Promoting Empathy Using Design Thinking In Project-Based Learning And As A Classroom Culture

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ABSTRACT

This paper explores the benefits of empathy skill for school students. The encouragement of empathy skill in school was discussed in two situations: 1. Using design thinking approach for project-based learning and 2. Promoting as a classroom culture. Empathy is an act of understanding, being conscious and experiencing the feeling and thoughts of other people. It is the key to inspire social innovation and diminishing prejudice against others. Empathy skill has affected our feeling of wellbeing and human centeredness to provide an understanding of people's needs. By integrating design thinking process in school, students will equip themselves with empathy-related skills such as communication, observation, decision-making and positive relationship with others as part of their active learning process. Adapting design thinking in project-based learning requires students to be aware and concern in exploring human-driven design which leads to user satisfaction for any problem's solution. Empathy also has the advantage of forming a positive classroom culture and sustaining a good teacher-student relationship. This paper discussed how the design thinking process can promote empathy skill during project-based learning for humanizing decision-making and the opportunity for empathy integration in the classroom to engage in positive collaboration and teamwork.

KEYWORDS: *Classroom Culture, Design Thinking, Empathy, Project-Based Learning*

1. INTRODUCTION

Empathy is about people and a deep understanding of their expectations and needs. The focus of empathy is to develop the consideration of other people's point of view. By empathy and going underneath the surface, sometimes, the actual needs are beyond the basic request. Thus, empathy is crucial to find and realize what is really going on. By insights and observations, we can interpret what they say and do to what they actually think and feel (Desai & Nemade, 2016). Therefore, it is important to identify the differences in perspectives to focus only on relevant information. Being empathetic to the affected people require thorough observation and analysis to define the actual problems.

Empathy is the core characteristic of design thinking to explore human-driven innovation (Efeoglu et al., 2013). Design thinking is about asking the correct questions and elaborate interpretation and assumptions. Using contextual inquiry and deep understanding, design thinkers learn how to observe, listen and develop empathetic insights that lead to human-centered ways of solving problems (Carroll, 2015). Design thinking is a human-centered innovation process that provides a robust basis for divergent problem-solving. The process which has energized business and entrepreneurship is being applied to primary and secondary school level for consideration. Because of its key emphasis on people needs is through empathy, design thinking focuses on the curriculum and assessment mainly to solve real-world problems. Students engage in hands-on projects that focus on building empathy, suggesting ideation and encouraging active problem solving (Lor, 2017). Students need to know how to be empathetic towards others, understand problems and generate creative solutions. They also need to engage people in the empathy stage of the design thinking process. They look, listen and communicate to people about what they are doing, ask questions and reflect on what they see. The understanding and observation in design thinking help students develop a sense of empathy and feel their anxiety (Carroll et al., 2010). Figure 1 shows the empathy step in the design thinking process.

Fig. 1 Design thinking process (Plattner et al., 2009)

Empathy plays an important role in design thinking process to search for rich stories and discover what the people truly need. Students empathize to understand what they exactly feel, determine their perspective and enlighten the problem to solve. After the root problem has been clarified, the next steps to be performed are generating ideas by brainstorming, clustering ideas and creating solutions, prototypes of the solution and test to gain feedback. Reviewing on the user feedback, these whole processes will be repeated to continually improve the solution (Fouché & Crowley, 2017). It was agreed by many practitioners and researchers that the biggest challenge in design thinking process is not in the creation of the prototypes or the application of content. Actually, the most difficult process is to be in users' shoes and generating empathy for them because empathy goes beyond recognition of the subjectivity of the design domain and describe the whole process of design thinking as human-driven as its core value (Carlgren et al., 2016; Glen et al., 2015; Liedtka, 2015). Empathy is involved with emotion and cognition. Empathy can be described as being an instinctive, affective and shared experience which one can feel what other people experience. Moreover, the ability to understand how others may feel from their point of view (Gasparini, 2015).

In order to define users' perspective through their point of view, designers will adopt the empathy map. Most of design thinking practitioners also apply an empathy map to reveal the real needs of the users (Desai & Nemade, 2016). An empathy map is a method that assists designers to develop their business model based on the clients' requirement. Empathy map can be used during interviews or observation of what the target users are doing. The empathy map aim is to generate a degree of empathy for a specific person. The focus is to understand others by looking at the world through their eyes. When the designers understand the user, they will realize that a small change in design would give a big impact on the particular user

(Bratsberg, 2012). The original version of empathy map was created by Dave Gray in 2012. The Empathy Map template was created with a specific set of ideas and designed to portray empathy development. Later, the empathy map template was improved to make it more usable and bring better experiences and outcomes (Gray, 2017). Figure 2 shows the template of the improved empathy map of a person. The empathy map is proved as a tool that easy to use and useful to describe users' perspectives. The empathy map provides more flexibility than a textual description. It is also able to guide and enhance empathy skill for novice designers to view other people experience and feeling (Ferreira et al., 2015).

