ACTIVE ENGAGEMENT COURSE REDESIGN INTEGRATING DESIGN THINKING

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Abstract

"Design Thinking is a design methodology that provides a solution-based approach to solving problems. It's extremely useful in tackling complex problems that are ill-defined or unknown, by understanding the human needs involved, by re-framing the problem in human-centric ways, by creating many ideas in brainstorming sessions, and by adopting a hands-on approach in prototyping and testing". (Dam, 2019)

This paper is exploring the effect of the course redesign based on Design Thinking on student engagement. The author teaches an Active Engagement course for teachers who teach early years. In one of the semesters the course was structured between giving students lectures through regular discussion and some activities in class where the students are asked to try and apply some of the strategies they are taking in class. However, the author started to redesign the course by integrating design thinking as a mindset and way of thinking, where the curriculum focuses on receiving insights from students and generating different ideas that would help enhance the learning experience. The data collection is from the two classes in the Professional Educators Diploma at the American University in Cairo through interviews where the author uses the data collected from the interviews, observation notes and data analysis to better interpret the impact of the course redesign on student performance and engagement with the content and in class. The idea is to train teachers to put themselves in student place in order to be able to give their students the best learning experience. A set of recommendations based on the comparison between before and after integrating design thinking will be included.

Keywords: Course Redesign, Active Engagement, Design Thinking.

1 INTRODUCTION

Teaching approaches differ from one teacher to the other. The main target of any teacher is to make sure that students understand the content and are engaged in the learning experience. There are different strategies that can ensure students are engaged with the content the teacher is presenting in class and outside class. Active learning is one of those strategies that help with student engagement because it is all about teaching strategies that involve asking students to engage in the learning process. Active learning opposes the traditional way of learning where students are passive recipients of knowledge (Center for Educational Innovation, 2019). Design Thinking is another approach to integrate in academic teaching; it is an iterative process where the designer seeks to understand his/her user, challenge, confirm assumptions, and redefine problems to try and find alternative solutions. Furthermore, design thinking gives a solution oriented approach to problems. Design thinking is considered a way of thinking and collection of hands-on-methods (Dam & Siang, 2019). There are five phases for design thinking that start with empathy where the designer puts him/herself in the user's shoes to understand more about their needs and be able to identify the problem which is the second phase to design thinking. Once the problem is identified the ideation phase begins where the designer starts suggesting different ideas that would solve the problem, then they will choose the idea(s) to prototype and test back to the user (Dam, 2019). While creativity is important and may even be teachable, design is not invention (Dym, et al., 2005). Design thinking helps teachers develop a mindset that focuses on their user (student), where they concentrate on what students need in order to develop higher thinking skills that equip them to understand and engage with the knowledge presented to them. One important skill for teachers is being reflective on their teaching identifying what worked and what didn't work in order for them to iterate in different ways that would fulfill student needs. This is what design thinking helps with, because it allows teachers to observe the impact of any activity they do in class and explore how they would take it further to scaffold student learning. Experienced teachers tend to integrate active engagement strategies in their teaching to motivate students and help them become engaged with the materials; however, what is usually missing is that they build their syllabi and teaching methodology on what they believe would work best. Design thinking role would fill in the gap of human centeredness, where it assists teachers to understand their student needs and act accordingly in terms of their session and assessment planning. This way students will always feel connected with the
teachers and the knowledge they are giving. By experience, integrating design thinking enhances student engagement and motivation; it also makes use of collaborative learning because it relies on teamwork. This paper explores the impact of integrating design thinking in the teaching of active engagement to teachers of early years students, to answer the question of whether design thinking affects student performance and engagement or not.

The researcher has been teaching the Active Engagement course for over three years in the standard format where students apply different active learning strategies that would help them engage their students in their classes later on. However, having taught design thinking as a seminar course, it has been a persisting idea to explore the effect of integrating design thinking in teaching. Since active engagement as a strategy depends on different activities applied in class and outside class to enhance student engagement and help students connect with their learning outcomes, it is crucial to design the activities putting in mind the students. This links to design thinking as a human centered design approach.

