direct experiential
4	MacNab & Worthley (2012)	Direct experiential
5	Rehg et al. (2012)	Traditional class
6	MacNab (2012)	Direct experiential
7	Eisenberg et al. (2013)	Traditional class and Direct experiential
8	Erez et al. (2013)	Direct experiential
9	Rosenblatt et al. (2013)	Traditional class and Direct experiential
10	Taras et al. (2013)	Direct experiential
11	Goerlich (2014)	Traditional class and Indirect experiential
12	Sahin et al. (2014)	Direct experiential
13	Buchtel (2014)	Traditional class
14	Tuleja (2014)	Direct experiential
15	Stewart et al. (2014)	Direct experiential
16	Reichard et al. (2014)	Traditional class
17	Wood & St. Peters (2014)	Direct experiential
18	Varela & Gatlin-Watts (2014)	Direct experiential
19	Bücker & Korzilius (2015)	Indirect experiential
20	Reichard et al. (2015)	Traditional class and Direct experiential
21	Ko et al. (2015)	Direct experiential
22	McRae et al. (2016)	Direct experiential
23	Kurpis & Hunter (2016)	Traditional class and Direct experiential
24	Mayer et al. (2016)	Traditional class
25	Ramsey & Lorenz (2016)	Traditional class
26	McClinton & Schaub (2017)	Traditional class
27	Chao et al. (2017)	Direct experiential
28	Presbitero & Toledano (2017)	Traditional class and Indirect experiential
29	Young et al. (2018)	Direct experiential
30	Gustomo et al. (2018)	Direct experiential
31	Sheetal et al. (2018)	Direct experiential
32	Bengoa et al. (2018)	Traditional class and Direct experiential

No	Author(s)	Category
33	Alexandra, (2018a)	Direct experiential
34	Alexandra, (2018b)	Direct experiential
35	Azevedo & Shane (2019)	Traditional class and Direct experiential
36	Bobanovic & Grzinic (2019)	Traditional class and Indirect experiential
37	Kirste & Holtbrügge (2019)	Indirect experiential
38	Pierce & Longo (2019)	Traditional class
39	Stoian (2020)	Traditional class and Indirect experiential

Based on Table 2, it can be seen that there is research that used a method that belongs to one category only, while several other researchers used a method that belongs to more than one category. The summary of categorization can be seen in Table 3.

**Table 3. Summary of Categorization**

No	Category	Number of research
1	Traditional class	7
2	Direct experiential	19
3	Indirect experiential	2
4	Traditional class and Direct experiential	6
5	Traditional class and Indirect experiential	5
6	Direct experiential and Indirect experiential	0
7	Traditional class, Direct experiential, and Indirect experiential	0

From Table 3, it can be observed that the most used method is direct experiential. This is probably because CQ does not only talk about cognitive aspects, but also behavioral aspects. Therefore, the use of direct experiential is considered capable of significantly increasing CQ. Meanwhile, the use of indirect experiential is still minimal. This is probably because the direct experiential is considered better than the indirect experiential. In indirect interaction, a person will only feel an imitation of the actual interaction in which there may be discrepancies (e.g. differences in body language). In addition, there are differences in atmosphere and mindset (for example, in indirect learning, people are not too serious because they know that this is only an imitation), which may affect the effectiveness of the learning process. This might also be the reason why there are no studies that combine the use of direct and indirect experiential.

Then, several other studies focused on using traditional classes, possibly because they focused on developing the cognitive aspects of CQ. The exciting thing is that the use of traditional classes is often combined with the use of direct experiential or indirect experiential. This is likely because researchers want to improve cognitive abilities first, and then participants can implement it into behavioral forms. This way, it is expected to give more improvement in CQ development. However, even though there is a combination of traditional class and either direct experiential or indirect experiential, no studies combine these three categories.

This opens up many possibilities for further research related to CQ development. Researchers can further explore indirect experiential learning because it is still limited. The use of indirect experiential can be beneficial mainly because it is possible to create simulations that can represent direct experience with the development of technology. This can also be useful because providing direct experience interacting with people from other countries sometimes



requires a large amount of money (e.g. conducting study trips abroad), which may not be possible to conduct in several cases.

Another possible research is combining indirect and direct experiential learning. Participants can try indirect experiential learning before directly interacting with people from a different culture.

Finally, combining all categories may lead to exciting research. Researchers can explore how each method can complement each other or compare the effectiveness of each category toward the development of CQ (or toward each dimension of CQ). In that way, people can have more perspective if they want to use a method in developing CQ, whether they want to combine it between categories or use it separately.

## 5. CONCLUSIONS

The importance of CQ makes many researchers research CQ development. However, little is related to learning theories even though learning theory is the basis in people development of people. This paper attempts to understand the method that previous researchers used using cognitive learning theory, experiential learning theory, and gamification learning theory. From that it can be seen that the method for developing someone's CQ can be classified into three categories. Those categories are traditional class which is traditional learning methods such as lecturing, reading a book, presenting, or watching movies, direct experiential which is involving methods that allow participants to interact with other people from different countries, and indirect experiential where participants can still experience the interaction with other people from different countries without directly interacting, such as using simulation or role-play.

From the mapping of the previous method towards toward these categories it is known that most of the previous research using direct experiential learning while the other categories and combination of categories is still limited. From that, there are some further research suggestions to explore more about how to develop CQ. First, research on the indirect experiential method can be explored, as the number is still limited. Second, the CQ development method research that combines both the direct and indirect experiential methods can be done. Finally, research that combines all categories to see how each method complements each other in developing CQ can be carried out or each method of understanding how it affects CQ and its dimension can be compared

By doing research in those aspects, it is expected both academicians and practitioners of CQ will get more understanding in how developing CQ, how each learning process complement each other, and which learning process is suitable to use.

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