Applying empathy skill in students learning experience especially project-based learning can go a long way toward improving students' engagement towards their projects. Furthermore, they help to humanize the topic being explored and encourage empathy among the students. By connecting empathy with project-based learning, students will be able to innovate to solve not only local challenges but also those faced by people around the world (Klein, 2016). Most importantly, by grounding their projects in empathy perspective and user observation, students were challenged to witness the world as it is and begin crafting the world as it might be.

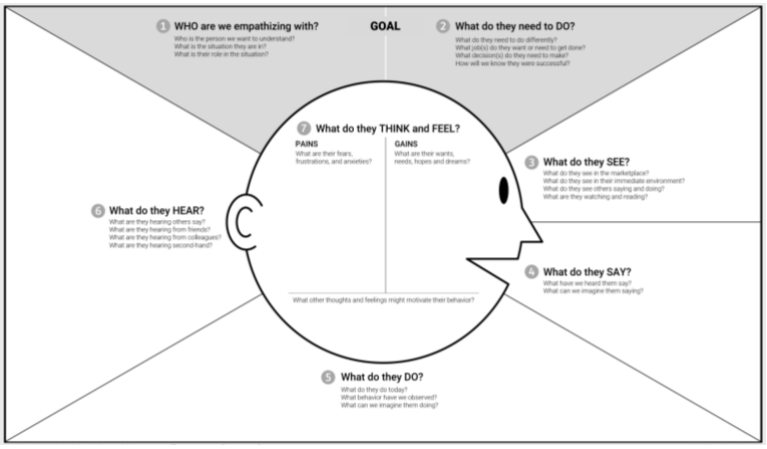

Fig. 2 Empathy map template (Gray, 2017).

2. EMPATHY SKILL FOR PROJECT-BASED LEARNING

Nowadays, we face simultaneously complex problems which are not easily be solved by utilizing traditional problem-solving processes. In design education context, problem-based learning has always been confused with project-based learning. Project-based learning needs the students to establish the problem from the start, while problem-based learning needs the students to follow accepted principles to solve the clearly defined problem (Spencer, 2018). Integrating empathy in project-based learning is where students perform observation and interview sessions to the target user to gain a deep understanding of the project. It is the roots of constructivism which can be found in the Dewey theory of experiential learning (Dewey, 1986). Dewey proposes that learning truly occurs when education incorporates and utilizes with experiences (Miettinen, 2000). Project-based learning is sort of inquiry-based learning and agreed by the idea that knowledge is formed by the learner himself and continuously grown based on previous experiences (Hutchison, 2016). The problem definition and difficulties in project-based learning play an important role in the effectiveness of student outcomes at the end of the project. The goal is to foster students' skills in people-oriented attitude and deep-rooted understanding of design thinking

and making (Melles et al., 2015). This attitude and understanding, if applied in service for people and from the perspective of human needs may contribute towards generating a culture of entrepreneurs that pursue the 'global good' in all their endeavors. To achieve the goal, empathy skill plays an important role to create awareness of human perspectives (Cassim, 2013).

Empathy is used in different ways in design thinking. It can be a tool to design with which requires the transformation of the emotional feeling into attributes in design projects. Empathy also can be used to acquire insight into users' needs and in doing so, involved in the design process (Gasparini, 2015). The interconnections between project-based learning and design thinking have gained more interest from many educators. Using authentic design challenges and design thinking strategies in a project-based learning context will explore more innovative and creative products from students. When students have a chance to and redesign by design thinking, their project-based learning products will be necessarily innovative. On the other hand, their creativity will be enhanced and we may be fostering the next generation of inventors who can solve any kind of problems (Klein, 2016). Hence, by connecting design thinking with project-based learning, the students can see how innovation and imagination can solve not just local challenges, but also the challenges faced by people around the world via social innovation project.

Project-based learning is a distinct advantage in offering students to learn by experience compared to the theoretical method. This learning can extend beyond the important skills such as collaboration, communication and problem-solving. It can even help to develop more vital skills like empathy and understanding because these skills cannot be taught in class, they must come from experience (Krueger, 2018). The addition of the empathy approach during a project-based learning experience may gain the opportunity for the students in improving their products and their engagement throughout the project. Design thinking offers the participants in a particular process to share their own empathic insights related to the required task. In fact, this is one of the strengths of the design thinking approach when all participants including the students and users bring empathy into the process. By focusing the design objectives in empathy observation and interviews, students were exposed not only to witness the real world as it is but also to begin designing the world as it might be (Gasparini, 2015). Project-based learning is affected by the empathy aspect from the feedback obtained and received during interview and observation sessions. Furthermore, empathy also can be achieved from frequent collaboration among students, especially in a multidisciplinary background (Brown & Wyatt, 2010).