This research will investigate the impact of integrating design thinking into my teaching on student engagement and performance and how it also affects the students' teaching (teachers). This will happen by comparing between students who took the active engagement course without integrating design thinking and those who took it integrating design thinking to identify the differences if any and to see the impact of design thinking on student engagement and performance. Moreover, the research will show if the teachers taking the active engagement course have benefited from design thinking as a mindset and what they adapted in their practice.

2 METHODOLOGY

This study is done on an Active Engagement course taught to teachers who teach young learners as part of the Professional Educator’s Diploma at the American University in Cairo. This is a qualitative study that targets answering the question of whether integrating design thinking in the teaching has an impact on student performance and engagement. The approach starts with the researcher’s observation during the teaching of the course to explore student engagement level and note the activities where student performance and engagement increase to be able to compare between the effect of integrating design thinking and not integrating it. The researcher takes notes of student performance during in-class activities. Moreover, the researcher also reflects on the teaching approach to identify the strong areas and weak areas. This convenience sample consists of the course instructor and students from the mentioned course. The students are from two different sections of the course where one section experienced the integration of design thinking while the other did not experience that integration. The data is collected through researcher’s (course instructor) observation and reflection as well as students’ semi-structured interviews. The analysis will be through comparison between both classes in terms of design thinking integration and investigating the impact of this integration in terms of student engagement, student performance and the effect of design thinking as a mindset on the teachers in their own teaching methodology. Observation is one of the tools used to collect data. The observation is conducted by the course instructor (researcher) where the instructor takes notes of student performance and attitude towards their learning, noting what works and what does not work and linking this to the level of design thinking integration happening in the course design and teaching approach.

3 RESULTS

The researcher is the course instructor of the Active Engagement course taught to teachers teaching young learners and part of the Educator’s Professional Diploma taught at the American University in Cairo. The results are extracted from different methods used to collect data; instructor’s observation notes, instructor’s reflection on teaching and student interactivity in class and semi-structured interviews conducted with students from two sections of the same course (one section experienced design thinking integration and the other did not experience design thinking integration).

3.1 Student Engagement Integrating Design Thinking versus not Integrating Design Thinking

The standard design of the Active Engagement course targets engaging students and relies on the course instructor’s assumptions of what would work with the students.
3.1.1 Student engagement and performance without integrating Design Thinking

According to the researcher’s observation notes, students show a level of engagement with the course content. They are usually engaged with different activities done in class and perform well in them. Students usually reflect on their incapability to understand the reason behind certain activities and are not always able to see the value of why they are doing them. The instructor always scaffolds through explaining the point of view behind using a certain activity whether in class or outside class. When given an activity in class that requires generating ideas to solve certain challenges whether with their student engagement, parental engagement or community engagement (the three main components of the course), they tend to generate limited and traditional ideas.

According to students, they mentioned that the structure of the course allowed them to interact with other teachers within the course which gave them the opportunity to see different success stories and allowed them to think of adapting some of the shared ideas. According to students, the course “…was different because every time we used to do something different from activities to discussion to watching videos, and the session used to pass with a lot of positive vibes and smoothly and this course really made a difference with my vision for the student engagement importance also from everyone as we enjoyed the content”. The engagement that happened in class was student-led because it was all about their shared experience.

3.1.2 Student Engagement and Performance with Integrating Design Thinking

Students felt that design thinking is a helpful mindset; it made them think differently in terms of their teaching and the way they would engage their students with the content to achieve their learning outcomes. Students showed interest in the empathy phase of design thinking as it opened their eyes on their student needs and they were more focused on becoming reflective in understanding what each student actually needs in terms of teaching and scaffolding.