The great thing about the multidisciplinary background approach in project-based learning is collaborative that the students across different fields bring their experience and knowledge together to this project. Interdisciplinarity is the combination of multiple disciplines in order to better concepts' definition and able to focus on using different backgrounds of expertise in order to develop a better understanding of a social issue (Cargill, 2005). As interdisciplinarity grows in professions and in academic world, students' engagement at all levels of exposure is a great advantage for their experience. The outside world—in research and profession are becoming increasingly dependent on interdisciplinary knowledge and skills. A study by Hutchison (2016) revealed that the most successful groups are often of whose members represent a variety of disciplines with ongoing collaborative group works. Hence, they can draw upon different group members' strengths and knowledge to generate a creative and workable final solution. The groups' varied academic backgrounds are contributing useful specific ideas or concepts, ultimately generating a more informed and in-depth outcome. By having the multidisciplinary approach, social innovation practice can

be encouraged in their design concepts. Engaging in an empathy project also allows students to explore and enhance skills with interdisciplinary thinking and collaborative learning while improving core skills such as communication, ethical and critical thinking (Hutchison, 2016).

Social Innovation is the process of developing effective and systematic solutions for social and environmental issues to support social progress. However, most designers still focused their attention on improving the appearance and functionality of products compared to consider the needs of a certain group of people or communities (Brown & Wyatt, 2010). The social innovation in design thinking can create transformational changes in underserved, underrepresented, and disadvantaged communities worldwide' and hence, the use of design thinking method perhaps can address vital issues such as poverty, health, basic facilities and gender inequality. By working within these communities in a certain project, students will engage and interact with the particular group and it will encourage the students to attain new stories and perspectives through the lens of a broader and more empathetic worldview (Souleles, 2017). Thus, the human-centered nature of design thinking makes the empathy approach relevant as the students are trying to solve problems that affect people. The ability to demonstrate empathy in innovation will contribute to addressing social issues. Design for social changes requires the adoption of various strategies for socially useful design and meet the particular group needs such as the visually impaired people or the elderly.

However, the awareness to empathize towards others should be started in the classroom before it was brought out into the outside world. Students should be encouraged with empathy skill in the teacher-student relationship and among their peers. The benefits of empathy skill as a basic culture in the classroom are strengthening the communication among people in the class, encouraging positive attitudes and preparing students to be leaders of their own communities (Owen, 2015). Empathy motivates the students to have deepened relationships with their peers and people inside and outside the school compound. In the increasingly globalized world, these people may be coming from different races, cultures and socioeconomic backgrounds. Therefore, it is necessary for a better- developed empathy skill (Sornson, 2014). When students develop their empathy skill by communicating cross-culturally with their peers and teachers, these skills will transfer to their lives within the community. The deeper relationships and understanding comes from strong empathy skills have the potential to strengthen a community and build trust among them (Owen, 2015). The existing trust will then lead to engaging in more important skills such as communication and collaboration to succeed in any kind of projects.

3. EMPATHY IN THE CLASSROOM

Empathy has been recognized as the key to effective teaching. Addressing the emotional needs that students bring into the classroom demands the teachers to look beyond the surface and understand what the cause of a particular set of behaviors is. Without empathy mindset, it will narrow the focus of the teacher and prevent him from accurately identify learning barriers that would face by the students. Hence, it will turn out that students would be viewed as academic producers rather than socio-emotional beings (Crowley & Salde, 2016). If teachers treat students as respected co-learners and peers, it will develop the students' belief and affect their behavior on how to treat others. Students often observe teachers constantly, and their actions could unintentionally model unempathetic behavior. Taking the time to demonstrate empathy can also develop student-teacher relationships (Blazar & Kraft, 2017). Teaching students to understand others by showing concern about their problems is a powerful message. While there is a specific process that design thinking

needs to follow, perhaps the greatest impact on students is the establishment of a mindset that promotes an understanding of others. Teaching students to have empathy not only makes them better innovators, but it will also make them better people (Fisher, 2016; Owen, 2015).

In accordance with the vision of the Malaysia Minister of Education, he outlined three core values to be implemented and nurturing the culture of happiness, love and mutual respect in schools to create fun and positive learning environment (Tharanya Arumugam, 2018). It coincides with the objectives of empathy where students need to embrace differences and reject hatred or prejudice among each other. Empathy skill can be developed and cultivated by discussing issues of social justice and demonstrate their concern and deeper understanding of some of the more marginalized members in their own society (Jamieson, 2015). Cultivating empathy among students has been connected to some desired outcomes such as positive peer relationships and better communication and collaboration skills. It is important for the teacher to express empathy and how it has the power to influence a variety of contexts and interactions. Thus, nurturing the well-being of students and promotes a positive, empathic culture are able to make classrooms and schools as a safe place for children. Using empathy as part of students' social skill, they will learn to understand each other, as well as helps them to build a connection based on positive relationships of trust (Owen, 2015). However, this assumption is challenged by demonstrating that empathy levels have been declining over the past 30 years. A research done by Konrath et al. (2011) has found that college students' self-reported empathy has declined since 1980 especially a steep drop in the past 10 years perhaps due to the increase in social isolation which resulted to a society of self-obsessed loners. To make matters worse, during this crucial period students' self-report on narcissism also has reached new heights based on research by Twenge et al. (2008) which has coincided with the drop in empathy (Jamil Zaki, 2011). Therefore, it is very important to teach students to be more conscious of other people's experiences and feelings.

Empathy able to cultivate patient and tolerance among students and may even decrease the number of bullying cases in schools. When we put ourselves in other people's shoes, we become more sensitive to what that person is really experiencing and would less likely to tease or bully them (Fisher, 2016). Teachers are encouraged to integrating empathy-based learning as their classroom culture to cultivate empathy towards others. As an example, Roots of Empathy (ROT) is a classroom program since 1996 has been implemented in schools in Canada. It was proved that the program has shown a substantial effect in reducing levels of aggression and violence among schoolchildren. The program also successfully cultivating positive connection among peers instead of bullies or aggressive actions towards others (Gordon & Green, 2008). Students with higher levels of empathy are proved to be more productive in cooperative learning and work environments. Empathy-based learning in the classroom had stronger positive effects on students' empathy as well as academic engagement compared to traditional teaching-oriented instruction because of they have realized the importance of empathy-based activities to foster their connection to learning contents and promoting good relations with peers and the teacher in the classroom (Borba, 2016; Lee et al., 2018). Empathy-integrated learning in education has been proven to boost traditional academic success as well (Moraine, 2017). An empathic student is better able to share and experience their feelings with their peers. Students with empathic skill tend to seek understanding in a challenge of a particular context, prior to developing a problem statement. If the role of empathy was absent in design thinking process, students' decisions could easily represent dominant assumptions, thus reacting to false realities and creating misleading solutions to perceived problems. Then, it will prevent the students from accurately identifying the barriers and the real situations that are faced by the users (Crowley & Salde, 2016).

4. CONCLUSION AND RECOMMENDATION

Empathy requires a deep insight into the problem area and the user perspective in the design process for project-based learning. Empathy is about reaching greater concern, extended sympathy and sensitivity towards other people's world in a strong, delicate and memorable way. Empathic awareness is a way of knowing intuitively about people and things outside of our own personal world. Empathy also considered as important outside of the school compound. Students need to look into other experiences, social backgrounds and knowledge as broadly as possible (McDonagh & Thomas, 2010). Empathy can be a valuable source of information to find a deep understanding of how to interpret different contexts based on other people point of view which may contribute to the process of design thinking. The engagement of emotional and cognitive empathy in the design thinking process needs to be addressed by the students immensely for better understanding on how it can be used to gain more user insights (Gasparini, 2015). Furthermore, a deeper understanding of users' needs is critical for students to respond with more effective outcomes. Instead of aiming to design products for the ideal user, empathy is utilized to reveal product opportunities in order to discover the real people in need (McDonagh & Thomas, 2010). To develop empathy with users, students need to be able to engage, listen, and understand the views of other people, which means involving actual people in their projects. Empathy will deepen students' understanding of people with different background, language, race and culture from their own. By acquiring insights into user's emotions, expectations and fears, students would be able to provide critical issues and inspiration to create more focused and functional outcomes (McDonagh & Thomas, 2010).

This paper proposes that empathy is a vital skill to be adopted in the classroom especially for project-based learning. Future initiatives to embed empathy in the classroom is to implement design thinking approach in students' learning in order to integrate the empathy step within their projects. In addition, nurturing empathy culture in the classroom should be done in regular basis where the teachers treat the students as their respected co-learners and keep a helpful, empathic response fairly to all students and also encourage them to express their own feeling and perception in learning. This culture will create an accepting and comforting atmosphere that embraces the students and at the same time, a positive relationship will be bonded among their peers and with the teachers themselves.

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