Students were asked in teams to interview each other (as part of the empathy phase) since they have different teaching experience in terms of the setting because they come from different institutions. After they interview each other they need to redesign the learning space to ensure student engagement in group work. The researcher gave students the variable of having a magical wand where they can do whatever they want to turn the learning space into a space that helps them as teachers and helps the students as well. However, student did not really use the wand and they ended up going for the usual or the more feasible options in their ideation phase. Their mind could not accept other possibilities than the usual. The instructor then asked the same teams to do the same exercise but with different constraints which is that they are redesigning the learning space for a public school with 60 students in class. Therefore, the facility and budget they have are actually very limited. It was surprising that they then started to work on their ideas and they came up with very good ideas that utilize the resources they had and the ideas were creative and innovative. This was a proof that after reflecting in the first version of the exercise they realized that sky is the limit to the mind’s thinking capacity. This is when they realized that design thinking opens their mind to new capabilities. Students mentioned that using design thinking phases made them realize that it is not always their point of view that is valid and that there is another layer to any given problem according to the different stakeholders. This is one of the core values of integrating design thinking because it assists teachers to define the problem based on the user (their students) needs rather than their own assumptions.

3.1.3 Student Performance (Final project without Integrating Design Thinking)

The final project in the course used the project based learning strategy. “Project Based Learning is a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem, or challenge.” (Buck Institute for Education, 2019). Student teachers were asked to design a project for their students using a topic that has a global and local effect. The project entails problem solving where the students need to identify a problem and think of solutions for it. This part of the course introduced the project using project based learning strategy where students showed a considerable level of engagement and interactivity. However, each group came up with somehow normal ideas and they were not open to think of different ideas; they tended to go for the traditional ideas that they believed would solve the problem at hand. Students in the course liked the project based learning strategy and identified the value of this design. Students had one chance to present their final idea solution. According to students, the project structure was very helpful as they gained experience from each other and were able to think holistically about a topic and how they would introduce it to their students.
3.1.4 Student Performance (Final project with Integrating Design Thinking)

Students in the section that experienced design thinking integration performed well in terms of generating ideas for their project. According to the researcher’s observation notes, students worked well during the ideation phase. They were at ease generating different ideas and differing judgement as they were suggesting ideas within their team. This helped ignite innovative ideas that allowed them to think outside the box and be open to trying wild stream of thoughts. They then started to prototype their idea solution where they received feedback from their colleagues and the course instructor, which gave them room to iterate according to the feedback they received which enhanced their final product and hence their final grade. Students mentioned that applying the five stages of design thinking in the final project helped them generate more ideas. They were able to make empathy research and interview entities from the community to see how their students’ project can help solve the chosen community problem. The student teachers also conducted empathy research where they were able to define the problem. After they defined the problem according to the user, they started to design the project for their students who in turn will be using the empathy research to ideate for a problem solution. Once the idea(s) is settled, the prototyping phase starts where they ‘show not tell’ their solution. According to students, this process actually changed their mindset and made them more open towards thinking beyond the traditional ways of thinking. One student said “...being introduced to design thinking made me excited to learn more about it and willing to integrate it within my teaching as well”. Another student also stated “...design thinking made me understand that my user is my student and I have to design my lesson and activities according to their needs and this was something new to me”. Design thinking is in fact an approach that opens a new gate of thinking where the mind explores new horizons.

4 CONCLUSIONS

Through observation and reflection, integrating design thinking in teaching teachers about active engagement was a success. Integrating design thinking as a teaching strategy showed impact on student engagement and performance. In terms of engagement, it helped enhance the value of collaborative learning and problem solving and in terms of performance it steered the generation of ideas. When student teachers are introduced to design thinking they are more capable of becoming empathetic towards their own students. Empathetic teachers understand their student needs and are able to work on designing activities, assessments and course content accordingly. The successful integration of design thinking in teaching shows that it is a strategy that can be integrated in different disciplines to achieve the optimum of any given content. This learning experience had an enormous effect in bringing up more reflective teachers who are able to connect with their student needs. This experience created teachers that are willing to tailor their teaching to their student needs and to be the guide to achieve their learning outcomes creating an innovative and creative learning experience. Teachers are able to free their mind from traditional ideas and try and adapt innovative ones that would serve their students and help them design an engaging and interactive learning experience that caters to enhancing creative thinking to the benefit of the student learning experience.

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REFERENCES


